

**THE TRANSITIVITY SYSTEMS OF ENCYCLOPEDIA
ENTRIES ON SPACE OBJECTS IN ENGLISH AND
INDONESIAN: A CONTRASTIVE ANALYSIS**



*Building
Future
Leaders*

**A Thesis Submitted in Partial Fulfillment of the Requirement of
the Degree of “Sarjana Sastra”**

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ABSTRAK

Faizal Abrudin. 2012. *The Transitivity Systems of Encyclopedia Entries on Space Objects in English and Indonesian: A Contrastive Analysis*. Skripsi. Jakarta. Jurusan Bahasa Inggris, Fakultas Bahasa dan Seni, Universitas Negeri Jakarta.

Penelitian ini bertujuan untuk mendeskripsikan dan menganalisis persamaan dan perbedaan antara sistem transitivitas pada entri ensiklopedia bahasa Inggris dan bahasa Indonesia. Data penelitian ini terdiri atas 135 klausa dari 13 entri bahasa Inggris dan 146 klausa dari 13 entri bahasa Indonesia. Penelitian ini menggunakan Linguistik Fungsional Sistemik (FSL) yang diusung Halliday. Data dikumpulkan dengan memilih entri dan membagi setiap entri ke dalam klausa-klausa. Tipe proses dan pola elemen proses (leksikogrammatika) diidentifikasi dan dibandingkan. Hasil penelitian ini menunjukkan bahwa persamaan pada tipe proses adalah (1) pilihan tipe proses yang digunakan, (2) tipe proses yang tidak digunakan, (3) partisipan yang terlibat, dan (4) dominasi lingkup situasi lokasi dan cara, sedangkan perbedaan pada tipe proses adalah (1) persentase kemunculan proses pengaitan kepemilikan (*relational possessive*), mental, dan keberadaan (*existential*). Pola leksikogrammatika menunjukkan bahwa (1) kelompok verba selalu diwakili oleh predikat baik dalam bahasa Inggris maupun bahasa Indonesia dimana predikat dalam bahasa Inggris dimodifikasi oleh *finite* sedangkan predikat dalam bahasa Indonesia dimodifikasi oleh afiksasi, (2) elemen modifikasi kelompok nomina sama dalam bahasa Inggris maupun bahasa Indonesia tetapi tempat kemunculannya berbeda, dan (3) lingkup situasi baik dalam bahasa Inggris maupun bahasa Indonesia sama-sama diwakili oleh frasa preposisi dan kelompok adverbial.

Kata kunci: sistem transitivitas, persamaan, perbedaan, ensiklopedia, bahasa Inggris, bahasa Indonesia.

ABSTRACT

Faizal Abrudin. 2012. *The Transitivity Systems of Encyclopedia Entries on Space Objects in English and Indonesian: A Contrastive Analysis*. Thesis. Jakarta. English Department, Faculty of Language and Art, State University of Jakarta.

The study aimed to describe and analyze the similarities and differences between the transitivity systems of English and Indonesian encyclopedia entries. The data consisted of 135 clauses from 13 entries in English and 146 clauses from 13 entries in Indonesian. This study employed Halliday's Systemic Functional Linguistics. The data was collected by selecting entries and breaking down every entry into clauses. The process types and the patterns of the process element (lexicogrammar) were identified and contrasted. Results revealed that the similarities of the process type are (1) the choice of the process types deployed, (2) the absence of the process types, (3) participants involved, and (4) location and manner dominating the circumstance, while the difference of the process types is (1) the percentage of occurrence of relational possessive, mental, and existential ones. The lexicogrammatical patterns showed that (1) the verbal groups is always represented by predicator in both texts in which English modified by finite while Indonesian by affixes, (2) the element of modifiers of the nominal groups is the same while the placement is different, (3) the circumstance is represented by prepositional and adverbial phrase in both texts.

Key words: the transitivity systems, the similarities, the differences, encyclopedia, English, Indonesian

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CHAPTER I

INTRODUCTION

This chapter of the paper explores the background of conducting the research, including the background of choosing the data, the approach, and the methodology. Besides, this chapter also presents the research question, the purpose, the scope and limitation, and also the significance of the study being conducted.

1.1 The Background of the Study

The transitivity systems of a language by using Systemic Functional Linguistic, in term of number, has been quite productive studies. Transitivity system is the choice of representing the world into form of word or in the simple way it refers that meaning emerges as a word. Transitivity or process type is the choice of what process, which participants, and what circumstances involved (Eggins, 2004; Halliday, 1994). Transitivity system analysis has been conducted on various texts such as literature texts, mass media texts, online debate texts, and advertisement texts.

The transitivity study at the level of textual analysis on online debate text is provided in The Analysis of an Online Debate – The Systemic Functional Grammar Approach (Watles, 2003). Using the sample of internet chatroom debate on legalizing same-sex marriage in Massachusetts, the result showed behavioral processes are absent from the text. The most frequent processes are the relational ones. There is dominant occurrence of mental

processes and a significant number of material processes, with approximately 50% of processes referring to ideas of “entering marriage” or “having children”. The participants in the text are (many) people, gay people, marriage, Civil marriage, an institution, rights, benefits and protections, Catholic church (CC), God, and their commitment. The text uses a lot of pronominal elements; they (both distant and general), we (exclusive), and plethora of I. There are two emerging patterns of circumstances. The first is location in time, mostly giving a time limit before something (unfavorable) happens. The second pattern deals with cause.

One of transitivity studies at the level of textual analysis on printed advertisements is offered in A Register Analysis of Jewelry Advertisement’s Body Copy: a Systemic Functional Linguistics Approach (Khairisa, 2010) First, the field of the texts shows that Material process (49%) becomes the dominant process in the body copy of jewelry advertisements, followed by Relational Attribute and Mental processes which share the same percentage (24%) and the last, Relational Identifying (3%) Material process becomes the dominant process due to the fact that the advertisement deals with the marketing concept. Therefore, the material processes function to describe the way the advertisers manipulate the readers’ decision to buy the jewelry products offered in advertisements and affirm the products to make the readers aware and remember the products.

One of the study of the transitivity systems by using SFL in Indonesian is offered in *Tipe Proses dalam Berbagai Teks dalam Koran serta*

Pengungkapannya dengan Kelas Kata Verba Bahasa Indonesia (Wachidah, 2010). Using 420 clauses from 16 texts on various topics, the study focused on identifying the process types and the lexicogrammatical patterns representing each process type. Results showed that material, relational, verbal, mental, and existential processes deployed in the newspaper texts with the relational one as the highest process for the tendency to ellipsize the verb from the clause. Each process is always represented by a verb not a verbal group, with(out) affixes.

The study of the transitivity systems on encyclopedia discourse at the textual analysis level by using SFL has not been sufficiently conducted. A research on transitivity system in children encyclopedia discourse needs to be studied to know its content and other element of discourse, the text, because it is an important literacy resource essential for children in form of a textual product.

Encyclopedia is a single or a set of books presenting many articles of comprehensive knowledge about things and/or human being, factual information, beliefs, and ideas (The World Book Encyclopedia 6th ed. Letter E, 1994; Cambridge Advanced Learner's 3rd ed., 2008). Encyclopedia has been recognized as one of important work references of human knowledge and human civilization. Encyclopedia uses at least one of two language functions that is transactional function. It is related to the attempt to spread factual or proportional information (Brown and Yule, 1996). The information and knowledge offered in the encyclopedias text is in terms of process, participant, and circumstances (the system of transitivity). Encyclopedia is a

discourse and it has its own context. The context is what is called by Halliday as register or known as field, mode, and tenor (Halliday, 1985). The field, mode, and tenor are mostly realized through the transitivity system.

Contrastive analysis between English and Indonesian necessitates to be conducted to improve the awareness of similarities and differences between those two languages in using element of language to represent meaning effectively (Eggins, 2004). Contrastive analysis of the transitivity systems between English and Indonesian encyclopedia entries at the level of textual analysis also needs to be developed in order to compare the quality of the encyclopedia and to improve the quality of nature of encyclopedia writing. Contrastive analysis is chosen because every single language sees its transitivity system differently and it has predictive power of mistakes (Eggins, 2004).

This study aims to contrast the transitivity system in English and Indonesian encyclopedia. The Indonesian one is chosen because the research conducted by Wachidah (2005) revealed that clauses in Indonesian have indifferent structural element of clause compared to the other languages, or at least English that is always used by Halliday to prove his theory. Besides, Encyclopedia text is found more available in English translated version and English encyclopedia is more experienced in nature of encyclopedia writing than Indonesian one.

This study covers ideational metafunction that is the way of English and Indonesian uses element of language to represent meaning experientially. The transitivity analysis allows for describing the structural element of the

clause (Eggins, 2004). Clause as the representation of the experiential meanings will be investigated through the patterns of process, participants, and circumstantial element. Experiential meanings such as meanings about experience, about the world, and how we recognize and experience what is going on are expressed through the transitivity patterns (Eggins, 2004). By examining the transitivity patterns in those two encyclopedia texts, the field of the situation being constructed in the encyclopedia text can be described deliberately, including what is being talked about in the encyclopedia text. This study will find out the similarities and differences of transitivity system in those two encyclopedias through the investigation of element of process, participants, and circumstances.

This research focuses on contrasting the system of transitivity in selected entries of English and Indonesian encyclopedias, chosen according to the same content to each other, at the level of textual analysis. The encyclopedias are the specialized encyclopedia of space primarily aimed for children. The encyclopedias are written by native speakers of each language so that it is not a translated version of one and another. The English one entitled *Space* written by John Farndon and published in 2004 by Miles Kelly Publishing Ltd and the Indonesian one entitled *Antariksa* written by Trija Fayeldi and Syerif Nurhakim and published in 2011 by Bestari Kids.

The study uses the Halliday's Systemic Functional Analysis (SFL) approach since it concerns to the notion of language function in different contexts (Halliday, 1994). SFL is the semantic functional way to explore the function of language by the people, it concerns with language in contexts and

language as a semiotic system (Eggins, 2004). Accordingly, the functions of language in context of encyclopedia will be investigated through the transitivity system and then being contrasted to reveal the similarities and differences. Thus, this research contributes to the systemic functional linguistic in the context of encyclopedia text.

1.2 The Research Question

In line with the background above, this research has a question as follows:

“What are the similarities and differences between the transitivity systems of English and Indonesian encyclopedia entries?”

This research question can be subdivided into:

- What are the similarities and differences between **the process types** of English and Indonesian encyclopedia entries?
- What are the similarities and differences between **the lexicogrammatical patterns** to represent the process elements?

The second sub question includes questions as follow:

- What are the similarities and differences between the patterns of English and Indonesian verbal groups?
- What are the similarities and differences between the patterns of English and Indonesian nominal groups?

- What are the similarities and differences between the patterns of English and Indonesian prepositional phrases?
- What are the similarities and differences between the patterns of English and Indonesian adverbial groups?

1.3 The Purpose of the study

The main and fundamental purpose of this study is obviously to describe and analyze the similarities and differences between the transitivity systems of English and Indonesian encyclopedia entries. Besides, the specific objective of this study is to find out: (1) the similarities and differences between the process types of English and Indonesian encyclopedia entries, and (2) the similarities and differences between the lexicogrammatical patterns to represent process elements including the similarities and differences of English and Indonesian verbal groups, the similarities and differences between the patterns of English and Indonesian nominal groups, the similarities and differences between the patterns of English and Indonesian prepositional phrases, and the similarities and differences between the patterns of English and Indonesian adverbial groups.

1.4 The Scope and Limitation of the study

This study does not include thematic structure analysis and modality due to a reason that this research focuses on transitivity system without considering interpersonal meaning. Besides, this paper uses systemic functional linguistic which is also limited at the level of textual analysis of

clause unit as representation of the experiential meaning dealing with ideational metafunction.

1.5 The Significance of the study

The study of contrastive analysis of the transitivity systems in English and Indonesian encyclopedias by using Systemic Functional Linguistic can be beneficial to the development of our understanding of the nature of the encyclopedia entries. The significance of this study is that the result of the study can be useful as an initial study that shows how the nature of encyclopedia can be studied within Halliday's Systemic Functional Linguistic theory as well as to contribute to the SFL analysis. Besides, the benefit of this study for language practitioners, particularly encyclopedia practitioners, is that the result can be used as the model of the formula to develop better entries in encyclopedia. Lastly, for the students this can be an input in analyzing and contrasting the transitivity system by using Halliday's Systemic Functional Linguistic (SFL) as the approach.

CHAPTER II

LITERATURE REVIEW

This chapter presents the review of related literature associated with the kind of text being analyzed in this research. The related literature here deals with the encyclopedia discourse. This chapter contains of the context of the discourse presenting the field of the encyclopedia, the tenor of the encyclopedia, and the mode of the encyclopedia, and the transitivity systems based on Systemic Functional Linguistic perspective that elaborates the nature of the process types and the patterns of the verbal groups representing processes, the nominal groups representing participants, and the prepositional phrases and the adverbial groups representing circumstances in encyclopedia entries.

2.1 The Context of the Discourse

The context of the discourse is obviously associated with the field, tenor, and mode that simultaneously build up meaning (Halliday and Hasan, 1985). Field, tenor, and mode later known as register. The register of the discourse talks different things on the different use of language or it can be said as the variation of the use of language (Eggins, 2004). Encyclopedia is a discourse in which having its context in term of field, tenor, and mode.

2.1.1 The Field of the Encyclopedia

The field of the discourse is the specialized encyclopedia of space primarily aimed for children. Encyclopedia is defined as a single or a set of books presenting many articles of comprehensive knowledge about

things and/or human being, factual information, beliefs, and ideas (The World Book Encyclopedia 6th ed. Letter E, 1994, Cambridge Advanced Learner's 3rd ed., 2008).

There are two kinds of encyclopedias; the first is general encyclopedia and another one is specialized encyclopedia. The general encyclopedia concerns with various areas of knowledge with many aspects of information such as humanity, the world people live in, and the universe, i.e.: The World Book Encyclopedia, while specialized encyclopedia takes a deep attention on specific and technical areas of knowledge such as space, physics, culture, machine, transportation, etc.

The discourse is socially functioned to give relevant factual information and knowledge of space for the readers. The purpose of encyclopedia can be classified into two kinds; specific purpose and general purpose. Specific purpose of encyclopedia was written by Denis Diderot as follow

“Indeed, the purpose of encyclopedia is to collect knowledge disseminated around the globe, to set forth its general system to the men with whom we live, and transmit it to those who will come after us, so that the work of preceding centuries will not become useless to centuries to come, and so that our offspring, becoming better instructed, will at the same time become more virtuous and happy, and that we should not die without having rendered a service to the human race in the future years to come” (Diderot, 2002:13).

In simple words, the specific purpose of encyclopedia is to maintain and develop existing knowledge. Moreover, the general purpose of encyclopedia is as a reference work providing factual

comprehensive information. The information of space given is usually about space natural things such as planets, stars, comets, etc.

The information or knowledge in the discourse deals with the physical appearances in term of position and size. The information is also associated with the activity of space things. The shared knowledge talks about composition of the space things and their occurrences. Encyclopedia answers the question of *who, what, when, where, how, and why* of things. For instance, a specialized encyclopedia of steam engine explains what steam engine is, who discovered it, where, and also when. Besides, it also tells how steam engine operates and why it is important for human being, and how it influence human life.

2.1.2 The Tenor of the Encyclopedia

The tenor of the discourse is the readers and the writers of the specialized encyclopedia of space. The readers are mostly children. The content of encyclopedia deals with the audience. There are encyclopedias deliberately created for children. Others are designed either for specialist, scholars, students, or professionals (The World Book Encyclopedia 6th ed. Letter E, 1994)

The writers are the experts on the topic being informed, space. It needs many talents, specialists, researchers and experts from all branches of knowledge to arrange a general encyclopedia. In contrast, specialist, talents, or experts from the same branch of knowledge can arrange a

specialized encyclopedia like Encyclopedia of space (The World Book Encyclopedia 6th ed. Letter E, 1994).

The discourse is writer-centered discourse since the writer is the only authoritarian that gives the information to the readers. The writer gives the information about space and the readers demand the information about space. The writer and readers are not visible to each other and of course they don't know each other.

2.1.3 The Mode of the Encyclopedia

The mode of the discourse is written text. Written text refers to the language as representation of action (Halliday, 1985). Since the discourse of the encyclopedia is written text, the text will use many special terms. The discourse is in formal degree of formality in term of the use of spelling, grammar, and punctuation. A good encyclopedia uses easy and neutral language in telling the information so that it is easily understood (The World Book Encyclopedia 6th ed. Letter E, 1994). It is a one-way communication: encyclopedia. The discourse is explanatory rhetoric because it gives explanation about information and knowledge of space.

2.2 The Transitivity Systems in Systemic Functional Linguistics

The transitivity systems in Systemic Functional Linguistics (later called as SFL) refers to experiential metafunctions. SFL is an approach proposed by M.A.K. Halliday that belongs to the semantic functional way to explore the

function of language by the people, it concerns with language in contexts and language as a semiotic system (Eggins, 2004). In addition, it is widely known as the relationship study between language and its function in different contexts. In other words, the functions of a language in the context of encyclopedia will be investigated through the pattern of the transitivity systems. The SFL emphasizes on the system of transitivity: processes, participants, and circumstances (Young and Fitzgerald, 2006). In this approach, people are considered to use language to express meaning in achieving a certain purpose.

The SFL places a clause as the main unit of language analysis (Halliday and Matthiessen, 2004). In SFL's perspective, a clause plays three metafunctions that are clause as representation, clause as exchange, and clause as message. Moreover, clause as representation deals with ideational metafunctions. This clause functioning as representation of experiential investigates what process represented by a verbal group involved, which participants are participated, and circumstances encoded. Choice of what process, participants, and circumstances involved is what we call transitivity or the process types (Eggins, 2004, Halliday, 1994).

In Indonesian, a clause is defined as a syntactical construction consisting of subject and predicate elements (without considering intonation and punctuation) (Alwi, et al, 1998). In other words, a clause is a syntactical unit having a predicate as the obligatory constituent, which is added by constituent of subject in the left and constituent object and/or complement in the right. Indonesian clause completely has two obligatory constituents –

subject and predicate – and three non-obligatory constituents – object, complement, and circumstance.

2.2.1 The Experiential Meaning (the Process Types) in Encyclopedia Entries

In the SFL's perspective, there are six principle process types represented by verbal groups with a different characteristic set of participants involved in and each process may have circumstantial elements. The six process types are material process, behavioral process, mental process, verbal process, relational process, and existential process.

2.2.1.1 The Nature of the Process Types in the Encyclopedia Entries

Both in English or Indonesian the concept of the process types is the same since it concerns with meaning. The nature of the process types that may occur in the encyclopedia entries, based on the register of the encyclopedia discourse, is presented below.

1. Relational Process

In the context of encyclopedia discourse, this type of process may become the most applied process in the text. Relational process is the state of being, having, and becoming. This process type is considered through the existence of the copular verbs, verbs having the same class or level, such as become, appear, or have, own, etc. Creating a very scientific and technical choice of vocabulary representing the

identifying and attribute of space things may be expressed through this process. Moreover, in education field such as mathematics, languages, chemistry, biology, science, economic, and so forth, the relational process has become a vital matter to build the world through the mentioned-subjects and an important method to classify the world (Gerot and Wignell, 1995). There are two different types of being: identifying process and attributive process with three sub-types of relation: intensive, possessive, and circumstantial for each type of being (Halliday and Matthiessen, 2004).

A. Relational Identifying

Relational identifying is used to identify something. Participants in this type of process are called Token and Value. This process type will be used to identify the natural surrounding objects represented by nominal group or more widely to give such a definition since it is to build a world (Gerot and Wignell, 1995). Token and value shares the same class in which token is always the subject in the active form. Here are the examples of relational identifying process.

	Identifying 'a is the identity of x'		
Intensive 'x is a'	Andrew	is	the tallest.
	token	process	value
Possessive 'x has a'	The new books	are	my teacher's.
	token	process	value

Circumstantial ‘x is at a’	Next month	is	August.
	token	process	value

Table 2.1 The Example of Relational Identifying Process

B. Relational Attributive

Relational attributive is used to assign attribute to the participants. It means that the participant is assigned by a quality, an epithet, or a classification labeled attribute. This process, in the context of encyclopedia discourse, might be used to give the attribute of natural surrounding objects represented by the nominal group. Thus, the participants in this sub-type of process are carrier (participant assigned by attribute) and attribute. The following are the examples of relational attributive.

	Identifying ‘a is an attribute of x’		
Intensive ‘x is a’	Jesicca	is	beautiful.
	carrier	process	attribute
Possessive ‘x has a’	My parents	have	a new house.
	carrier	process	attribute
Circumstantial ‘x is at a’	The seminar	is	on this Wednesday.
	carrier	process	attribute

Table 2.2 The Example of Relational Attributive Process

2. Material Process

Material process is the act of doing or happening. It is indicated mostly by physical action but it can be an abstracts action and

happening (Halliday, 1994). This type of process in the context of encyclopedia discourse may represent the activity of the space things, since the material concerns with the act of doing or happening. Activities of space things such as planet, stars, etc. and events happening in the space will be expressed by using this process. Besides, it also can be used for expressing the occurrence of a certain space thing.

This kind of process involves at least two participants. The participants in material process are actor, goal/range, and beneficiary. The actor is the entity that doing some action. The goal/ range is the direct object traditionally. In addition, beneficiary is divided into two kinds: recipient and client (Eggins, 2004). Here are the examples of material process.

She	drives			a car.
Actor	Process :active			Goal
The car	is driven			by her.
Goal	Process: passive			Actor
I	gave	my pen	to Diana	yesterday.
Actor	Process	Goal	Recipient	Circumstance

Table 2.3 The Example of Material Process

3. Mental Process

This kind of process may perhaps be available in the context of encyclopedia of space discourse if only if the human being appears to be participant (sensor). For, mental process is the process of sensing,

thinking, or feeling. This process is associated with a conscious human mind so that the participant who can undergo the mental process is only human (Halliday, 1994). This process type has two participants: sener and phenomenon. The sener is always human while the phenomenon is state which is sensed – felt, thought, seen, etc.. Mental process is different from material process because mental process is not a physical action rather than a mental reaction. Mental process could probably be limited or absent in the text if human as the only one who can undergo this process unavailable as the participant.

There are three sub-types of mental process: cognition (thinking), affection or reaction (feeling), and perception. Cognition or thinking is identifiable through the verbs such as thinking, understanding, knowing, etc. affection or reaction (feeling) is recognized through the verbs such as liking, worrying, fearing, etc. perception is considered with the five senses of human such as see, hear, smell, etc.

he	likes	you
I	see	that the bus passes me by
They	think	they are right.
Senser	Process	Phenomenon

Table 2.4 The Example of Mental Process

4. Existential Process

This process may occasionally arise in the encyclopedia discourse in order to introduce the existing of space things since existential process is the process of introducing the existing of

something. This process is mostly expressed by using verbs such as be, exist, or arise. The participant involved in this process is labeled existent. The followings are the examples of existential process:

There	is	a new house	near the station.
	Process	Existent	Circumstance
Near the station		is	a new house.
Circumstance		Process	Existent

Table 2.5 The Example of Existential Process

5. Behavioral Process

Behavioral process is the process of behaving. This process exists in the middle of material and mental process, half part is action and another half part is conscious being experience. There is one compulsory participant in this process that is behavior. This process, similar to mental process, will probably be limited or absent in the analyzed text. Because of this process deals with conscious being of human, the occurrence of behavioral process might be available if only if human appears as behavior. Here are the examples of the behavioral process.

The girls	are dancing	beautifully.
The baby	cried	very loud
Behavior	Process	Circumstance

Table 2.6 The Example of Behavioral Process

6. Verbal Process

Verbal process is the process of saying and signaling symbolically. This kind of process will possibly be absent in the encyclopedia discourse because the text is explanatory rhetoric so that it is extremely rare to use saying, quoting or reporting process. However, this type of process is associated with three participants. They are sayer, receiver, and verbiage. The first participant, the sayer, is the participant encoding a signal. This participant may be a human or the signal participant. The receiver refers to the one verbalization is aimed. The verbiage can be said as the content of the verbalization or the name of verbalization. The followings are the example of verbal process.

My mom		Tells		me		a story.	
Sayer		Process		Receiver		Verbiage.	
He	said		“he	broke		my ipod.”	
Sayer	Process: Verbal	actor	Process: Material		Goal		
		Projected Clause					
I	told	that		they	Must go	immediately.	
Sayer	Process: verbal	Conjunction	actor	Process: Material	circumstance		
			Projected Clause				

Table 2.7 The Example of Verbal Process

2.2.2 Verbal Groups Representing Processes in Encyclopedia Entries

Processes are the main core of transitivity and it is represented by verbal group. The verbal groups represent processes in the transitivity structure (clause as representation) (Halliday and Matthiessen, 2004). In

English, the verbal groups refer the constituent functioning as *Finite* plus *Predicator* or as predicator alone (Halliday and Mathiessen, 2004). it has the experiential structure of the finite verbal group as finite + events + optional auxiliary and polarity. In English, the verbal groups in the written text, the mode of the discourse, will be modified by others systems such as modality and tense (Chafe, 1982; Gerot and Wignell, 1995; Halliday, 1996; Halliday, 1985).

In Indonesian, the verbal group is usually in form of a verb/verbal groups but it can also be in form of adjective/adjective phrase, noun/nominal groups, pronoun, numerative, or prepositional phrase (Alwi, et al, 1998). The verbal groups are represented by the verb that classified into root and root plus affixes and they are widely known as a predicate. Wachidah found that in Indonesian the process is represented only by the verb not a verbal group (2010). The root is the verb that can stand alone without any affixes while root plus affixes is the verb that have to be added or modified by affixes (Alwi, et al, 1998). Affixes consists of prefix (*meng-*, *per-*, *ber-*, *ter-*, and *ke-*) and suffix (*-kan*, *-I*, and *-an*).

2.2.3 Nominal Groups Representing Participants in Encyclopedia Entries

The nominal group represents the participant in the transitivity system. The nominal group has a logical structure: head and modifier (Halliday and Matthiessen, 2004). Modifier is separated between pre-modifier and post-modifier. Pre-modifier occurs before the head while post-modifier occurs after the head. Due to the fact that the

encyclopedia's mode is a written text, the things will be modified in a complex way. There will be pre-modifier and post-modifier (Chafe, 1982; Gerot and Wignell, 1995; Halliday, 1996; Halliday, 1985b). The nominal groups can be modified by deictic, epithet, numerative, classifier, and qualifier.

In Indonesian, the nominal groups can be in form of a noun/nominal groups, a pronoun, a person, or a clause (Alwi, et al, 1998). The nominal group may be constructed by the thing only or the thing modified based on the head (thing) that is to the left or to the right of the head (Alwi, et al, 1998). The modifier that emerges before the head is called the pre-modifier and the one appearing after the head is called post-modifier.

The head of nominal group can be modified by giving the signal whether the subset of the thing is intended or specific or not, called deictic. The thing also may have the element showing the numerical feature of subset, called numerative. It can be in terms of quantity or order, exact or non-exact. The other element that can modify thingt is epithet functioning to elaborate the aspect showing the quality of the subset. The head or thing of a nominal group may also be given the specific subclass of the thing known as classifier. The head may be completed by characterizing the thing in terms of major process, relative clause, or prepositional phrase or minor clause, called qualifier. Since the field of encyclopedia is giving information about space natural thing and the mode is in written text, the nominal group will be

mostly in terms of surrounding natural objects in space. In addition, the modifier will not be far from the nature and it will be in complex way.

Deictic	Numerative	Epithet	Classifier	Thing	Qualifier
Those	five	soft	cotton	blanket	on the bed.

Table 2.8 The Example of Logical Structure of Nominal Group

2.2.3 Prepositional Phrases and Adverbial Groups Representing Circumstances in Encyclopedia Entries

Circumstance is the elements typically attached to the participant through some preposition or other (Halliday and Matthiessen, 2004). These elements can appear freely and the emphasizing of them is still the same. Circumstantial element, in English, represented by using prepositional phrase, a noun phrase with preposition in its head, or adverbial groups, a word group with adverb as its head.

In Indonesian, circumstantial constituents, occurring freely in the clause, is usually in form of adverbial/adverbial groups or prepositional phrases – preposition + noun/ nominal groups/ pronoun (Alwi, et al, 1998).

Circumstantial elements, in general, answer questions of *when*, *where*, *why*, *how*, *how many*, and *as what* (Gerot and Wignell, 1995; Halliday and Matthiessen, 2004). These elements will perhaps be arise frequently in the text being analyzed since the encyclopedia answers the question of *who*, *what*, *when*, *where*, *how*, and *why* of things (The World Book Encyclopedia 6th ed. Letter E, 1994). Therefore, the question of

when, where, why, and how the encyclopedia trying to answer is delivered through this elements. There are nine kinds of circumstantial elements as follow

	Type		Wh-item
Enhancing	1. Extent	Distance	How far?
		Duration	How long?
		Frequency	How many times?
	2. Location	Place	Where? [there, here]
		Time	When? [then, now]
	3. Manner	Means	How? [thus]
		Quality	How? [thus]
		Comparison	How? What like?
		Degree	How much?
	4. Cause	Reason	Why?
		Purpose	Why? What for?
		Behalf	Who for?
	5. Contingency	Condition	Why?
		Default	
		Concession	
Extending	6. Accompaniment	Comitative	Who/what with?
		Additive	And who/ what else?
Elaborating	7. Role	guise	What as?
		Product	What into?
Projection	8. Matter		What about?
	9.Angle	Source	
		Point of view	

Table 2.9 The Types of Circumstance/ Source : Halliday and Matthiessen, 2004: 262-

From the table above, the most frequent types of circumstantial element will probably be extent, location, and, cause (purpose and behalf), and contingency (condition) since those types of circumstance elements answer the question *when, where, why, and how* in the texts.

2.3 Theoretical Framework

In conducting the research, Systemic Functional Linguistics approach of M. A. K. Halliday is used to analyze the data. The data in this study is 281 clauses in 13 selected entries – (a) Mercury, (b) Venus, (c) Earth, (d) Mars, (e) Jupiter, (f) Saturn, (g) Uranus, (h) Neptune, (i) Great Ball of Fire (Sun), (j) Solar System, (k) Milky Way, (l) Supernova, and (m) Comet – of English and also Indonesian encyclopedia for children. The clauses in the selected entries will be contrasted through the identification of the experiential meaning (the process types). The patterns of verbal groups representing process type, nominal groups representing participants, and prepositional and adverbial phrases representing circumstances were investigated. This is used to reveal the similarities and differences towards the data being analyzed.

CHAPTER III

RESEARCH METHODOLOGY

This chapter elaborates the methodology of conducting the research, starting with the research methodology, the data and the source of the data, the data collecting procedure, and the data analysis technique respectively.

3.1 The Research Method

The study is conducted in order to contrast by using Systemic Functional Linguistics of Halliday. Systemic Functional Linguistics is the semantic functional way to explore the function of language by the people, it concerns with language in contexts and language as a semiotic system (Eggins, 2004). This study concerns of analyzing the similarities and differences between the process types and the patterns of the process element of Encyclopedia entries in English and Indonesian.

3.2 The Data and the Source of the Data

The data used in this research is 281 clauses from English and Indonesian texts, 135 clauses from English text and 146 clauses from Indonesian text (around 3 up to 26 clauses per entry). English clauses are taken from 13 entries of the English encyclopedia representing approximately 37.01% of the whole entries in the encyclopedia. Indonesian clauses are also taken from 13 entries of Indonesian encyclopedia representing approximately 47.82% of whole entries of the encyclopedia.

The sources of the data in this research are English encyclopedia for children entitled *Space* written by John Farndon and published in 2004 by Miles Kelly Publishing Ltd and also Indonesian encyclopedia for children entitled *Antariksa* written by Trija Fayeldi and Syerif Nurhakim and published in 2011 by Bestari Kids.

3.3 The Data Collecting Procedure

The data is collected by selecting some entries in English and Indonesian texts based on the same content to each other, followed by copying texts in all entries in the English and Indonesian Encyclopedias. The texts, then, are broken down into sequences of clause, and they are given number according to the happening order in the texts. Table 3.1 shows the detail from the texts being analyzed in this study.

No.	Entries	Amount of Clauses					
		English Text			Indonesian Text		
		Page	Amount of Clause	Clause Identity	Page	Amount of Clause	Clause Identity
1.	Mercury	19	9	1-1 – 1-9	29	3	1-1 – 1-3
2.	Venus	19	9	2-1 – 2-8	29	7	2-1 – 2-7
3.	Earth	18	8	3-1 – 3-10	30	7	3-1 – 3-10
4.	Mars	19	12	4-1 – 4-12	33	15	4-1 – 4-15
5.	Jupiter	20	10	5-1 – 5-12	34	14	5-1 – 5-14
6.	Saturn	21	5	6-1 – 6-5	35	11	6-1 – 6-13
7.	Uranus	21	5	7-1 – 7-6	37	7	7-1 – 7-7
8.	Neptune	21	6	8-1 – 8-8	37	12	8-1 – 8-13
9.	Great Ball of Fire (Sun)	14	26	9-1 – 9-35	25, 40	24	9-1 – 9-29
10.	Solar System	16	18	10-1 – 10-23	20	21	10-1 – 10-22
11.	Milky Way	28	12	11-1 – 11-13	53	16	11-1 – 11-19
12.	Supernova	27	8	12-1 –	48	3	12-1 –

				12-9			12-3
13.	Comet	23	7	13-1 – 13-10	45	6	13-1 – 13-6
Total			135	135		146	146

Table 3.1 The Research Data

It should be noted that clause represents process consisting of verb expressing the process itself, nominal group representing participants, and prepositional or adverbial phrase representing circumstance. Each clause is typed separately in one row and given a number in column number based on its order. In a sentence, there is sometimes more than one clause connected by conjunction. The following is the example of breaking texts down into the clauses (entry entitled “Venus” in English Text page 19)

Venus (page 19)

Venus is almost exactly the same size as the Earth. It is about 12,000 km across and weighs about one-fifth less than the Earth. Otherwise it is unlike the Earth; its atmosphere is thick and poisonous carbon dioxide and clouds of sulphuric acid. This thick atmosphere traps the Sun’s heat and makes the surface a scorching desert where temperatures rise to 470 °C, making it the hottest planet in the Solar System.

After the text being broken down into clauses, in fact, there are 9 clauses. Process element is represented explicitly in form of verbal group (typed with bold) in all clauses. Moreover, it can be seen that conjunction is not categorized as internal structure of clause since the function is to connect two clauses.

No.	Conjunction	Clause
2-1		Venus is almost exactly the same size as the Earth.
2-2		It is about 12,000 km across
2-3	and	{venus} weighs about one-fifth less than the Earth.
2-4	Otherwise	it is unlike the Earth;
2-5		its atmosphere is thick and poisonous carbon dioxide and clouds of sulphuric acid.
2-6		This thick atmosphere traps the Sun's heat
2-7	and	makes the surface a scorching desert where temperatures rise to 470 °C,
2-8	[where	temperatures rise to 470 °C,]
2-9		making it the hottest planet in the Solar System.

Table 3.2 The Example of Breaking down Texts into Clause

There is one adverbial clause (clause no. 2-8) that can't stand alone to represent one of the process elements because its function is to be fraction of nominal group modifier. Clause no. 2-8 is part of clause no. 2-7, as the modifier of "the surface a scorching dessert". Due to the study is focusing to the analysis of internal structure of clause, adjectival clause is considered to be analyzed as a clause (the same formula also used toward Indonesian text). From that way, it is collected 218 clauses used as the data in this research.

3.6 The Data Analysis Technique

To analyze the data, the first step is identifying the distribution of the process types of the clauses both in English and Indonesian texts. The table below is used to identify the process types. The table consists of 4 main columns, each for No. Cl., Conjunction, Clause, and Process. Column process is separated into 6 sub-columns to represent the types of process. Therefore, the probability of six kinds of process can be accommodated.

No. Cl.	Conj.	Clause	Process					
			Mat	Rel	Men	Ver	Ex	Beh
VENUS								
2-1		Venus is almost exactly the same size as the Earth.		V				
2-2		It is about 12,000 km across		V				

Table 3.3 The Table of Identifying Process Type of English Clauses

No. Cl.	Conj.	Clause	Process					
			Mat	Rel	Men	Ver	Ex	Beh
VENUS								
2-1		Venus memiliki diameter 12.104 kilometer.		V				
2-2		Arah rotasi planet Venus berlawanan dengan arah rotasi planet yang lain.		V				

Table 3.4 The Table of Identifying Process Type of Indonesian Clauses

After that, the study focuses on contrasting the distribution of the process type between English and Indonesian texts. From the analysis above, it is gathered the answer of the research question but in very limited accuracy. First, there is a similarity in both texts. They uses relational process (*is, is*) and (*memiliki, berlawanan*). Second, one difference can be seen in term of type of relational process. In English text, both clauses use relational attributive (*is, is*) while in Indonesian one, clause no. 2-1 uses relational possessive (*memiliki*) and clause no. 2-2 uses relational attributive (*berlawanan*). The study, next, concentrates on classifying the clauses into each process type.

Then, the study focuses on identifying the process elements in each process type of both texts. This step is used to reveal the process, participant(s), and circumstance(s) in the texts.

No. Cl.	Conj.	Circum-stance	Participant	Process	Circum-stance	Participant	Circum-stance
VENUS							
2-1			Venus	is		almost exactly the same size as the Earth.	
2-2			It	is		about 12,000 km across	

Table 3.5 The Table of Identifying the Element of Transitivity of English Clauses

No. Cl.	Conj.	Circum-stance	Participant	Process	Circum-stance	Participant	Circum-stance
VENUS							
2-1			Venus	memiliki		diameter 12.104 kilometer.	
2-2			Arah rotasi planet Venus	berlawanan-an		dengan arah rotasi planet yang lain.	

Table 3.6 The Table of Identifying the Element of Transitivity of Indonesian Clauses

This table is used according to the process type. If the process type is relational one, the label of the participant column will be carrier, attribute, token, or value. If the process type is material one, the label of the column participant will be actor, goal, or beneficiary. Label of column in the example above is in general one. From the analysis of the classification of transitivity element, it is shown that in the English text the participants in clause no. 2-1 are “*Venus*” and “*almost exactly the same size as the Earth*”, the process is “*is*”, the circumstance is absent. The participants in clause no. 2-2 are “*it*” and “*about 12,000 km across*”, the process is “*is*”, and the circumstance is also absent. In Indonesian text, the participants in clause no 2-1 are “*Venus*” and “*diameter 12.104 kilometer.*”, the process is “*memiliki*”, and the circumstance is absent. In addition, in clause no. 2-2 the participants are

“*Arah rotasi planet Venus*” and “*dengan arah rotasi planet yang lain.*”, the process is “*berlawanan*”, and the circumstance is absent.

The study is followed by identifying the verbal group patterns in English and Indonesian texts. In English, the pattern includes are modality, finite or non-finite, and predicator. Besides, it is added tense and voice type. In Indonesian, the pattern includes affixes – prefix and suffix and root. It is also added by voice type.

No. Cl.	Verbal Group	Modal	Finite	Non-finite	Predicator	Tense	Voice
VENUS							
2-1.	is		is			Simple Present	Active
2-2.	is		is			Simple Present	Active

Table 3.7 The Table of English Verbal Group Analysis

No. Cl.	Verbal Group	Prefix	Root	Suffix	Voice
VENUS					
2-1.	memiliki	me-	milik	-i	Active
2-2.	berlawanan	ber-	lawan	-an	Active

Table 3.8 The Table of Indonesian Verbal Group Analysis

Continually, the study focuses on contrasting the pattern of the verbal groups between English and Indonesian. Based on the analysis of process above, there is an answer of the research question and, once again, the accuracy is very limited. The relational process in English ones use finite “*is*” in simple present tense and active voice. In other hand, the relational process in Indonesian ones use affixes “*me-i*” and “*ber-an*” in active voice.

Next, the study is continued by identifying the nominal group patterns in English and Indonesian. The tables below are used to identify the elements of participant.

No. NG	Deictic	Numerative	Epithet	Classifier	Thing	Qualifier				
			VENUS							
2-1a					Venus					
2-1b	the		same		size	as the Earth. <table><tr><td>Deictic</td><td>Thing</td></tr><tr><td>the</td><td>Earth</td></tr></table>	Deictic	Thing	the	Earth
Deictic	Thing									
the	Earth									
2-2a					It					
2-2b		12,000 km			across					

Table 3.9 The Table of English Nominal Group Analysis

No. NG	Deic-tic	Nume-rative	Thing	Classifier	Epi-thet	Qualifier		
2-1 a			Venus					
2-1b			diame-ter			12.104 kilometer.		
2-2a			Arah	rotasi planet Venus				
				Thing	Classifier			
				rotasi	planet Venus			
					Thing			Cls.
		planet	Venus					
2-2b			Arah.	rotasi planet yang lain				
				Thing	Classifier			
				rotasi	planet yang lain			
					Thing			Qual.
		planet	yang lain					

Table 3.10 The Table of Indonesian Nominal Group Analysis

*Cls : Classifier, Qual: Qualifier

Then, the study focuses on contrasting the pattern of the nominal groups between English and Indonesian ones. It is used to find out the similarities and differences lying in the participant element. From the analysis above, it can be seen that nominal group representing participant in English text is modified by pre-modifier and post-modifier while in Indonesian text the nominal group is modified by post-modifier other than, deictic (deictic can take place as pre- or post-modifier) and numerative. In English one, thing is represented by “*Venus, it* (refers to Venus), *across*, and *weigh*” and in Indonesian one, thing is represented by “*Venus, diameter*,

Arah, arah”. Both in English and Indonesian participants – from 4 clauses for each one – they all express nominal/phrase explicitly to represent appropriate participants. From the modification of the nominal group, the result shows that English has 2 non-modified nominal groups while Indonesian only has one. For the modified nominal group, two patterns occur that are *Thing + Qualifier* and come down type of modification like in *Thing + Classifier (Thing + Classifier (Thing + Classifier))*. In English, there are three patterns appears and they are *Numerative + Thing*, *Thing + Qualifier*, and *Deictic + Epithet + Thing + Qualifier*. Similar to English, pattern *Thing + Qualifier* also emerges in Indonesian

The analysis, then, followed by identifying the prepositional and adverbial phrases patterns representing the circumstantial element. The following is the table used for identifying prepositional and adverbial phrases representing circumstance. The example of clause is taken from entry “Mars” clause no. 4-8 and 4-12 of English and clause no. 4-14 of Indonesian

No. Cir.	Prepositional	Nominal group
JUPITER		
4-8.b	In	1997
4-12.a	Under	the surface

Table 3.11 The Table of English Prepositional Phrase Analysis

No. Cir.	Prepositional	Nominal group
JUPITER		
4-14.a	di	masa lalu

Table 3.12 The Table of Indonesian Prepositional Phrase Analysis

No. Cir.	Adverbial Phrase
JUPITER	
4-14.a	there

Table 3.13 The Table of English Adverbial Phrase Analysis

No. Cir.	Adverbial Phrase
	JUPITER

Table 3.14 The Table of Indonesian Adverbial Phrase Analysis

The study focuses on contrasting the pattern of prepositional phrases and adverbial groups representing circumstantial element. From the analysis above, it is gathered the answer of the research question but in very limited accuracy. First, both in English and Indonesian clauses, prepositional phrases are used to represent circumstance. In contrast, adverbial group is used only in English text no. 4-8.a.

Then, the study followed by identifying type of circumstance pattern. The table below is used to identify the type of circumstance. The table is adapted from Halliday and Matthiesssen (2004) and Gerot and Wignell (1994).

No. Cir.	Circumstance	Type
4-8.a	there in 1997	Location: place
4-8.b	in 1997	Location: time
4.12.a	under the surface	Location: place

Table 3.15 The Table of English Type of Circumstance Analysis

No. Cir.	Circumstance	Type
4-8.b	di masa lalu	Location: time

Table 3.16 The Table of Indonesian Type of Circumstance Analysis

Next, the study focuses on contrasting the circumstance pattern between English and Indonesian texts. From the analysis above, it can be seen that type of circumstance occurring in English clauses location with 1 occurrences of time represented by prepositional phrase with preposition *in* and 2 occurrence of place represented by prepositional phrase with preposition *under* and adverbial phrases *there*. In other hand, the only type

of circumstances that occurs in example above is location represented by prepositional phrase with preposition *di*. It should be noted that this is very limited in accuracy since the analysis use very few sample of data. The study, then, ended by drawing conclusion based on the finding result.

CHAPTER IV

FINDINGS AND DISCUSSIONS

The analysis of 281 clauses from English and Indonesian encyclopedias by using the mentioned method in previous chapter reveals the answers of the research question being analyzed that is the similarities and differences of transitivity system in English and Indonesian encyclopedia with its sub-questions which are (1) the similarities and differences between distribution of process type in the encyclopedia entries, and (2) the similarities and differences of the patterns of the process elements including the pattern of the verbal groups, the patterns the nominal groups, and the patterns of prepositional phrases and adverbial groups.

4.1 The Similarities and Differences of the Process Type Distribution in Encyclopedia Entries

To analyze data, the first step is identifying the distribution of the process type. Here is the distribution of the process type occurrence of English and Indonesian text in the percentage.

Type of Process	English	Indonesian
Relational Attributive	51.25%	46.34%
Material	34.06%	28.05%
Relational Identifying	11.25%	7.38%
Relational Possessive	1.24%	7.97%
Mental	1.24%	6.78%
Existential	1.24%	3.66%
Behavioral	-	-
Verbal	-	-
Total	100%	100%

Table 4.1 Distribution of the Process Type

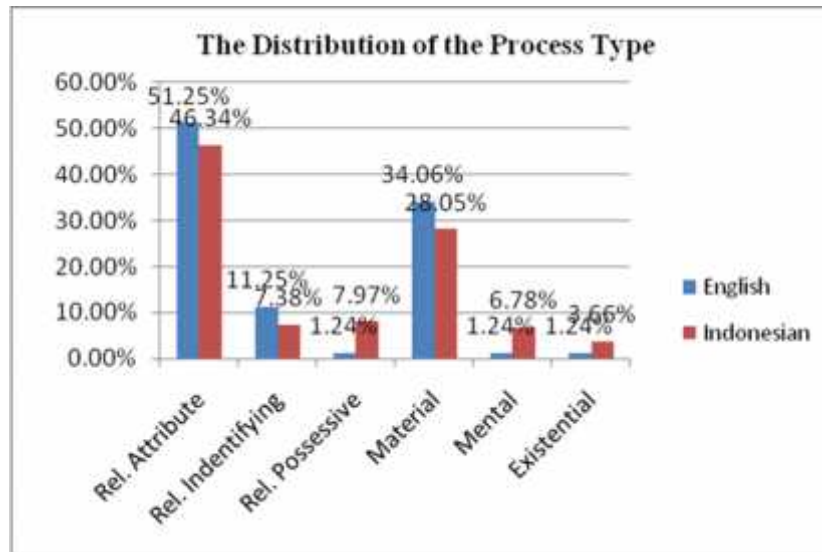


Chart. 4.1 The Distribution of the Process Type

In English text, there are six types of process being used in the encyclopedia discourse. They are (1) material, (2) relational attributive, (3) relational identifying, (4) relational possessive (5) mental, and (6) existential. In the same way, there are also four types of process in Indonesian text. They are (1) material, (2) relational attributive, (3) relational identifying, (4) relational possessive, (5) mental, and (6) existential. Both in English and Indonesian, verbal process and behavioral process are absent in the text.

4.1.1 The Similarities

The following are the similarities of the distribution of the process types in English and Indonesian encyclopedias:

1. The Process Types Involved in Encyclopedia Entries

Six process types are deployed in both English and Indonesian encyclopedias. They are (1) relational attributive, (2) relational identifying, (3) relational possessive, (4) material, (5) mental, and (6) existential. The relational attributive process in the encyclopedia indicates that mentioning carrier and its attribute is very important to see the description of objects as the carrier of attribute. The relational identifying process in the encyclopedia indicates that mentioning token and its value is essential to see the description of objects as the token of value. The relational possessive process in the encyclopedia indicates that mentioning possessor and its possessed is quite vital to see the description of objects as the possessor of possessed. The encyclopedia involving the material process indicates that mentioning the actor or the agent of doing is essential to see object as the actor or agent of doing or happening that may (not) involve goal or range. Emerging of the mental process in the encyclopedia implies human being as the senser who undergoes the phenomenon of objects. The existential process occurring in the encyclopedia indicates the existent of the space object.

2. The Dominant Process Type

There are three dominant process types found in English and Indonesian and they are:

A. Relational Attributive Process

The relational attributive process is counted as the highest dominant process in both encyclopedias with approximately 50% of the whole clauses. In English entries this process type arises 51.25% and in Indonesian entries it shares 46.34% of the whole clause. The relational process is the process of relating, state of being, having, or becoming. This result indicates that the encyclopedia discourse, both in English and Indonesian, exploring activities, conditions, compositions, and events so often relates the description process of natural surrounding space objects as the carrier by mentioning its attributes. This means that many objects are considered as the carrier of the attribute.

The relational process, in those two texts, emerges the most in encyclopedia entries to describe the physical appearance of surrounding natural space objects in term of size and position; condition of surrounding natural space objects such as time, temperature, and structure; and composition of surrounding natural space objects. This process also emerges as the most frequent process in English and Indonesian text due to a fact that creating a very scientific and technical choice of vocabulary representing the identifying and attribute of space things in encyclopedia discourse is expressed through this process (Gerot and Wignel, 1995).

The processes involved in the relational attributive of English encyclopedia entries are *is, soar, plummets, taking, makes, rise, is called, appears, to be, takes, means, whipped, called, has lasted, stretch, drop, turns, like, is made, looks, are, was, to pull, formed, gathered, became, can be seen, stretching, containing, last, and filled.*

These processes involve carrier as the participants that can be classified into the whole thing (object): *Mercury; Venus; Earth; The sun; the distant Neptune; Pluto, which is even more remote; the Solar system; Supernovas,* and the part of the whole thing (object): *temperatures on the sun side facing the Sun; the dark side; its atmosphere; temperatures; Mars' water; most of the planets; [the surface; clouds of ammonia gas; One storm, called the Great Red Spot; One storm; the rings; its surface; Temperatures at the cloud tops of Uranus, etc.*

The attribute of the carrier in the English encyclopedia are (1) the part of the thing, including composition: *a whirling mass of stardust and gases; into lumps, which became the planets; a vast cluster of over 100 billion stars; like a giant Catherine Wheel,* (2) the physical appearance in term of size and position: *almost exactly the same size as the earth; about 12,000 km across and weight about one-fifth less than earth; not so close to the Sun; so close to the Sun;* (3) the condition in term of time, structure, and temperature: *even more remote, almost 250 years; about 4.6 billion*

old; even more remote, almost 250 years; about 4.6 billion old]; to 425°; to -180°; over 58 Earth days; thick and poisonous carbon dioxide and clouds of sulphuric acid; a scorching desert where temperatures rise to 470°C; to 470°C;

In Indonesian one, the relational attributive processes engaged in the text are *adalah, terletak, berada, berlawanan, berupa, tampak, menjadi, mengandung, berkisar, mengubah, berarti, berjarak, termasuk, tersusun, mencapai, ditemukan, berwujud, memerlukan, berhasil, terlihat, bertambah, dinamakan, terbagi, berbentuk, menjadi bertambah, and diperkirakan.*

These processes involve the carrier as the participants that can be classified into (1) the whole thing (objects): *Venus; Mars; Jupiter; hidrogen; Uranus; Matahari; Tata surya; Kabut yang kamu lihat; Tata Surya kita; and Galaksi Bima Sakti*, (2) the part of the whole of thing (object): *Jaraknya; diameter planet merkurius; Arah rotasi planet Venus; air; Sebanyak 71% permukaan Bumi; Lama waktu Mars; Atmosfer planet Mars; Suhu di permukaan Mars; Hal ini; Atmosfernya; suhu; suhunya; Hidrogen dalam wujud gas; hidrogen; cincin tersebut; diameternya; Diameter Uranus; wahana Voyager2; Diameter matahari; Cahaya yang sampai ke bumi, etc., and (3) human being : Mereka.*

The attribute of the carrier appearing in the text are (1) the part of the thing (object), including composition: *dengan arah*

rotasi planet yang lain; hujan yang menyediakan air segar bagi dunia]; atas 86% hidrogen dan 14% helium; gas hidrogen; (2) the physical appearance in term of size and position: hanya 58juta kilometer; 4.875 kilometer; pada jarak 108 juta kilometer dari matahari; 1,4 miliar kilometer dari matahari; and (3) the condition in term of temperature, structure, and time: sekitar 24 jam 27 menit; antara 17°C hingga 125°C, 5800°C, tidak seberapa panas dibandingkan dengan suhu dipusat matahari yang mencapai 15 juta derajat celcius; 15 juta derajat celcius.

In English, the example of relational attributive process is in entry no. 2 entitled “Venus”

“Venus is almost exactly the same size as the Earth” (clause no. 2-1)

“its atmosphere is thick and poisonous carbon dioxide and clouds of sulphuric acid.” (clause no. 2-4)

Entry no. 3 entitled “Earth” involves the relational attributive process in

“Earth is not so close to the Sun” (clause no. 3-5)

“It is also the only planet that has huge amounts of liquid water on its surface.” (clause no. 3-8)

In Indonesian, the example of the relational attributive is entry no. 1 entitled “Mercury”

“Jaraknya {adalah} hanya 58 juta kilometer.” (clause no. 1-2)

“diameter planet Merkurius adalah 4.875 kilometer.” (clause no. 1-3)

and entry no. 9 entitled “Matahari”

“Matahari *berjarak* 150 juta km dari Bumi.” (clause no. 9-2)

“Diameter matahari *adalah* 1,392,000 km.” (clause no. 9-3)

B. Material Process

The encyclopedia discourse both in English and Indonesian is also followed by the domination of delivering information in terms of action, activities, and events as shown by the occurrence of the material process with 34.06% in English and 28.05% in Indonesian. The material process is the act of doing or happening that is indicated mostly by physical action but it can be an abstracts action and happening (Halliday, 1994). The material process emerging as the second significant one indicates that the encyclopedia sometimes talks about the activities, occurrences, and events by mentioning surrounding natural space objects as the actor or the agent of doing that may (not) involve goal/range. This type of process in the context of encyclopedia discourse, either in English or Indonesian, appears to describe the activity and the occurrence of surrounding space objects as well to describe events happening in the space.

The processes that occurs in the material process are *travels, spins, traps, makes, confirmed, landed, turns, fill, give, has not circled, was discovered, creates, burns, floodlights, is generated, erupts, loop, jet, dance, circle, passes, happens, blocks, orbit, cuts,*

have worked, fall, began, spun, appears, squeezes, collapse, blows, are thrown, radiate, melt, swing, throw, glisten giving, passing, creating, measuring, to form, making, to protect, will find and can burn.

These processes employ actors as the participants that can be classified into the whole thing (objects): *the moon; The Milky Way; Each comet*, and the part of the whole object: *no atmosphere; This thick atmosphere; this combination; Huge pressure inside the sun; Heat from the interior; Giant flame like tongues of glowing hydrogen called solar prominence; huge bursts of energy called solar flares; cooler patches called sunspots; the moon; this it sometimes passes right in front of the sun ; All the nine planets of the solar system; gravity; heat and X-rays; they, human being and mission: scientists; the mars pathfinder mission; space probes.*

The goals/ranges involved in the text are (1) the whole thing: *it; the Sun; the Earth; it;* and (2) the part of the thing (object): *the Sun's heat; the robot exploration vehicle Sojourner; traces of microscopic life; the atmosphere; a small patcs of darkness; a vast tail of dust and gas that glistens; a brief, but spectacular show; and gases.*

In Indonesian, the material process occurring in the entries are *menguap, mengubah, menarik, mencoba, mencari, membakar, menjulang, melayang, membeku, membentuk, menjangkau,*

memotong, terbit, turun, lahir, terbenam, terjadi, menutupi, mempengaruhi, mengitari, melintasi, menyediakan, menghasilkan, menimbulkan, memperhitungkan, menemukan, mendapatkan, berdiri, berputar (berotasi), berkembang, bersinar, ditemukan, dideretkan, terhalang, dihuni, dihitung, and bertumbukkan.

The actors involved in this process are (1) the whole thing (object): *Matahari; Bulan ;Komet; oleh cahaya*, (2) the part of the whole thing (object): *air laut yang menguap akibat panas matahari; setiap kutubnya; Proses reaksi pengubahan gas hidrogen menjadi unsur-unsur lain; lintasan bulan; Rotasi ini; bagian tengah kumpulan itu; bagian tepinya;; Panas matahari; oleh awan debu dan patikel yang mengitarinya; ledakannya; lintasan komet; cahaya bintang-bintang; matahari; seluruh planet*, and (3) human being: *kamu; kita;; John Couch Adams dan Urbain Le Verier; Johann Galle dan Hein-rich d'Ar-rest.*

The Goals/ranges emerging in the process are (1) the whole thing: *komet; galaksi Bima Sakti; matahari*, and (2) the part of the thing: *suhu sepanas itu; cikal bakal planet yang ada disekitarnya; Semua cincin tersebut; benua; air segar; teleskop; cahaya Matahari; keberadaan planet ini; planetnya sendiri; bintik matahari; posisi planet yang terletak setelah uranus; mencari planet tersebut; dirinya sendiri; ledakan; berputar(berotasi); berkembang; membeku; lapisan-lapisan planet; cahaya bintang-bintang; seluruh planet.*

The example of the material process in English text is in entry no. 12 entitled “Supernova”

“gravity *squeezes* it so hard” (clause no. 12-2)

“in a fraction of a second and huge amounts of light, heat and X-rays *radiate* out” (clause no. 12-3).

and entry no. 1 entitled “Mercury”

“it *spins* very slowly” (clause no 1-7).

In Indonesian entries, entry no. 13 entitled “*Komet*” shows the example of the material process in representing the activity of comet by involving

“Komet *melintasi* Matahari dengan lintasan yang sangat elips” (clause no. 13-3)

“lintasan komet akan *memotong* seluruh planet” (clause no. 13-6)

and entry no. 2 entitled “*Venus*”

“[matahari *terbit* dari barat” (clause no 2-5).

C. Relational Identifying Process

The relational identifying process is also counted as the dominant process in both encyclopedias with 11.25% occurrence in English entries and 7.38% in Indonesian. The relational identifying process is the process of identifying something. This result indicates that the encyclopedia discourse, both in English and Indonesian, describing physical appearance, condition, and composition relates

the description process of surrounding natural space objects as the identified by mentioning its identities.

The processes appearing in the relational identifying are *are*, *is*, *is covered*, *is caused*, *is known*, *making*, and *earn*. These processes involve identified/token as the participants that can be categorized as (1) the whole thing (object): *it (refers to Venus) ; Mercury; Earth; Mars; Jupiter; Saturn; Neptune; the Milky way; Comets* and (2) part of the whole object: *its surface; the rings; Uranus stratling blue colour; this(refers to a total solar eclipse).*

The emerging identifiers/values in this process type are (1) the physical appereance in term of position and size: *the nearest planet of all to the sun, often less than 58 million km away; the third planet out from the sun, about 150 billion km away from it; by far the biggest planet in our solar system – over 140,000 km across; the second largest planet – a pale butterscotch-coloured ball gas over 120,000 km across; the eight planet out from the Sun and the fourth largest planet in the Solar*, (2) the condition in term of time, temperature, and structure: *the hottest planet in the solar system;* and (3) the composition (part of the whole objects): *of countless tiny chunks of ice and rock; in the deep oceans of liquid methane that fill the atmosphere with methane and give it a beautiful cobalt-blue colour; of countless stars; likely dirty snowballs-lumps of ice filled with that and rock; huge amounts of liquid water on its surface.*

In Indonesian, the relational identifying processes employed in the text are *adalah*, *disebut*, and *dianggap*. The identifieds/tokens that emerges in this process type are (1) the whole of the object: *Merkurius*; *bumi*; *Mars*; *Jupiter*; *Uranus*; *Neptunus*; *Matahari*; *Satu tahun cahaya*; *Supernova*; *Komet*, and (2) part of the whole object: *Bintik matahari*. This process involves identifier/value that can be categorized into (1) the physical appearance in term of size, colour, and position: *planet yang paling dekat dengan bumi*; *planet terbesar di tata surya*, *sebuah planet yang berwarna biru*, *sebuah bola gas yang sangat besar dan berpijar*, and (2) events happening in the space: *peristiwa meledaknya sebuah bintang yang akan mati*.

In English, the example of the relational identifying is in entry no. 5 entitled “Jupiter”

“*Jupiter is by far the biggest planet in our solar system – 140,000 km across*” (clause no. 5-1)

and in the entry no. 7 entitled “Uranus”

“*As with Neptune, Uranus startling blue colour is caused by methane in the atmosphere*” (clause no. 7-6).

In Indonesian, the example is entry no. 1 entitled “*Merkurius*”

“*Merkurius **adalah** planet yang paling dekat dengan matahari*” (clause no. 1-1)

and entry no. 9 entitled “*Matahari*”

“*Matahari **adalah** sebuah bola gas yang sangat besar dan berpijar*” (clause no. 9-1).

3. The Absence of the Process Types

There are two types of processes absent in both English and Indonesian encyclopedia entries as follows

A. Behavioral process

The behavioral process is absent in those two encyclopedia. Since the behavioral process engages the human being as the behavior, it indicates that the encyclopedia does not talk about people but talk about objects, surrounding natural space objects in space particularly.

B. Verbal process

The verbal process is also not involved in English and Indonesian encyclopedia. This finding indicates that encyclopedia objectively talks about the object so that the encyclopedia finds information from the expert or fact, while the verbal process is to report the information from someone's point of view. Thus, the verbal process is not involved in the encyclopedia discourse.

5. The Participants

Both in English and Indonesian encyclopedia, the participants consist of non-human participants and human participants. Non-human participant can be classified into the whole thing (object) of

surrounding natural space objects and the part of the thing (object) of surrounding natural space objects.

In English one, the examples of non-human participant are *(the) Mercury, (the) Earth, (the) Sun, Comet, Supernova, the Milky Way, the surface, the Sun's heat, and the thick atmosphere*. Human participants are *the little girl, scientist, and we*.

In Indonesian, non-human participant examples are *Merkurius, Venus, Bumi, Mars, Jupiter, Saturnus, Uranus, Neptunus, Matahari, Galaksi Bima Sakti, Supernove, Komet, diameter planet Merkurius; Arah rotasi planet Venus; arah rotasi planet yang lain; jarak 108 juta kilometer dari matahari; air; diameter 12.756 kilometer, 71% permukaan Bumi; lautan; benua; and dataran tinggi*. Human participants are *kamu, kita, manusia, ilmuan, John Couch Adams dan Urbain Le Verrier, and John Gale dan Hein-rich d'ar-rest'*.

6. The Significant Participants

Non-human participant is counted as the most significant participant either in English or Indonesian one. In English from 235 slots of nominal group, 227 of them is non-human participant while the rest is human participant. Similar to English, in Indonesian one there are 224 non-human participants out of 234 slots. This finding indicates that the encyclopedia discusses about surrounding natural space objects so that to be objective the objects being talk about appears dominantly.

7. The Dominant Circumstantial Type in the Encyclopedia

Location, manner, and extent become the most significant circumstance type respectively in English and Indonesian. The finding in circumstantial element indicates that circumstance of location: place and time, and circumstance of extent: duration, distance and frequency, emerge frequently as common type in both encyclopedia entries is to give details of the processes in both encyclopedias entries in space and time, where the process take place or when it happens.

4.1.2 The Differences

There are two differences between the process types in English and Indonesian encyclopedia entries. They are

1. The Different Percentage of the process Types in the Encyclopedia

There is a difference of the percentage of the occurrence of some process types as follows

A. Relational Possessive Process

The relational possessive process has the difference distribution in the English and Indonesian encyclopedia. This process in Indonesian is 4 times larger in the number of occurrence than the English one. The relational possessive in Indonesian has 7.97% of the whole clauses and in English it only has 1.25%. This result indicates that the encyclopedia

discourse, in Indonesian, more often explores parts of the object by relating the description process of surrounding natural space objects as the possessed by mentioning its possession than the English one.

In English, the process emerging in the relational possessive is only *has*. This process involves possessor as the participant *Jupiter with a faint ring system and 16 moons* as the possessor, *it (refers to Saturn)* with *a spectacular halo of rings round the middle* as the possessor.

In Indonesian, the processes emerging in the relational possessive are *memiliki* and *mempunyai*. This process involved possessor as the participant which can be classified into (1) the whole object: *Venus; Bumi; planet tersebut; Mars; Jupiter; Planet saturnus; Planet ini; planet Uranus; Neptunus* and (2) the part of the whole object: *hidrogen padat ini*. The posseseds that emerge in the process are (1) the part of the whole object including composition: *benua dan dataran tinggi; es; daya magnet yang sangat kuat; keistimewaan yang telah membuat kagum manusia sejak dahulu; cincin yang sangat indah; cincin*, and (2) the physical appearance in term of size, colour, and position: *diamter 12.104 kilometer; diameter 12.756 kilometer, sedikit lebih besar dari pada diameter planet venus; diamater 6.794 kilometer; diameter 142.796 kilometer; diameter 120.500 kilometer; diamaeter 49.500 kilometer*.

The only two relational possessive processes emerging in English encyclopedia are

*“Jupiter **has** a faint ring system and 16 moons”* (clause no. 5-12)

*“it **has** a spectacular halo of rings round the middle”* (clause no. 6-3).

In Indonesian, the example of this process is in entry no. 6 entitled “Saturnus”

*“Planet Saturnus **memiliki** diameter 120.500 kilometer.”* (clause no. 6-1)

and entry no 8. entitled “ Neptunus”

*“Neptunus **memiliki** diameter 49.500 kilometer”* (clause no. 8-3).

B. Mental process

The mental process is the process of sensing, thinking, and feeling. The mental process in Indonesian encyclopedia occurs twice larger in number than English one. The mental process in Indonesian presents 6.78% while English 2.48%. This process indicates human being as the senser who undergoes the phenomenon. This result indicates that in English the encyclopedia tend to be more objective since it doesn't involve too many mental processes in which people are considered to personalize thing.

The mental processes that emerge in English are *hope and would see*. These processes involve the senser *scientists and we*

with the phenomenon *space probes will find traces of microscopic life*.

The mental processes appearing in the Indonesian are *terlihat, melihat, and bayangkan*. The sensors in the process are *kamu; para ilmuwan; kita* employing the phenomenon *Matahari terbit dari barat dan terbenam di timur; Neptunus; seperti ada kabut tipis memanjang*.

The example of the mental process in English is in entry no. 4 entitled “Mars”

*“scientists **hope** space probes will find traces of microscopic life under the surface”* (clause no. 4-11).

In Indonesian, the example is the entry no. 8 entitled “Neptunus”

*“Para ilmuwan **melihat** Neptunus dari dekat untuk pertama kali pada 25 Agustus 1989.”* (clause no. 8-1)

and entry no. 11 entitled “Galaksi Bima Sakti”

*“Kita tidak dapat **melihat** ke arah pusat galaksi Bima Sakti secara langsung.”* (clause no. 11-17)

C. Existential process

The existential process in Indonesian also appears three times larger in number than in English encyclopedia. This process is the process of introducing the existing of something,

in the encyclopedia it indicates that surrounding natural space objects are considered as the existent. The existential process presents 1.24% of whole English clauses whereas in Indonesian it presents 3.66 % of whole clauses. This process type is closely related with describing possession of the objects as the possessed (the relational possessive). The finding implies that the Indonesian one is more often describing the parts of the whole objects than the English one.

In English, the existential processes involved in the text are *are* and *is* with the existent *fewer than two days in Mercury's year*; and *no moon*. In Indonesian, the processes appearing in the text are *ada*, *terkandung*, and *terdapat*. The existent engaged in these processes is the part of the whole object: *air tersebut; hidrogen dalam tiga macam wujud, yaitu gas, cair dan padat; Bagian tepi yang saling bertumbukan*.

The example of this process in English encyclopedia is in entry no. 1 entitled "Mercury"

*"there **are** fewer than two days in Mercury's year"* (clause no. 1-9)

and entry no. 11 "entitled "the Milky Way"

"there is no moon" (clause no. 11-2).

In Indonesian one, the example of existential process is in entry no. 6 entitled "Saturnus"

“*Di antara setiap lapisan, **terdapat** ruang kosong yang sangat luas*” (clause no. 6-10)

and entry no. 13 entitled “Komet”

“***Ada** satu benda langit lagi yang perlu kamu ketahui, yaitu komet*” (clause no.13-1)

3. The Circumstances of Angle, Role, and Contingency

The circumstantial type angle only appears in Indonesian encyclopedia while circumstantial type contingency and role only emerge in English encyclopedia.

4.2 The Similarities and Differences of the Verbal Groups Representing Processes in Encyclopedia Entries

The verbal group represents process in the transitivity system. Both English and Indonesian verbal group have the predicator as the core of the verbal group. In English, the predicator has finite as the modification while in Indonesian predicator is modified by affixes. Here is the table consists of the finite pattern of the English finite verbal groups.

No.	Finite Pattern	Number of Occurrence	Percentage of Occurrence
1.	Do + Bare Infinitive	65	47.1%
2.	Be + Present Participle	1	0.72%
3.	Have + Past Participle	3	2.2%
4.	Be	42	30.34%
5.	Zero	11	7.98%
6.	Do + Bare infinitive with a modal	4	2.90%
7.	Be + past participle	8	5.8%
8.	Be + past participle with a modal	1	0.72%
	Total	138	100%

Table 4.2 The Patterns of English Verbal groups

The predicator modified by the finite assigns the tense of the verbal group that is various based on the form of the finite. The patterns of the finite verbal group in the encyclopedia are:

- (1) Do + bare infinitive. This pattern occurs dominantly in the encyclopedia of 65 occurrences. The pattern indicates the simple tense. The variation of the finite do (do, does and did) deals with the tense of the verbal group. The simple present tense is indicated by the finite do + bare infinitive. The examples of the emerging verbal group uses the finite do + bare infinitive pattern are: *travels, spins, traps, makes, spins, turns, loop, jet, dance, and circle*. The do + bare infinitive pattern indicates the simple present tense of the verbal group. The other variation of finite do + bare infinitive is did + bare infinitive constructing the simple past tense. The examples of the verbal groups that occupy this pattern are: *confirmed, landed, began, spun, melt, became, gathered, and formed*. The finite do + bare infinitive and its variation indicate the active meaning of the participants.
- (2) Be + present participle. This pattern emerges once of the whole verbal groups found in the text. This form indicates the continuous tense of the verbal group. The variation of this pattern is *is + present participle, are + present participle, was + present participle* and *were + present participle*. Is/ are + present participle carries the present continuous tense while was/ were + present participle suggests the past continuous tense. The verbal group engaging this pattern is only *are looking*. The finite be + present participle indicates active meaning of the participants.

(3) Have + past participle. This pattern appears 3 times of the whole verbal groups in the encyclopedia. The pattern indicates perfect tense. The variation of this form is have/has + past participle indicating the present perfect and had + past participle indicating the past perfect tense. This form suggests the active meaning of participants. The verbal groups which employ this pattern are: *have worked, has lasted, and has not circled*.

(4) Be + past participle. This pattern shares 8 emergences of the whole verbal groups in the encyclopedia and it indicates the passive meaning of the participants. The variants of this pattern are is /are+ past participle indicating simple present in passive and was/were + past participle which suggests the simple past in passive. The verbal groups which employ this pattern are: *was discovered, is generated, is called, is covered, is known*.

(5) Do + bare infinitive with a modal. This pattern merely is the modification of the finite do + bare infinitive. This pattern implies the active meaning of participants. The verbal groups emerging in this pattern are: *will find, can burn, could look down, and would see*.

(6) Be + past participle with a modal. This pattern only shares 1 emergence of the whole verbal groups identified in the encyclopedia. This pattern is the modification of the finite have + past participle by adding modal auxiliary. It suggests the active meaning of the participants as well. The verbal group

identified using this pattern is: *can be seen*. The modification by adding modal means to indicate detail information in term of the degree from the possibility to the necessity of the realization of the function of the verbal group.

(7) Be. This pattern emerges as the second dominant pattern in the encyclopedia discourse sharing 42 emergence of whole identified clause in the text. The pattern indicates the simple tense with the active meaning of the participants. the variant form of this pattern is am/is/are indicating simple present with active meaning and was/were indicating the simple past tense with the active meaning as well. The verbal group using this pattern are *is* (Occurs 4 times), *are* (occurs 3 times), and *was* (appears once).

(8) Zero. This pattern emerges 11 times in the text. The variants of this pattern are to infinitive, present participle, and past participle which indicate the characteristic of written text so that the meaning can be delivered easily without considering tense and voice since it doesn't have finite. The verbal groups in this pattern are (1) to infinitive: *to pull*, *to be*, *to form* and (2) present participle: *taking*, *making*, *stretching*, *passing*, *creating*.

(9) Modal Auxiliary. The patterns show that modality in English is considered as the modifier of the verbal groups. The examples are *can be seen* and *could look*.

In Indonesian, verbal groups are modified by affixes. The following is the table consists of the pattern of the affixes pattern of the verbal groups representing process in Indonesian encyclopedia.

No.	Affixes Pattern	Number of Occurrence	Percentage of Occurrence
1.	<i>me-</i>	23	15.75%
2.	<i>me-i</i>	17	11.64%
3.	<i>me-kan</i>	6	4.11%
4.	<i>ber-</i>	5	3.42%
5.	<i>ber-an</i>	1	0.57%
6.	<i>di-</i>	5	3.42%
7.	<i>di-kan</i>	5	3.42%
8.	<i>ter-</i>	4	2.74%
9.	<i>-kan</i>	1	0.57%
10.	root	79	54.11%
	Total	146	100%

Table 4.3 The Patterns of the Indonesian Verbal Groups

The predicator modified by the affixes suggests the activeness meaning of the participant. The followings are the verbal group patterns representing process used in Indonesian texts classified by its pattern

1. Predicate in root pattern representing process in Indonesian entries occurs as the most significant pattern that shares more than 50% of the whole clauses. The variant of this pattern is *free* and *frozen*. The predicates in *frozen* pattern occur 70 times and they are *adalah, merupakan, terletak, menjadi, berarti, berada, terasa, menjadi bertambah, terlihat, terbenam* dan *terjadi* (with some of them used several times). They are can be said as frozen word in which their roots and their affixes can't be separated. The predicates in this variant pattern *free* are *terbit, turun, tampak, ada,* and *lahir*. This pattern indicates the active meaning of participant without influencing other participant. This pattern often occurs in elliptical form.

The Predicate *menjadi bertambah* can be said as the example of redundancy since those two predicates have the same meaning. This pattern has frequent number of the elliptical form of the predicates. The elliptical form indicates the effectiveness in which if the people involved in the communication have already known the predicate, it is not necessary to state it explicitly.

2. Predicates with prefixed *me-* representing process in the encyclopedia occupy first place of all affixed form (23 emergences). The predicates in this form are *menguap, mengubah, menarik, mencoba, mencari, membakar, menjulang, melayang, membeku, membentuk, menjangkau, mengandung, mencapai* and *memotong*. This pattern indicates the active meaning of participant that mostly affects other participant.
3. Predicates with affixed *me-i* appear 17 times (certain verbal word is used repeatedly). The predicates using this form are *menutupi, mempengaruhi, memiliki, mempunyai, mengitari, and melintasi*. The pattern representing the processes indicates an action to influence participant which is the goal of the action. This form indicates the active meaning of the participant.
4. Predicates with affixed *me-kan* representing material process in Indonesian entries emerge 6 times. The predicates in this form has different meaning classification as presented below:
 - a. Predicates *menyediakan, memerlukan, menghasilkan, and menimbulkan* imply that the doer causes an action or condition

representing by its root that influences other participant with active meaning of the doer (participant).

b. Predicate *mempengaruhi* implies that it can be understood the active meaning of the participant that affects the other participant.

c. Predicates *menemukan* and *mendapatkan* indicate an action that influences participant that is purpose of the action implying the active meaning of the participant.

5. Predicates with prefixed *ber-* representing process in Indonesian entries occur 5 times from 146. The predicates using this form indicate the active meaning of the participant itself without intention to influence other participant. They are *berdiri*, *bertambah*, *berputar (berotasi)*, *berkembang*, and *bersinar*.

6. Predicate with affixed *ber-an* indicating the active meaning of the participant that implies reciprocal meaning of the participants emerges once in the encyclopedia. The predicates using this pattern are only *berlawanan*.

7. Predicates with affixed *di-kan* representing process imply that the purposes of action is emphasized rather than the doer. It indicates the passive meaning of the actor. This pattern emerges 5 times and the verbal groups in this pattern are *ditemukan*, *dinamakan*, *diperkirakan* and *dideretkan*. It's optional to mention the doer of the action.

8. Predicate using prefixed *ter-* that represent process in Indonesian entries appears 4 times and they are *terhalang*, *terlihat*, and *terkandung*. This pattern indicates that participant representing the purpose of action is emphasized with implying the inadvertence meaning of the doer.
9. Predicates with prefixed *di-* representing process are *dihuni*, *dianggap*, *disebut*, *diubah* and *dihitung*. This pattern occurs 5 in Indonesian entries. This form indicates that the participant that represents the purpose of action is intended to be mentioned rather than the actor. It implies the passive meaning of the actor and it is optional to mention the doer.

4.3 The Similarities and Differences of the Nominal Groups Representing the Participants in Encyclopedia Entries

The nominal group represents participant in the transitivity system. In English text, there are 235 slots of the nominal group representing the participants. 153 out of 235 slots are in the modified pattern. The rest, 82 slots, is in non modified pattern. In Indonesian texts, 234 slots of the nominal group representing the participants are available in the texts. 162 of whole slots are in the modified pattern while the rest is not modified.

No.	Pattern	English	Indonesian
1.	Non Modified	34.89%	32.20%
2.	Modified	65.10%	68.80%
	Total	100%	100%

Table 4.4 Nominal Group Modification

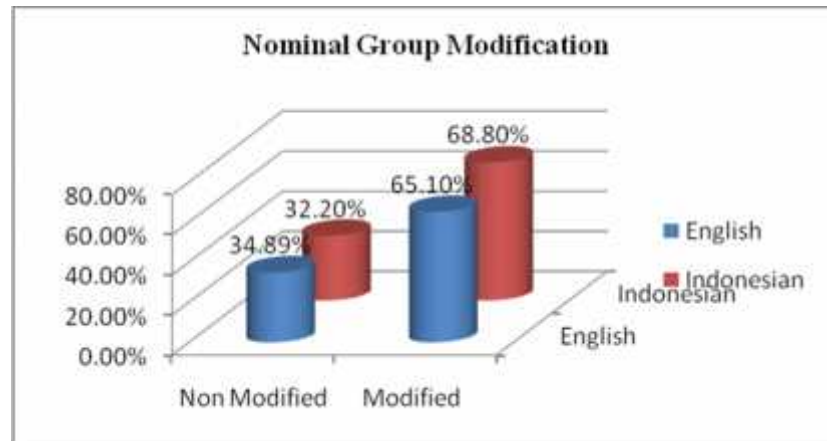


Chart 4.2 The Nominal Group Modification

The analysis of the nominal group representing participants includes the analysis of its modifying element proposed by Halliday. The elements are deictic, numerative, epithet, classifier, and qualifier. The heads or things are not calculated because things or heads always occur in every nominal group. The table below presents the occurrence of the modifying element of the nominal groups in English and Indonesian.

No.	Element	English	Indonesian
1.	Deictic	91	32
2.	Numerative	26	14
3.	Epithet	66	24
4.	Classifier	22	76
5.	Qualifier	68	57

Table 4.5 The Occurrence of the Elements of the Nominal Group

The nominal group has logical structure: head and modifier (Halliday and Matthiessen, 2004). Modifier is separated between pre-modifier and post-modifier. Pre-modifier occurs before the head while post-modifier occurs after the head. The nominal groups can be modified by deictic, epithet, numerative, classifier, and qualifier. Encyclopedia

discourse's mode is a written text. Consequently, the heads in encyclopedia entries are modified in such complex way, involving pre-modifier and post-modifier (Chafe, 1982; Gerot and Wignell, 1995; Halliday, 1996; Halliday, 1985b). Here is the pattern of the modification of the heads of the nominal groups presented in encyclopedia entries.

No.	Pattern	Number of Occurrence	Percentage of Occurrence
1.	Without Deictic	62	40.52%
2.	With Deictic	91	59.48%
	Total	153	100%

Table 4.6 The English Modified Pattern

In English entries, there are 153 slots of the modified nominal groups. The nominal groups with deictic becomes the most dominant pattern with the occurrence of 91 times or 59.48% of whole modified ones. The rest, 62 slots, is the modified without deictic ones.

No.	Pattern	Number of Occurrence	Percentage of Occurrence
1.	Without Deictic	129	80.23%
2.	With Deictic	32	19.87%
	Total	161	100%

Table 4.7 The Indonesian Modified Pattern

There are 161 slots of the modified nominal groups found in Indonesian ones. In contrast to the English nominal group, in Indonesian, the modified pattern without deictic precisely arises as the frequent pattern representing the participants. It occurs 129 times of the whole modified nominal groups in Indonesian data. The modified pattern with deictic exactly comes as the minor pattern with 32 occurrences or representing 19.87% of the total of the modified pattern.

English Nominal Group Without Deictic

English has 62 slots of the nominal groups in modified without deictic pattern. From that number, it is found 9 specific forms with *Thing* + *Qualifier* as the most frequent form for 17 emergences or 27.41%, followed by *Epithet 1* + *Thing* + *Qualifier*, *Numerative* + *Thing*, and *Epithet 1* + *Thing*, that share 17.74% of case for each specific pattern. The next dominant specific form is *Numerative* + *Thing* + *Qualifier* with 7 times of occurrences or 11.29%. The following is the distribution of nominal group modified without deictic representing the participants in English entries.

No.	Pattern	Number of Occurrence	Percentage of Occurrence
1.	Thing + Qualifier	17	27.41%
2.	Epithet 1 + Thing + Qualifier	11	17.74%
3.	Numerative + Thing	11	17.74%
4.	Epithet 1 + Thing	10	16.13%
5.	Numerative + Thing + Qualifier	7	11.29%
6.	Classifier 1 + Thing	3	4.48%
7.	Numerative + Classifier 1 + Thing	1	1.61%
8.	Epithet 1 + Epithet 2 + Thing + Qualifier	1	1.61%
9.	Epithet 1 + Classifier 1 + Thing + Qualifier	1	1.61%
	Total	62	100%

Table 4.8 The Pattern of the Modified Nominal Group without Deictic in English Entries

Indonesian Nominal Group Without Deictic

The nominal groups without deictic in Indonesian entries, as mentioned before, is the most dominant form with 129 slots in number. From 129 slots, there are 17 patterns of the nominal groups without deictic. *Thing* + *Classifier 1* form appears as the most emerging pattern

that occurs 38 times – representing 29.48% of whole. The second frequent pattern that does not vary much in number is *Thing + Qualifier* of 34 occurrences or 26.36%. *Thing + Classifier 1 (Thing + Classifier)* and *Thing + Classifier 1+ Qualifier* patterns share the same number in emerges of 9 cases, representing 6.98% of the whole nominal group without deictic, for each. The complete distribution is presented below.

No.	Pattern	Number of Occurrence	Percentage of Occurrence
1.	Thing + Classifier 1	38	29.48%
2.	Thing + Qualifier	34	26.36%
3.	Thing + Classifier 1 (Thing + Classifier)	9	6.98%
4.	Thing + Epithet 1 + Qualifier	9	6.98%
5.	Thing + Epithet 1	9	6.98%
6.	Thing + Classifier 1+ Qualifier	6	4.65%
7.	Numerative + Thing	6	4.65%
8.	Numerative + Thing + Qualifier	3	2.32%
9.	Thing (Thing + Classifier) + Classifier 1	3	2.32%
10.	Numerative + Thing + Classifier 1	3	2.32%
11.	Thing + Classifier + Epithet	2	1.55%
12.	Thing + Classifier (Thing + Classifier) + Qualifier	2	1.55%
13.	Thing + Classifier 1 (Thing + Classifier (Thing + Classifier))	1	0.78%
14.	Numerative + Thing + Classifier + Qualifier	1	0.78%
15.	Numerative + Thing + Classifier + Epithet + Qualifier	1	0.78%
16.	Thing + Classifier 1 (Thing + Qualifier)	1	0.78%
17.	Thing + Classifier (Thing + Classifier (Thing + Classifier (Thing + Classifier))) + Qualifier	1	0.78%
	Total	129	100%

Table 4.9 The Pattern of the Modified Nominal Group without Deictic in Indonesian Entries

English Nominal Group With Deictic

The nominal group with deictic representing the participants in English entries has 91 slots. From that amount, there are 14 specific pattern found in the data being analyzed. *Deictic + Thing* form obviously dominates the number of distribution with 32 times of emergence or around 35.16%. The second frequent form is *Deictic +*

Epithet 1 + Thing +Qualifier with the number of the occurrence less than a half of *Deictic + Thing* form, 13 times representing 14.28% of 91 slots, followed by *Deictic + Epithet 1 + Thing* pattern that occurs 13 times representing 14.28% . The complete distribution of the pattern of the nominal group modified with deictic representing the participants in English data is presented below.

No.	Pattern	Number of Occurrence	Percentage of Occurrence
1.	Deictic + Thing	32	35.16%
2.	Deictic + Epithet 1 + Thing +Qualifier	13	14.28%
3.	Deictic + Epithet 1 + Thing	13	14.28%
4.	Deictic + Classifier 1 + Thing	7	7.69%
5.	Deictic + Thing + Qualifier	6	6.59%
6.	Deictic + Numerative + Thing + Qualifier	5	5.49%
7.	Deictic + Epithet 1 + Epithet 2 + Thing	3	3.33%
8.	Deictic + Classifier 1 + Thing + Qualifier	3	3.33%
9.	Deictic + Epithet 1 + Classifier 1 + Thing	3	3.33%
10.	Deictic + Numerative + Epithet 1 + Thing + Qualifier	2	2.22%
11.	Deictic + Classifier 1 + Classifier 2 + Thing	1	1.11%
12.	Deictic + Classifier 1 + Classifier 2 + Thing + Qualifier	1	1.11%
13.	Deictic + Post Deictic + Numerative + Thing + Qualifier	1	1.11%
14.	Deictic + Epithet 1 + Epithet 2 + Epithet 3 + Thing	1	1.11%
	Total	91	100%

Table 4.10 The Pattern of Modified Nominal Group with Deictic in English Entries

Indonesian Nominal Group With Deictic

In Indonesian entries, there are only 8 patterns identified from 31 the nominal groups with deictic. *Thing + Deictic* pattern gets the first place of the number distribution with 16 occurrences or a half of whole nominal group with deictic. This from has a similarity with the English most dominant form of the nominal groups with deictic in terms of the elements of this pattern which are the deictic element and the head

(thing), but they are different in placement since Indonesian has different placement of the nominal groups' modifying elements. The second dominant form of the nominal groups with deictic in Indonesian entries is *Thing + Classifier + Deictic* appearing 5 times or 15.62%, followed by *Thing + Epithet 1 + Deictic* form that represent 12.5% (occurs 4 times). The complete distribution of the pattern of the nominal group modified with deictic representing the participants in Indonesian entries is presented below.

No.	Pattern	Number of Occurrence	Percentage of occurrence
1.	Thing + Deictic	16	50%
2.	Thing + Classifier + Deictic	5	15.62%
3.	Thing + Epithet 1 + Deictic	4	12.5%
4.	Deictic + Thing	2	6.25%
5.	Deictic + Thing + Deictic	1	3.125%
6.	Deictic + Thing + Qualifier	1	3.125%
7.	Deictic + Thing + Classifier 1	1	3.125%
8.	Deictic + Thing + Classifier 1 + Epithet	1	3.125%
9.	Thing + Classifier (Thing + Classifier) + Deictic	1	3.125%
	Total	32	100%

Table 4.11 The Pattern of the Modified Nominal Group with Deictic in Indonesian Entries

From the analysis above, there are several similarities and differences between English and Indonesian nominal groups as follows

(1) Thing

The thing is the main element that takes the message and functions as the head of the nominal group. The thing is the element that is modified by the other element in the nominal group or it is able to stand alone without any modification.

a. The similarities

Both Indonesian and English texts has the 'thing' appears as independent element that is modified by other element and also as the independent element that can stand alone. This element also occurs in elliptical form in both English and Indonesian.

b. The differences

Plurality of the thing in English uses form with addition final -s/-es while Indonesian uses reduplication.

The example of the thing in English are *Mercury; planet; tempratures; 425°C; atmosphere; Venus, Mars, and it*. The example of the thing in Indonesian are *Merkurius; planet; venus; matahari; bumi; planet; and Mars*.

(2) Deictic

The deictic is the modifying element that gives the signal whether the subset of the thing is intended or specific or not.

a. The similarities

The result suggests that both in English and Indonesian has this modifier element and deictic element do not always occur to modify the head of the thing.

b. The differences

The deictic element in English always occurs preceding the thing while Indonesian ones can appear before or after the thing.

The example of deictic in English nominal group are *the; its; this; a; nor; Mars'; all; Uranus; All the; no; each*. In Indonesian, the emerging deictic are *semua; sebuah; setiap; Para; seluruh*. The tables below present the placement of the deictic in English and Indonesian Nominal Group.

Pattern
Deictic + Thing
Deictic + Epithet 1 + Thing +Qualifier
Deictic + Epithet 1 + Thing

Table 4.12 The Placement of the Deictic Element in English

Pattern
Thing + Classifier + Deictic
Thing + Epithet 1 + Deictic
Deictic + Thing

Table 4.13 The Placement of the Deictic Element in Indonesian

(3) Numerative

The numerative is the element showing the numerical feature of subset.

a. The Similarities

The finding reveals that numerative element exists in both English and Indonesian and it can be stand as the thing of the nominal group in English and Indonesian encyclopedia and the placement of this element in modifying the head or the thing is merely the same in the encyclopedia. Both in English and Indonesian, it occurs before the thing.

The examples of the numerative element in English are *4.6 billion*, *more than a few*, *nine*, and *40,000km*. In Indonesian, the examples of numerative element are *27.000*, *satu*, *ribuan*, and *jutaan*.

Pattern
Numerative + Thing
Numerative + Thing + Qualifier
Numerative + Classifier 1 + Thing

Table 4.14 The Placement of the Numerative Element in English

Pattern
Numerative + Thing
Numerative + Thing + Qualifier
Numerative + Thing + Classifier 1

Table 4.15 The Placement of the Numerative Element in Indonesian

(4) Epithet

The epithet functions to elaborate the aspect showing the quality of the subset.

a. The Similarities

This element can be found in English and Indonesian nominal group.

b. The Differences

The result suggests that the placement of the epithet between English and Indonesian is different. This element occurs preceding the thing in English while in Indonesian it occurs after the thing.

The examples of Epithet in English one are *small*, *total*, *visible*, and *icy cold*. In Indonesian the examples of this element are *terbesar*, *sangat jauh*, and *padat*.

Pattern
Epithet 1 + Thing
Epithet 1 + Epithet 2 + Thing + Qualifier
Epithet 1 + Classifier 1 + Thing + Qualifier

Table 4.16 The Placement of the Epithet Element in English

Pattern
Thing + Epithet 1
Numerative + Thing + Classifier + Epithet + Qualifier

Table 4.17 The Placement of the Epithet Element in English

(5) Classifier

The head or thing of a nominal group may also be given the specific subclass of the thing known as classifier.

a. The Similarities

Classifier, both in English and Indonesian, occurs to modify the head of the nominal group.

b. The Differences

Like epithet, the placement of the classifier between English and Indonesian is also different. The classifier in the English nominal groups appears preceding the thing while Indonesian the classifier emerges after the thing.

The examples of this element in English are *solar*, *ring*, and *storm* while in Indonesian the examples are *Bumi*, *laut*, and *karbondioksida*.

Pattern
Deictic + Classifier 1 + Classifier 2 + Thing
Deictic + Classifier 1 + Classifier 2 + Thing + Qualifier
Thing + Classifier 1

Table 4.18 The Placement of the Classifier Element in English

Pattern
Thing + Classifier (Thing + Classifier) + Deictic
Numerative + Thing + Classifier + Qualifier
Numerative + Thing + Classifier + Epithet + Qualifier

Table 4.19 The Placement of the Classifier Element in Indonesian

(6) Qualifier

The head may be completed by characterizing the thing in terms of major process, relative clause, or prepositional phrase or minor clause, called qualifier.

a. The Similarities

The finding shows that English and Indonesian have the element of qualifier and the placement of this element is after the thing either in English or Indonesian. Moreover, the form of the qualifier is also the same that it can be in prepositional phrase, relative clause, minor clause or major process.

The examples of the qualifier in English are *of the solar system* and *of dust and gas that glisten*. In Indonesian, the examples are *dalam wujud gas* and *dari matahari*.

Pattern
Deictic + Classifier 1 + Classifier 2 + Thing + Qualifier
Deictic + Epithet 1 + Epithet 2 + Epithet 3 + Thing + Qualifier
Deictic + Post Deictic + Numerative + Thing + Qualifier

Table 4.20 The Placement of the Qualifier Element in English

Pattern
Numerative + Thing + Classifier + Epithet + Qualifier
Numerative + Classifier 1 (Thing + Classifier (Thing + Classifier (Thing + Classifier))) + Qualifier
Thing + Classifier 1 (Thing + Qualifier)

Table 4.21 The Placement of the Qualifier Element in Indonesian

4.4 The Similarities and Differences of Prepositional Phrases and Adverbial Groups Representing Circumstance in Encyclopedia Entries

The circumstance is the element that can occur freely in order of a clause but the emphasizing is still the same. It is attached to participants by using some preposition or other (Halliday and Matthiessen, 2004). From 135 clauses in English encyclopedia entries, there are 83 constituents representing circumstance. Indonesian entries, 146 clauses are available as the data but there are only 65 constituents representing circumstances.

Both in English and Indonesian, it is found that prepositional phrase and adverbial groups are used to represent the circumstantial element. In English, there roundly are 84 constituents representing the circumstantial element that consist of 52 prepositional phrases and 31 adverbial groups. In Indonesian entries, circumstances are represented by 65 constituents consisting of 53 prepositional phrases and only 12 adverbial groups. The table below presents the distribution of the phrase type representing the circumstances.

No.	Type of Phrase	English	Indonesian
1.	Prepositional Phrase	62.66%	81.54%
2.	Adverbial Phrase	37.34%	18.46%
	Total	100%	100%

Table 4.22 The Type of Phrase Representing the Circumstances

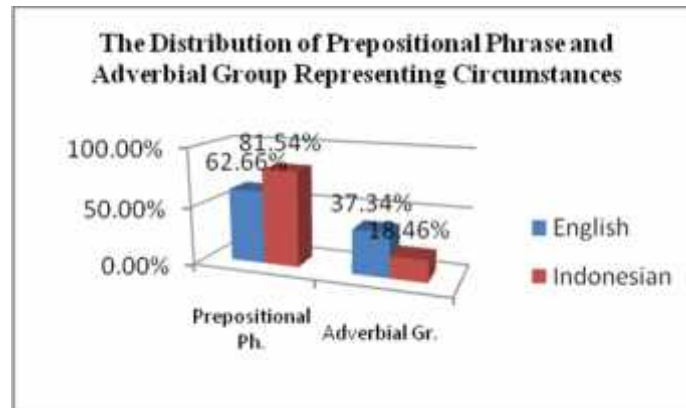


Chart 4.3 The Distribution of Prepositional Phrase and Adverbial Group Representing Circumstances

The circumstance has nine types or element, proposed by Halliday, that are extent, location, manner, cause, contingency, accompaniment, role, matter, and angle. The following is the table of the circumstantial type that is represented by prepositional phrases and adverbial groups.

No.	Type		English	Indonesian
1.	Extent	Distance	12.07%	13.65%
		Duration		
		Frequency		
2.	Location	Time	56.04%	61.89%
		Place		
3.	Manner	Means	23.06%	16.68%
		Quality		
		Degree		
4.	Cause	Reason	2.19%	6.07%
		Purpose		
		Behalf		
5.	Accompaniment	Additive	4.39%	1.52%
		Comitative		
6.	Angle	Source	-	1.52%
7.	Role	Guise	1.09%	-
8.	Contingency	Concession	1.09%	-
	Total		100%	100%

Table 4.23 The Percentage of the Occurrence of the Circumstantial Type

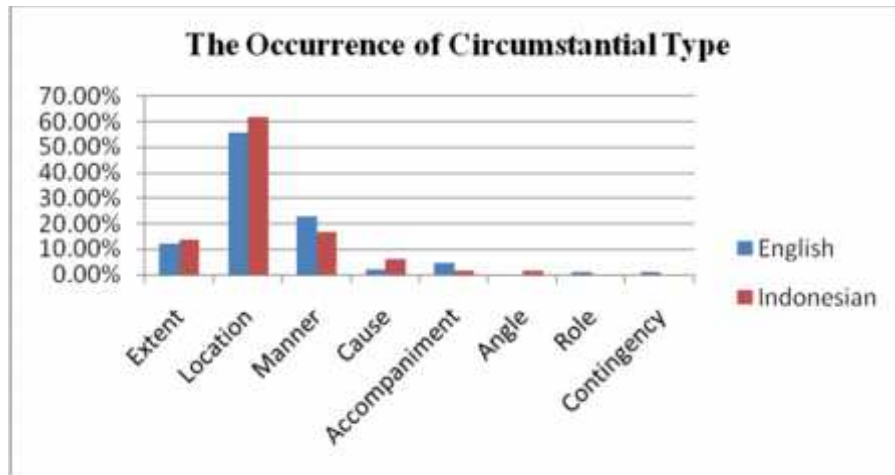


Chart 4.4 The Occurrence of Circumstantial Type

In English, 7 types of circumstance are identified. They are extent in terms of distance, duration, and frequency; location in terms of time and place; manner in terms of means, quality and comparison; cause in term of purpose; contingency in term of concession; accompaniment in term of comitative; and role in term of guise. Angle and matter are absent. In Indonesian, there are only 6 types of circumstance. They are extent in terms of distance, duration, and frequency; location in terms of time and place; manner in terms of means, quality and degree; cause in terms of reason and behalf; accompaniment in term of additive; and angle in term of source.

4.4.1 Prepositional Phrase

There are 19 prepositions that followed by nominal group represent circumstance in the English encyclopedia. The prepositions that appear in the text are *in, with, on, at, to, when, under, like, through, from, for,*

right, despite, inside, including, over, round, by, as, and around. The most dominant preposition is *in* (20 occurrences), *with* (4 occurrences), *on* (4 occurrences), *like* (3 appearances), *to* (2 occurrences). Here is table presenting the preposition in English Text.

No.	Preposition	Number of Occurrence	Type
1.	In	20	Extent: duration, location: time and place
2.	With	4	Accompaniment: comitative
3.	On	4	location: time and place
4.	At	2	location: time and place
5.	To	2	location: time , cause: purpose
6.	When	2	location: time
7.	Under	2	location: and place
8.	Like	3	Manner: comparison
9.	Through	2	location: place, manner: means
10.	From	1	location: place
11.	For	2	Extent: duration
12.	Right	1	Manner: quality
13.	despite	1	Contingency: concession
15.	including	1	location: place
16.	over	1	Extent: distance
17.	round	1	location: time and place
18.	by	1	Manner: means
19.	as	1	Role Guise
20.	around	1	location: place

Table 4.24 The Preposition of the English Nominal Group

The table above indicates that in English circumstance location: place occupies preposition *in, on, at, around, under, from, inside, to, through, including, on the Earth; on the surface and round; under the surface; at an angle; at the end of its life.* The examples are: *in ice caps, in 1997, in fact, in this bitter cold; in just 88 days.* The circumstance location: time employs preposition *in, on, at, and when.* The examples are *on clear nights; when there is no moon; at the end of its life.* Circumstance manner: quality uses preposition *right,* means employs *through and by,* and comparison engages only *like* in like Uranus. The

examples are *right round*. Circumstance Extent: duration involves preposition *in and for*, distance engages preposition *over*. The examples are *for a few minutes; over 96,000km and in just 88 days*. Circumstance Role: guise uses preposition *as* in *as a narrow band*, while contingency: concession employs preposition *despite* in *despite its immense bulk*. Circumstance cause: purpose engages preposition *to* in *to bits in a gigantic explosion called supernova (supernovae)*. Circumstance Accompaniment: comitative engages preposition *with* and the example are: *with methane; with almost no atmosphere*.

There are 22 prepositions that followed by nominal group represent circumstance in the Indonesian encyclopedia. The prepositions that appear in the text are *di, dari, sampai, hingga, akibat, bagi, sekitar, menuju, sejak, dengan, melalui, diantara, selain, selama, untuk, pada, berdasarkan, karena, kira-kira, akibat, dalam* and *ke*. The most dominant preposition is *di* (18 occurrences), *untuk* (6 occurrences), *dari* (4 occurrences), *selama* (3 appearances), *akibat* (2 occurrences). The table below presents the preposition that emerges in the prepositional phrase in Indonesian encyclopedia.

No.	Preposition	Number of Occurrence	Type
1.	<i>Di</i>	18	Location: place; location: time
2.	<i>Dari</i>	4	Location: place
3.	<i>Sampai</i>	1	Extent: duration
4.	<i>Hingga</i>	1	Location: time
5.	<i>Akibat</i>	2	Cause: reason
6.	<i>Bagi</i>	1	Purpose: behalf
7.	<i>Sekitar</i>	1	Extent: distance
8.	<i>Menuju</i>	1	Location: place
9.	<i>Sejak</i>	1	Location: time
10.	<i>Dengan</i>	3	Manner: means

11.	<i>Melalui</i>	2	Manner: means
12.	<i>Diantara</i>	1	Location: place
13.	<i>Selain</i>	1	Accompaniment: additive
14.	<i>Selama</i>	2	Extent: duration
15.	<i>Untuk</i>	1	Location: time
16.	<i>Pada</i>	6	Location: time
17.	<i>Berdasarkan</i>	1	Angle: source
18.	<i>Karena</i>	1	Cause: reason
19.	<i>Kira-kira</i>	1	Location: time
20.	<i>Akibat</i>	1	Cause: reason
21.	<i>Dalam</i>	1	Location: place
22.	<i>Ke</i>	2	Location: place

Table 4.25 Preposition of Indonesian Nominal Group

The table means that, in Indonesian, circumstance location: place is represented by preposition *di*, *menuju*, *dari*, *diantara*, *dalam*, and *ke*. The examples are *di planet Venus*; *dari barat*; *menuju Jupiter*; *di antara setiap lapisan*; *dalam galaksi Bima Sakti*; and *ke arah pusat galaksi Bima Sakti*. Circumstance location: time is represented by preposition *di*, *sejak*, *hingga*, *untuk*, *pada*, and *kira-kira*. The examples are *di masa lalu*; *sejak dahulu*; *pada 25 Agustus 1989*; and *kira-kira 5 miliar tahun yang lalu*. Circumstance Extent: Duration is represented by preposition *sampai* and *selama* i.e: *sampai saat ini* and *selama periode itu*. Circumstance Extent: distance is represented by preposition *sekitar* i.e: *sekitar 1.000 kilometer berikutnya*,. Circumstance cause: reason is represented by the preposition *akibat* and *karena*, i.e.: *akibat bintang-bintang di sekitarnya*. Circumstance cause: behalf is represented by preposition *bagi* and *untuk*, i.e: *bagi dunia*. Circumstance Manner: means is represented by preposition *dengan* and *melalui*, i.e.: *dengan cara membakar dirinya sendiri*. Circumstance Accompaniment: additive is represented by preposition *selain* like in *selain Saturnus*. Circumstance Angle: source is represented by preposition *berdasarkan* like in *Berdasarkan perhitungan mereka*.

a. The similarities

Both English and Indonesia uses Prepositional phrases to represent circumstantial element of the process. In both two, this pattern is dominates the distribution of the pattern representing circumstance.

4.4.2 Adverbial Groups

In the English text, the circumstances engaging the adverbial groups, has the types of (1) Location place, which is represented by *there, round, out* and *up*. (2) Manner Quality, which is represented by *very slowly, uniquely, so brightly*, and *thicker than a house*. (3) Extent Frequency represented by *sometimes* and *once*.

The circumstances that engage the adverbial groups in the Indonesian text, has the types of (1) Location Time, represented *jauh sebelum planetnya sendiri ditemukan*, (2) Location place, represented by *keluar*, (3) Manner Quality, represented by *kemungkinan; secara langsung; and sebenarnya.*, (4) Extent duration represented by *setiap 11 tahun.*, and (5) Extent distance, represented by *25.000 hingga 30.000 kilometer*.

a. The Similarities

Both English and Indonesia employ adverbial groups to represent circumstantial element of the process. In both two, this pattern is limited in the distribution of the pattern representing circumstance.

b. The differences

The adverbial groups representing the circumstances in English are appear more than twice larger than Indonesian adverbial groups.

CHAPTER V

CONCLUSION AND RECOMMENDATION

This chapter briefly presents the conclusion based on the analysis, findings, and the discussion of the research being conducted as well as the suggestion and recommendation for further research.

5.1 The Conclusion

Based on the analysis, the questions of this study which is the similarities and differences of the process types and the lexicogrammatical patterns of encyclopedia entries on space objects in English and Indonesian have been answered. It can be inferred that encyclopedia discourse in English and Indonesian particularly children encyclopedia of space has several similarities and differences.

The similarities between the process types of encyclopedia entries are (1) four process types – relational process, material process, mental process, and existential process – employed in both English and Indonesian encyclopedias, (2) relational attributive process dominates the process type, sharing 51.25% of the whole clauses in English and 46.34% in Indonesian, indicating that describing the objects of the space frequently involves mentioning the objects considered as the carrier of the attribute, (3) material process takes significant occurrence with 32.90% in English and 20.05% in Indonesian, (4) behavioral process and verbal process are absent in both text, (5) the participant consisting of non-human participant in term of objects and human participants, (6) non-human participants

becoming the most frequent participants either in English (245 out of 253 participants) or Indonesian (235 out of 245 participants), and (7) circumstances of location: time and place, manner: quality, comparison, and means, and extent: duration, distance and frequency appear in both text and they dominate the distribution of the circumstantial type respectively.

The differences between the process types of encyclopedia entries in English and Indonesian are (1) the significance differences of occurrences of relational possessive, mental process, and existential process in which those three processes occur larger in Indonesian – relational possessive takes 1.25% in English whereas Indonesian 7.97%, mental process shares 2.48% in English while Indonesian 6.78%, and existential takes 1.24% in English and 3.66% in Indonesian – and (2) circumstance of angle merely emerges in Indonesian while circumstance of contingency and role only employ in English one.

The findings on the distribution on the process types reveal that encyclopedia discourse is to give factual comprehensive information and knowledge in term of the physical appearance of the surrounding natural objects such as position and size (through the process of relational), condition of the surrounding natural objects such as temperature, time, and structure (through the process of relational), the activities, composition, and the occurrences of the surrounding natural objects (through the process of relational, material, mental, and existential).

The similarities between the patterns of the process element of encyclopedia entries in English and Indonesian are (1) both English and

Indonesian has predicators to represent process types, (2) modifier elements of nominal groups – deictic, numerative, epithet, classifier, and qualifier – exist in Indonesian and English, and (3) prepositional phrases and adverbial phrases representing circumstances are found in either English and Indonesian.

The differences between the patterns of the process element of encyclopedia entries in English and Indonesian are (1) predicators modification, in which predicators in English is modified by finite and modality is considered to be modifier of it as well while predicators in Indonesian is modified by affixed and modality is considered as adjunct, (2) the placement of the modifier elements of nominal groups representing participants where deictic's position in English is preceding the thing and Indonesian deictic position can be before or after the thing, epithet and classifier's position in English is before the thing while Indonesian after the thing.

5.2 The Suggestion and Recommendation

This research proves that contrastive analysis by using systemic functional linguistic approach is very useful to help us in getting a comprehensive detail understanding of similarities and differences of the transitivity element representing process, participant(s), and circumstance(s) in syntactical unit of clause. Particularly, this kind of study has benefits to reach the similarities and differences awareness of two languages in order to predict mistakes with the aim of improving the understanding of the nature of the process types of encyclopedia in English and Indonesian as well as to support the existence and consistency of those languages.

It must be noted that this study is conducted at very beginning level and uses very specific data source which is specialized encyclopedia discourse, particularly children encyclopedia of space. Consequently, the result of this research does not aim to be generalized concerning there are a lot of kinds of encyclopedia and various text in English and Indonesian. This research need to be followed by similar research focusing on other two metafunctions of language that are textual and interpersonal. Besides, the contrastive analysis study by using SFL also needs to be developed on different field of data, spoken and written, used by society.

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