

Identifying Indonesian Meanings of Civil Engineering Terms through the Analysis of Word Formation Process

Ratri Nurinda Kusumawati and Dr. J. Herudjati P., M. Sc.

English Department, The Faculty of Humanities, Diponegoro University, Semarang 50275

ABSTRAK

Perkembangan aspek bahasa merupakan salah satu hal yang menandai kemajuan zaman. Bahasa merupakan alat komunikasi manusia yang terangkai dari kalimat-kalimat dimana kalimat merupakan rangkaian dari kata-kata. Perkembangan aspek bahasa ditunjukkan oleh banyaknya kata baru yang terbentuk yang diperoleh dari berbagai aspek dimana salah satunya berasal dari bidang teknik sipil. Kata-kata baru ini umumnya berupa istilah yang dapat berasal dari berbagai bahasa. Selanjutnya, merupakan tugas para penerjemah untuk menerjemahkan istilah-istilah yang berasal dari berbagai bahasa tersebut agar dapat dipergunakan oleh para insinyur teknik sipil yang belum tentu menguasai banyak bahasa. Oleh karena itu, melalui penelitian ini, penulis bertujuan untuk mengidentifikasi istilah-istilah teknik sipil berbahasa inggris pada bab 9 dalam modul Mastering Different Fields of Civil Engineering Works dengan analisis pembentukan kata sehingga diperoleh suatu metode penerjemahan, khususnya dalam menerjemahkan istilah-istilah dalam bidang teknik sipil.

Dalam penelitian ini, penulis menerapkan beberapa teori dari dua pendekatan Linguistik, Morfologi dan Semantik, untuk menganalisis data. Dari pendekatan Morfologi, penulis menerapkan teori tentang morpheme, root, base, stem, affix dan word formation dari Nida (1949), Katamba (1993), dan O'Grady and Guzman (1996). Kemudian, dari pendekatan Semantik, penulis menerapkan teori tentang naming, concept, referent dan sense relation dari Palmer (1981) dan Chaer (1994).

Selanjutnya, sebagai hasil dari analisis yang telah dilakukan, penulis menyimpulkan bahwa sebagian besar istilah dibentuk melalui proses derivasi dan sebagian lainnya dibentuk melalui proses endocentric compounding dan proses konversi. Selain itu, penulis memperoleh bahwa pelekatan akhiran -ing dan -ed pada verb dapat membentuk kata baru melalui proses derivasi karena pelekatan akhiran -ing merubah kelas kata verb menjadi adjective atau noun dan pelekatan akhiran -ed merubah kelas kata verb menjadi adjective.

Kata kunci : kata, istilah teknik sipil, Word Formation, Sense Relation, derivasi, Endocentric Compounding.

1. Introduction

Terms are words or a group of words. Based on the *Oxford Advanced Learners Dictionary* (1995:1232) "term is a word or phrase used as the name of something, especially one connected with a particular subject or used in a particular type of language". Various terms in different languages and scopes have different meanings. For example, civil engineering terms in English have different presentation if they are translated into Indonesian. Hence, that case becomes a challenge for the translators, who have not been quite expert yet in certain scopes, to translate the terms well.

Therefore, in this research the writer tries to apply the study about word formation process and sense relation in translating terms. Word formation is the study about words arrangement. This study is applied to analyze words components and structures since understanding about words components and structures and their functions can help us in translating the words. Furthermore, Sense relation is the study about the relations of meanings among languages. This study is applied to determine the best meanings of the words. Thus, both studies are applied to identify the Indonesian meanings of civil engineering terms.

2. Methodology

There are several methodologies applied. First, the data are collected using *simak* technique, mainly *simak bebas libat cakap* and *catat* techniques, and numbering technique. As a result, 80 civil engineering terms, from chapter 9 of module Mastering Different Fields of Civil Engineering Works are chosen as the data sample by random sampling technique. Furthermore, the sample data are analyzed by descriptive qualitative approach using distributional method supported by deletion and extension techniques as the continuous techniques. Furthermore, the data are also analyzed using identity method supported by translational competence-in-dividing technique.

3. Literary Review

3.1 Morphology

3.1.1 Morpheme

“Morphemes are the minimal meaningful units which may constitute words or parts of words, e. g. re-, de-, un-, -ish, -ly, -ceive, -mand, tie, boy, and like in the combinations receive, demand, untie, boyish, likely” (Eugene A. Nida, 1949: 1). O’Grady and Guzman (1996: 133) further elucidated that morpheme is the most important component of word structure, the smallest unit of language which carries information about meaning and function. Then, Nida (1949), O’Grady and Guzman (1996), and Katamba (1993) divided morphemes into two types.

3.1.1.1 Free Morpheme

Free morphemes are morphemes which can stand alone meaning that they can exist as the units that have lexical meanings and functions without attaching other morphemes. This kind of morphemes can be called as words which function as nouns, verbs, adjectives, adverbs, conjunctions, prepositions, articles, or determiners. Nida (1949: 81) stated “free morphemes are those which may be uttered in isolation, e. g. boy, girl, man.”

For example:

- Child
Child functions as a noun whose lexical meaning is “a young person from birth to the age of full physical development; a boy or girl” (*Oxford Dictionary*, 1995: 192).

3.1.1.2 Bound Morpheme

Bound morphemes are morphemes which cannot stand alone meaning that they cannot exist as the units that have lexical meanings and function. This kind of morphemes has to be constructed with other morphemes to transform them as the units that have lexical meanings and functions called words. Nida (1949: 81) claimed that “bound morphemes never occur in isolation, that is, are not regularly uttered alone in normal discourse.”

For instance:

- -ren
The morpheme *-ren* does not have a function or a lexical meaning. It should be attached after the morpheme *child* in order that the new word *children* (*child* + *-ren*) which functions as a plural noun and has a lexical meaning of young people from birth to the age of full physical development; boys or girls (*Oxford Dictionary*, 1995:192).

3.1.2 Root, Base, Stem

3.1.2.1 Root

“A root is the irreducible core of word, with absolutely nothing else attached to it” (Katamba, 1993: 41). O’Grady and Guzman (1996: 135) further stated that “the root morpheme carries the major component of the word’s meaning and belongs to a lexical category – noun (N), verb (V), adjective (Adj), or preposition (P)”. Roots are part of free morphemes. Hence, all roots belong to free morphemes (O’Grady and Guzman, 1996: 137).

3.1.2.2 Base

“A base is any unit whatsoever to which affixes of any kind can be added.” (Katamba, 1993: 45). Then, Katamba (1993: 45) added that the affixes attached to a base may be inflectional affixes or derivational affixes. Some bases can be roots as O’Grady and Guzman (1996: 137) said that “in many cases, the base is also the root”. Then, bases are called stems only in the context of inflectional morphology (Katamba, 1993: 45).

3.1.2.3 Stem

The stem is that part of a word that is in existence before the attachment of any inflectional affixes (Katamba, 1993: 45).

O’Grady and Guzman (1996: 160) said that “the base to which an inflectional affix is added is sometimes called a stem”. Thus, some stems can be bases or roots.

For instance:

Then, the difference of root, base, and stem can be understood more clearly by the analysis of the words *illegalities* and *inside* below.

➤ *Illegalities*

‘Illegalities’ is the plural noun derived from the singular noun ‘illegality’ which is attached by the bound morpheme ‘-s’. The attachment of ‘-s’ is the inflection process. Hence, ‘illegality’ is the stem of the noun ‘illegalities’, but ‘illegality’ is also the base. Then, ‘illegality’ is the noun formed by the adjective ‘illegal’ which is attached by the bound morpheme ‘-ity’. The attachment of ‘-ity’ is the derivation process, so ‘illegal’ is the base of ‘illegality’. Furthermore, the adjective ‘illegal’ is formed by the attachment of the bound morpheme ‘il-’ to the adjective ‘legal’ where that process belongs to derivation. Thus, ‘legal’ is the base of ‘illegal’. The adjective ‘legal’ further cannot be divided again into smaller meaningful units or morphemes. Therefore, ‘legal’ is a morpheme which belongs to free morpheme and it is the root of the noun ‘illegalities’.

3.1.3 Affixes

“Affix is a morpheme which only occurs when attached to some other morpheme or morphemes such as a root or stem or base” (Katamba, 1993: 44). “Affixes are bound morphemes” (Katamba, 1993: 44). Nida (1949), Katamba (1993), and O’Grady and Guzman (1996) stated that there are three kinds of affixes.

3.1.3.1 Prefix

Prefixes are affixes attached to the front of their bases or roots (O’Grady and Guzman, 1996: 138).

For example:

- dis- + Appointment → Disappointment
 - ir- + Replacable → Irreplacable
- dis-*, and *ir-* are prefixes, while *Appointment*, and *Replacable* are the bases.

3.1.3.2 Infix

Infixes are affixes that occur within bases or roots (O’Grady and Guzman, 1996: 139). However, this kind of affixes never exists in English (Matthew in Purwoko, 2010: 147).

3.1.3.3 Suffix

Suffixes are affixes attached to the end of their bases or stems or roots (O’Grady and Guzman, 1996: 138).

For example:

- Bag + -s → Bags
 - Disable + -ment → Disablement
- s*, *-ment* are suffixes; on the other hand, *Bag* and *Disable* are the bases.

3.1.4 Word Formation

Word formation is the study about the processes of forming words. Then, according to O’Grady and Guzman (1996), there are several processes in forming words.

3.1.4.1 Coinage

Coinage is words obtained from names. They can be derived from names of the inventors or the discoverers, the product’s brands, or the related things and these names have been used commonly in society (O’Grady and Guzman, 1996: 160).

For instance:

- *Watt*
- This is a scientific unit and scale used as the calculation of power exactly in physics. This name is obtained from the inventor of the power calculation, *James Watt*.

3.1.4.2 Compounding

Compounding is the process of combining two words, deriving from various lexical categories (noun, verb, adjective, adverb, preposition, article, or determiner) that usually have different lexical meanings, to produce a new word which also has a new lexical category and lexical meaning (O’Grady and Guzman, 1996: 151).

Based on the lexical categories, there are several kinds of compounding, eg:

- Pipe (N) combined with Line (N) becomes Pipeline (N)
- Drill (V) combined with Hole (N) becomes Drillhole (N)

➤ Heavily (Adv) combined with Trafficked (Adj) becomes Heavily-trafficked (Adj)
Then, based on the meaning, there are two kinds of compound:

❖ Endocentric compounding is the kind of compounding in which the rightmost component of the compound identifies the general class to which the meaning of the entire word belongs (O’Grady and Guzman, 1996: 154).

For example:

- *Dog* (N) combined with *food* (N) becomes *dog food* (N).

It is a kind of food which is for dog.

❖ Exocentric compounding is the kind of compounding in which the meaning of the compound’s component does not follow from the meanings of its part in this way (O’Grady and Guzman, 1996: 154).

For example:

- *Green* (Adj) combined with *bottle* (N) becomes *greenbottle* (N).

It is not a type of bottle, but it is a fly of the genus *lucilia*.

3.1.4.3 Backformation

Backformation is a process that creates a word with a new lexical category and meaning by the removal of a real or supposed affix from another word with certain lexical category and meaning in the language (O’Grady and Guzman, 1996: 158). However, Purwoko (2010: 151) enlightened that backformation is the process of forming new word in reverse way which is from a certain lexical category into a verb because most linguists stated that derivation in English comes from verbs. By this process, a noun or an adjective can be transformed transformed into a verb (Purwoko, 2010: 154).

For instance:

- Television (N) – (-ion) → Televis (V)
- White (Adj) + -en → Whiten (V)
- En- + Rich (Adj) → Enrich (V)

3.1.4.4 Abbreviation

Abbreviation is the process of collecting the first letters of a set of words where the letters collected further are formed into new initial words that are commonly used in society.

For example:

- CPU (Central Processing Unit)

3.1.4.5 Acronym

Acronym is a new word formed by the first letters of the dominant words composing a group of words which is arranged regularly into a readable word (O’Grady and Guzman, 1996: 159).

For instance:

- laser (light amplification by stimulated emission of radiation)

3.1.4.6 Blending

Blending is the process of joining two words into one word by several syllables or letters of each word that are pinched and arranged regularly into one word.

For example:

- Binary + Digit → Bit

3.1.4.7 Derivation

Derivation is the process of forming a new word with a certain category and meaning distinct from its base through the addition of an affix (O’Grady and Guzman, 1996: 144). O’Grady and Guzman (1996: 161) further enlightened that “derivational affixes characteristically change the category and/or the type of meaning of the form to which they apply and are therefore said to create a new word”.

There are two kinds of derivation:

❖ Derivation that changes the lexical category

For instance:

- Create (V) + (-ion) → Creation (N)

❖ Derivation that changes the lexical meaning, consists of two types:

○ Opposite meaning

For example:

- (im-) + Polite (Adj) → Impolite (Adj)
- Strengthening meaning

For example:

- (en-) + Able (Adj) → Enable (V)

3.1.4.8 Inflection

Inflection is the process of forming words mostly by the attachment of suffixes at stems where this process does not change the lexical categories and lexical meanings of the stems (O’Grady and Guzman, 1996: 161). The inflection process forms the contrastive words,

such as singular versus plural and past versus non-past (O’Grady and Guzman, 1996: 160). However, some things and verbs mark inflectional contrast in less regular ways (O’Grady and Guzman, 1996: 163).

For instance:

- Worker (N) + (-s) → Workers (N)
- Go (V) + (-s) → Goes (V)
- Give (V) → Gave (V)

On the other hand, there is an inflectional process without any additional suffixes and this usually happened to irregular verbs as the last example above. Irregular verbs have certain patterns to transform from the present to the past forms. The changes usually refer to the vowels in words.

3.1.4.9 Clipping

Clipping is the process of shortening a polysyllabic word mainly in the way of deleting one or more syllables of the words and it forms a new word that is generally used in the society (O’Grady and Guzman, 1996: 157).

For example:

- Zoological garden → Zoo

3.1.4.10 Conversion

Conversion is the process of assigning an already existing word with a certain lexical category and meaning to a word with a new lexical category and meaning (O’Grady and Guzman, 1996: 157). Conversion belongs to derivation since this process changes the lexical category and lexical meaning of the former word, but there are not any additional affixes. As the result, this process is also called zero derivation (O’Grady and Guzman, 1996: 157).

For example:

V derived from N	N derived from V	V derived from Adj
finger (a suspect)	(a brief) call	tidy (my bedroom)
light (the room)	(the new) report	narrow (the box)

3.1.4.11 Borrowing

Borrowing is the process of borrowing words from other languages.

For instance:

- Durian

It is borrowed from Indonesian Language which is the name of a kind of fruit with

thick, hard, and thorny peel, but sweet and smooth flesh.

3.1.4.12 Onomatopoeia

Onomatopoeia is words derived from the sound representations of things (O’Grady and Guzman, 1996: 159).

For example:

- Meow

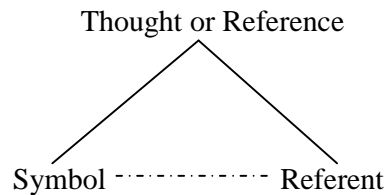
It is the representation of cats’ sound.

3.2 Semantics

3.2.1 Naming, Concept, and Referent

Naming, reference, and referent are three different affairs that relate each others. Palmer (1981: 24) said “The ‘symbol is, of course, the linguistic element – the word, sentence, etc., and the ‘referent’ the object, etc., in the word experience, while ‘thought or reference’ is concept.”

The relationship among naming, concept, and referent by Ogden and Richards (1949: 11) is described as a triangle below.



The diagram above clarifies that there is a straight relation between symbol and reference. Symbol is the name of the object while reference is the general description of the object. Both of them are related to language, where symbol is the short form explained further as reference generally, and this relation is an intralingua matter. Thus, the relation between symbol and reference is connected by a clear line. Then, the relation between reference and referent is a direct relation where referent is the object matter described in general as reference. Reference here is the language that explains the object or referent clearly in general. Hence, that relation is also connected by a clear line. However, the relation between symbol and referent is connected by a dashed line showing that there is no direct relation between symbol and referent. Symbol is the name in the language that signs the object or the referent, but symbol has different presentation in different language, so does the object. Although an object has a universal

reference and a similar symbol, it may have different appearance in fact. Then, it is known that symbol is an intralingua matter while referent is an interlingua matter and that relation is arbitrary. Nevertheless, symbol, reference, and referent are three different affairs that cannot be separated.

3.2.2 Sense Relation

Sense relation is semantic relations or relations in meaning that contain between a language and another language. The language can be words, phrases, or sentences whose semantic relations can be similar meaning, opposite meaning, inclusive meaning, dual meaning, and excessive meaning. Then, there are several forms of sense relation (Chaer, 1994: 297).

3.2.2.1 Synonym and Antonym

Synonym is the semantic relation showing a similar meaning between two different words or among several different words (Chaer, 1994: 297). Then, Palmer (1981: 88) stated “synonym is used to mean ‘sameness of meaning’”. However, Palmer (1994: 89) further explained that there are no real synonyms that two words have exactly the same meaning. Synonymous words have a similar referent and reference, but are presented in different symbols. Additionally, based on the possible synonyms, there are five ways in which they can be seen to differ.

First, some sets of synonyms belong to different dialects of language. For example, the term *fall* is used in the United States and in some western countries of Britain, but others use *autumn*. Second, there is a similar situation, but a more problematic one, with the words that are used in different styles. Such as, *gentleman*, *man*, and *chap*. Third, some words may be said to differ only in their emotive or evaluative meanings. For instance, *liberal* is a good word in Great Britain, but it is bad word in South Africa. Fourth, some words are collocationally restricted, they occur only in conjunction with other word. For example, *rancid* occur with *bacon* or *butter*. Fifth, it is obviously the case that many words are close in meaning, or that their meanings overlap. For instance, *mature* possible synonyms are *adult*, *ripe*, *perfect*, *due* (Palmer, 1994: 89-91).

Afterward, antonym is the semantic relation between two different words with contrastive meaning (Chaer, 1994: 299). Palmer (1981: 94) claimed that “The term antonymy is used for ‘oppositeness of meaning’; word that are opposite are antonyms”. Then, there are several examples of antonym, such as *alive* >< *dead*, *married* >< *single*, *male* >< *female*, *old* >< *young*, etc.

3.2.2.2 Polysemy

Polysemy is a word that has more than one meaning (Chaer, 1994: 301). O’Grady (1996: 270) enlightened that “polysemy occurs when a word has two or more related meanings”. Then, Palmer (1981: 100) said that the same words which have a set of different meanings are called polysemy. Words belong to polysemies since they have a similar symbol and reference, but they signify different referents. Furthermore, to understand clearly about polysemy, below are several examples of polysemy to learn.

- My father is the *head* of the family.
(*head* here means the leader of the family)
- His *head* is hurt by that accident
(*head* here means the upper part of the body)
- The *head* pile is bored into the ground.
(*head* here mean the upper part of the pile)

3.2.2.3 Homonym, Homograph, and Homophone

Firstly, homonym is two different words holding different meanings, but having a similar form and pronunciation (Chaer, 1994: 302). Palmer (1981: 101) stated that homonym is several words with the same shape. Words are called as homonym because they are in a similar symbol, but they have different references and referents. For example, *right* (true)/*right* (rightist), *can* (modal)/*can* (tin), etc.

Secondly, homograph is two different words containing different meanings and pronunciations, but having a similar form (Chaer, 1994: 303). Palmer (1981: 101) said that two words spelt in the same way, but pronounced differently is homograph. For example, *lead* (metal)/*lead* (guide), *wind* (air)/*wind* (rotate), etc.

Thirdly, homophone is two different words conveying different meanings and forms, but having a similar pronunciation (Chaer,

1994: 303). Palmer (1981: 101) claimed that homophone is two words spelt differently, but pronounced in the same way. For example, *site/sight, rite/right, see/sea*, etc.

3.2.2.4 Hyponym and Hypernym

Hyponym is the semantic relation of words where the meanings of one or more words are contained in the meaning of another word (Chaer, 1994: 305). Palmer (1981: 85) explained “hyponymy involves us in the notion of inclusion in the sense that *tulip* and *rose* are included in *flower*, and *lion* and *elephant* in *mammal*”. Then, hypernym is also known as the superordinate term that Palmer (1981: 85) said “The ‘upper’ term is the superordinate and the ‘lower’ term the hyponym”. Further, the definition of hypernym is explained below.

“A hypernym is a word with a general meaning that has basically the same meaning of a more specific word. For example, *dog* is a hypernym, while *collie* and *chihuahua* are more specific subordinate terms. The hypernym tends to be a basic-level category that is used by speakers with high frequency; speakers usually refer to *collies* and *chihuahuas* as dogs, rather than using the subordinate terms, which are consequently of relatively low frequency.” (Feldman in Erlbaum, <http://grammar.about.com/od/fh/g/hyponym.htm>, 1995).

For example, vegetable is the hypernym where spinach, cabbage, carrot, potato, and broccoli are the hyponym. Then, apple, orange, grape, durian, and papaya are the hyponym where fruit is the hypernym. Meanwhile, vegetable and fruit are the hyponym of the hypernym plant. To summarize, hypernym is the generic symbol of a group of namings while hyponym is the specific namings of a generic symbol.

4. Analysis

1. Derivation

There are several types of derivation:

1.1 Derivation process changes the word class of the word

- 1.1.1 Verbs change into nouns when attached by the suffixes ‘-ation’, ‘-ion’, ‘-ment’, ‘-or’, ‘-er’, ‘-age’, ‘-ance’.
- 1.1.2 Verbs change into adjectives when attached by the suffixes ‘-al’, ‘-ive’, ‘-able’.

1.1.3 Adjectives change into verbs when attached by the suffixes ‘-ize’, ‘-en’.

1.1.4 Adjectives change into noun when attached by the suffix ‘-ness’.

1.1.5 Nouns change into adjectives when attached by the suffixes ‘-ar’, ‘-y/-ey’, ‘-ous’.

1.1.6 Adjectives change into adverbs when attached by the suffix ‘-ly’.

1.1.7 Verbs change into adjective when attached by the suffixes ‘-ing’ and ‘-ed’.

1.1.8 Verbs change into noun when attached by the suffix ‘-ing’.

For example:

‘Loosening’ (see no. 32 in table 2, appendix) is the noun constructed by derivation processes. It derives from the root ‘loose’ which is an adjective. ‘Loose’ as an adjective means “1 detached or that can be detached from its place; nor firmly fixed. 2 freed from control; not tied up. 3 not fastened together; not held or contained in or by sth. 4 not organized strictly. 5 not exact vague. 6(a) physically slack; not tense. (b) not tight or fitting closely. 7 not solid or closely packed together. 8 without moral dicipline. 9 (of play in cricket) careless or not accurate. 10 (of a ball) in play but not in any player’s control” (*Oxford Dictionary*, 1995:696). Then, ‘loose’ in Indonesian means *longgar, lepas, los, kendur, gembur, lembek*. Those meanings are homonymous. However, based on the context *it decreases the possibility of relative movement of rock bodies or soil particles and, therefore, controls the loosening of the exposed ground surrounding the tunnel*, ‘loose’ means “not solid or closely packed together” (*Oxford Dictionary*, 1995:696). Hence, ‘loose’ as an adjective here is best translated into *los* which is synonym to *lepas*. Then, through derivation process ‘loose’ is attached by the suffix ‘-en’, so ‘loose’ becomes the verb ‘loosen’ that means *meloskan/meloloskan*. Furthermore, ‘loosen’ becomes the noun ‘loosening’ by the attachment of the suffix ‘-ing’. That is a kind of derivation process and is also known as gerund. As the result, ‘loosening’ as noun means *pelolosan*.

1.2 Derivation process changes the meaning of the word

- 1.2.1 The prefixes 'dis-' signifies "the negative or opposite of" (*Oxford Dictionary*, 1995: 327).
- 1.2.2 The prefix '-in/-im/-il/-ir' implies the meaning of "not" (*Oxford Dictionary*, 1995: 599).
- 1.2.3 The suffix '-less' implies the meaning of "without" (*Oxford Dictionary*, 1995: 675).
- 1.2.4 The prefix 'un-' implies the meaning of "not" (*Oxford Dictionary*, 1995: 1292). Based on the *Oxford Dictionary* (1995: 1292), the prefix '-un' describes the opposite or reverse of a process and describes removing something.
- 1.2.5 The prefix 'de-' signifies the meaning of "1 opposite or negative of; 2 removal of" (*Oxford Dictionary*, 1995: 297).
- 1.2.6 The prefix 'over-' implies the meaning of "too much, or more than usual" (*Oxford Dictionary*, 1995: 825).
- 1.2.7 The prefix 'pre-' implies the meaning of "before" (*Oxford Dictionary*, 1995: 906).
- 1.2.8 The prefix 'post-' signifies the meaning of "after" (*Oxford Dictionary*, 1995: 900).
- 1.2.9 The prefix 're-' implies the meaning of "again" (*Oxford Dictionary*, 1995: 966).

For example:

The word 'depressurization' is formed through derivation processes, from the root 'press'. 'Press' is a verb that means "1(a) ~ (sth/sb/oneself) against sth; ~ sth to sth; ~ sth together to push sth or to be pushed closely and firmly against sth. (b) to push or squeeze part of a device, etc in order to make it operate. (c) ~ sth into/onto sth to put sth in a place by pushing it firmly. (d) to squeeze a person's arm or hand, especially as a sign of affection. 2 ~ sb (for sth) to make strong efforts to persuade or force sb to do sth. 3 to make one's case forcefully or repeatedly. 4 (of people packed together in a crowd) to move in the specified direction by pushing. 5(a) to make sth flat or smooth by using force or putting sth heavy on top. (b) to make clothes smooth by applying pressure with a hot iron. 6 to apply force or weight to fruit or vegetables, especially in order

to squeeze juice from them. 7 to make sth by applying force or weight to material" (*Oxford Dictionary*, 1995:914). Whereas, 'press' as a verb in Indonesian means *menekan, mendesak, menuntut, memeras, mencetak, menghimpit*. However, based on the context pressurization and depressurization has to be conducted for workers entering and leaving the pipe jacked tunnels, 'press' is "to push something or to be pushed closely and firmly against something" (*Oxford Dictionary*, 1995:914). Hence, 'press' is translated into *menekan*. Then, over derivation process it is attached by the suffix '-ure' becoming the noun 'pressure' which means *tekanan*. Afterward, 'pressure' through derivation process is attached by the suffix '-ize' becoming the verb 'pressurize' that means *menekankan/memberi tekanan*. Furthermore, due to derivation process 'pressurize' is attached by the suffix '-ation' into the noun 'pressurization' meaning *penekanan/pemberian tekanan*. Eventually, 'pressurization' is attached by the prefix 'de-' and becomes the noun 'depressurization' over derivation process where the prefix 'de-' signifies the meanings of "(with vs and related adjs, advs, and ns) 1 opposite or negative of. 2 removal of" (*Oxford Dictionary*, 1995:297). Otherwise, in the context above, the prefix 'de-' indicates the meaning of "opposite or negative of" (*Oxford Dictionary*, 1995:297) where in Indonesian it implies the meaning of *tidak* or *tanpa*. As the result, 'depressurization' means *tanpa pemberian tekanan*.

2. Endocentric Compounding

For example, the word 'water table' derives from the noun 'water' combined with the noun 'table'. 'Water' is a noun that means "1(a) a liquid without colour, smell or taste that false as rain, is in lakes, rivers and seas, and is used for drinking, washing, etc. (b) this liquid as supplied to homes, factories, etc in pipes. (c) a mass of this liquid, especially a lake, river, or sea. (d) the surface of a lake, river, sea, etc. 2(a) waters the mass of water in a lake, river, etc. (b) the sea near a particular country. 3 the state or level of the tide" (*Oxford Dictionary*, 1995:1344). Then, 'water' in Indonesian means *air, perairan*. However, based on the context *Earth Pressure Balance (EPB) TBMs are used in excavating and advancing tunnels through*

any type of soft ground or soil condition, particularly below the water table, 'water' means "a liquid without colour, smell or taste that falls as rain, is in lakes, rivers and seas, and is used for drinking, washing, etc" (*Oxford Dictionary*, 1995:1344). Hence, 'water' in this context is translated into *air*. Afterwards, 'table' is also a noun which means "a piece of furniture consisting of a flat top supported on one or more legs. 2 people sitting at a table for a meal or other activity. 3(a) a list or facts or figures arranged in an ordered way, especially in columns. (b) a list of sports teams or players showing their current positions in a competition. (c) =multiplication table" (*Oxford Dictionary*, 1995:1213). Meanwhile, 'table' in Indonesian means *meja*, *tabel*, *daftar*. The three meanings are homonymous. However, 'table' in the context above is "a piece of furniture consisting of a flat top supported on one or more legs" (*Oxford Dictionary*, 1995:1213). Thus, 'table' here means *meja*. However, *meja* is not the real meaning intended in the context. The meaning *meja* is the idiom meaning which describes the surface of the water. Therefore, 'water table' is translated as *permukaan air*.

5. Conclusion

There are several points of conclusion:

1. Through the analysis of word formation processes, we can obtain the Indonesian meanings of civil engineering terms which are close to their original meanings. Therefore, this method can be applied in translating civil engineering terms especially which are constructed through derivation, compounding, conversion, and inflection processes.
2. Instead of forming verbs in inflection process, the suffixes '-ing' and '-ed' also form active and passive adjectives and this process is called derivation because the attachment of the suffixes '-ing' and '-ed' transforms verbs into adjectives.
3. The suffix '-ing' attached to verbs also form noun, which is also called as gerund. It is a kind of derivation process because the attachment of the suffix '-ing' transforms verbs into nouns.
4. From the analysis of word formations, especially the derivation process, it is summarized that there are several attached

suffixes which form words into nouns, verbs, adjectives, and adverbs. They are:

- The suffixes '-ion', '-ation', '-er', '-or', '-age', '-ment', '-ure', and '-ance' can be attached to verbs in order to form nouns.
 - The suffixes '-al', '-ive', '-able' can be attached to verbs in order to form adjectives.
 - The suffix '-ness' can be attached to adjectives in order to form nouns.
 - The suffixes '-ize', '-en' can be attached to adjectives in order to form verbs.
 - The suffix '-ly' can be attached to adjectives in order to form adverbs.
 - The suffixes '-ar', '-y/-ey', '-ous' can be attached to nouns in order to form adjectives.
5. Over derivation process, the embedded prefixes likely change the meaning of the attached words or signify certain meanings, such as:
 - The prefixes 'dis-', 'un-', 'im-/in-' change verbs with positive meanings into negative or opposite meanings.
 - The prefix 're-' implies the meaning of repeat, back, or again.
 - The prefix 'de-' signifies the opposite meaning.
 - The prefix 'over-' implies the meaning of too much/many or more than usual.
 - The prefix 'pre-' implies the meaning of former.
 - The prefix 'post-' signifies the meaning of after.
 6. There is also a suffix which implies the negative meaning, such as: the suffix '-less'.

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