PREFIXATION PROCESS IN THE FORMATION OF NEGATION ADJECTIVES IN ENGLISH:
A MORPHOPHONEMIC STUDY

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Abstract

The objectives of this study are investigating the properties of prefixes when they attach to adjectives to construct negative forms of adjectives, and by doing so, providing useful information for helping L2 learners to be able to figure out the rules governed which in turn to be able to predict strange words more confidently by taking into account the described rules. This is what to describe in this paper by highlighting on how negative prefixes derive negation forms of adjectives from positive ones. Prefixation process in this study is derivational process which constructs negation forms of adjectives from word class of adjective. In the process, sound change is of a necessity. It is caused by either phonological or morphological conditioning. Prefix {in-} is not always regular all the time and cannot always attach to any base with any initial phoneme. For new L2 learners or even English-acquiring children, this might be a problem that they encounter. Apparently, it is generally rule-governed. The rule is well-known as morphophonemic rule, one of which is assimilation.

Keywords: prefixes, morphophonemic, English.

A. INTRODUCTION

Form and meaning are two entities that are very closely related. It has been proven by the existence of dictionaries which function to inform the meanings of words of a language. Nevertheless, there are many words need not to be listed in dictionaries as their meanings are predictable, and many that cannot be listed, just because they may have never been used.

A word is composed of identifiable small parts (at least two), and put together in a systematic fashion so that the whole meaning can be determined (McCarthy, 2002: 16). In learning English, L2 learners are not necessarily dependent on English dictionary when coming across unfamiliar words. Their meanings occasionally have to be predicted without dictionary's assistance. The word *islander* is an example of the word excluded from dictionaries. *Islander* is composed of two morphemes; the base *island* classified as noun and suffix *–er* that means 'inhabitant of X'. So, *islander* means inhabitant of the island. This is called semantic predictability, the ability to predict the unlisted and unlistable word by identifying the small parts which compose it (McCarthy, 2002: 16).

There are generality and regularity for identifying the smallest units of a word so as to find its meaning – it is called inflection and derivation process widely used (McCarthy, 2002: 85). For instance, forming abstract nouns from adjectives, *-ness* (as in *happiness, goodness*), *-ity* (as in *regularity, sensitivity*), and *–th* (as in *depth, length*). Suffix *-ness* is said to be general dan regular. General means that when it is attached to an adjective, it generates an abstract noun. The learners, who have known the existence of the adjectives meanings *happy* and *good*, will automatically know the existence of the meanings *happiness* and *goodness*. Meanwhile, regular means that the learners are able to determine what sort of structure an adjective must have – any structure whatever. Above all, the derived word would sound like a possible noun, even though it may not be the one that is conventionally used (e.g *longness, pureness*). If native English speakers hear a non-native speaker use the two words, they will be able to understand what the speaker means, even if *longness* and *pureness* are not the words they would use (McCarthy, 2002: 86).

The above example is classified as derivational process which changes word class, from adjective to noun. Actually not all derivational processes change word class. In English, we find derivational processes which form a new word, simply by changing the meaning in a same

word class. For example, prefix *un-, in-, dis-*, which are always attached to adjectives so as to yield negative adjectives. Let us take the example of the adjectives *safe, dependent, possible*. After being prefixed, they become *unsafe, independent*, and *impossible*. Further question is how to construct the negation forms by means of correct prefixes, because the word *dependent* cannot be negated with *un-* and *dis-* so as to become *undependent* or *disdipendent?* There is a certain rule called morphophonemic rule. This is what to describe in this paper by highlighting on how negative prefixes derive negation forms of adjectives from positive ones.

The objectives of this study are investigating the properties of prefixes when they attach to adjectives to construct negative forms of adjectives, and by doing so, providing useful information for helping L2 learners to be able to figure out the rules governed which in turn to be able to predict strange words more confidently by taking into account the described rules.

B. RESEARCH PROBLEMS

The prefixes of English can be classified semantically into the following groups. First, there is a large group that quantify over their base words meaning, for example, 'one' (*uni-, unilateral*), 'twice or two' (*bi-, bilateral*), 'many' (*multi-, multi-purpose*, and *poly-, polysyllabic*), 'half' (*semi-, semi-conscious*), 'all' (*omni-, omnipotent*), 'small' (*micro-, micro-surgical*), 'large' (*macro-, macroeconomics*), 'to excess' (*hyper-, hyperactive,* and *over-, overestimate*), 'not sufficiently' (*undernourish*). Second, there are numerous locative prefixes such as *circum-* 'around' (*circumnavigate*), *counter-* 'against' (*counterbalance, counterexample*), *endo-* 'internal to X' (*endocentric*), *epi-* 'on, over' (*epiglottis*), *inter-* 'between' (*interbreed*), *intra-* 'inside' (*intramuscular*), *para-* 'along with' (*paramedic*), *retro-* 'back, backwards' (*retroflex*), *trans-* 'across' (*transcontinental*). Third, there are temporal prefixes expressing notions like 'before' (*ante-, pre* and *fore-*, as in *antechamber, preconcert, premedical, forefather*), 'after' (*post-, poststructuralism*), or 'new' (*neo-, neoclassical, Neo-Latin*). A fourth group consists of prefixes expressing negation (*a(n)-, de-, dis-, in-, non-, un-*).

This study only discusses the latter group, the prefixes which functions to derive negative forms of adjectives.

C. LITERATURE REVIEW

Josiah and Udoudom (2012) conducted a study on a morphophonemic analysis of inflectional morphemes of nouns in two structurally and historically distinct languages (English and Ibibio). The objective of their study is to discover points of differences and similarities using the Contrastive Analysis (CA). The research findings revealed that the two languages are structurally different. For instance, Ibibio is agglutinative, tonal and analytic in nature while English is basically analytic and intonational. The paper, therefore, analyzes the problem that the Ibibio speaker of English is likely to encounter in the study of the English word structure. Meanwhile, this study attempts to investigate some general characteristics of English prefixation, restricted to negation form of adjectives. The research findings are expected to encourage L2 learners' consciousness in L2 learning in connection with morphological and morphophonemic awareness – pedagogical purposes.

D. THEORIES
1. Morpheme, Morphs and Allomorphs

"Morpheme is a minimal unit of meaning or grammatical function" (Yule, 2010: 67). The word *uncopied* consists of three morphemes. One minimal unit of meaning is *copy*, another minimal unit of meaning is *un-* (meaning "not") and a minimal unit of grammatical function is *–ed* (indicating past tense).

Morphemes have meaning and form unit. In the case of the prefix *un-*, these units can be schematically represented in (1). The part of the morpheme we have referred to as its 'form' is also called morph**.**

(1) The morpheme *un-*
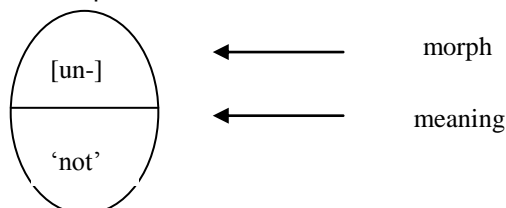
From the schema, morphs can be defined as the smallest meaningful phonetic segment of an utterance on the level of parole which cannot yet be classified as a representative of a particular morpheme (Bussman, 1998: 767). To put it simply, it is the actual forms of used to realize morphemes (Yule, 2010: 71). The difference between morph and morpheme is the term morph is used to refer to the concrete entity, while the term morpheme is reserved for the abstract one.

Morpheme basically has two or more different realization, called allomorph. Allomorph is one of a closely related set of morphs (Yule, 2010: 282). If two or more morphs have the same meaning but a different distribution then they belong to the same morpheme (Bussman, 1998: 767). For example, for inflectional morpheme "plural", suffix –s has three allomorphs [s], [z] and [iz]. Further explanation is in 4.2. So, the distinction between morph, allomorph, and morpheme is analogous to that of phone, allophone, and phoneme in phonology.

2. Morphophonemics

A phonological process in a language is called morphophonemic (in American linguistics) and morphophonolgy (in European linguistics). Intermediary level of analysis between phonology and morphology in which the phonological regularities in the framework of morphology, especially the systematic phonological variants of morphemes (allomorph) and the conditions of their occurrence, are described (Bussman, 1998: 772). Morphophonemic processes occur with particular conditions so as to be a rule-governed system in a language. For example, the plural nouns-forming morpheme {-s} in English has three allomorphs [-s], [-z], and [-iz] which are phonologically conditioned. The three allomorphs are distributed in a regular way, based on the sounds that come before suffixes. As such:

a. [-s] occurs after voiceless consonants /p t k f θ/, e.g; [kæts] *cats*
b. [z] is pronounced after all voiced consonants and vocal except /š č s/, e.g; [dogz] *dogs*, [boyz] *boys*
c. [-iz] occurs only after sibilant sounds /s z š ž č ĵ/, e.g; [w šIz] *washes*

The same thing applies to morpheme {in-}, which is the negative prefix for adjectives. This morpheme has four allomorphs; [in-], [il-], [ir-], and [im-], as in *intangible, illegal, irresponsible* and *impossible*. The four allomorphs are the results of phonologically conditioning. Futher explanation, see in 4.3 on assimilation.

3. Assimilation

One of the most common morphophonemic changes is assimilation, that is when a sound causes another sound change so that the two sounds end up being identical (Crowley, Bowern, 2010: 38). The definition can be explained as follows by the word *imperfect* [impərfikt], containing prefix {in-} and the base [pərfikt]. The phoneme alteration changing /n/, which is nasal alveolar, into /m/, which is nasal bilabial, make it into more likely phoneme /p/ bilabial stop. Such phoneme assimilation /n/ is said to be conditioned by phoneme /p/. To put is simply, sound [m] occurs before sound [p], and sound [n] is denasalized. Thus, the assimilation is called **regressive assimilation**, which means the 'force' of the change operates 'backward' in the word – that is, from right to left (Crowley, Bowern: 2010, Gleason: 1961).

E. METHOD
1. Data Collection and Analysis Method

The data collection technique was conducted by collecting all negative adjectives from an English standard dictionary. Beside dictionary, books or English texts were used also as the data source.

After collecting the data, they were described by means of morphophonemic theory.

F. RESEARCH FINDINGS

According to Plag (2002: 124-127), there are eight negative prefixes in English, they are *a(n)-, anti-, de-, dis-, in-, mis-, non-*, and *un-*. Table 1 below contains the data of all prefixed adjectives.

Table 1

un-		in-	dis-	mis-
unable	**un**married	**in**adequate	**dis**advantageous	**mis**spent
unbearable	**un**natural	**in**correct	**dis**loyal	**mis**placed
unclean	**un**occupied	**in**divisible	**dis**connected	**mis**guided
undetected	**un**predictable	**in**edible	**dis**contented	**mis**handled
unethical	**un**qualified	**in**flammable	**dis**honest	**mis**directed
unfair	**un**real	**in**sensitive	**dis**similar	**mis**translated
unguessable	**un**safe	**in**secure	**dis**courteous	**mis**pronounced
unhappy	**un**titled	**in**tolerant	**dis**obedient	**mis**treated
unimportant	**un**usual	**in**transitive	**dis**organized	**mis**laid
unjustifiable	**un**varied	**in**visible	**dis**pirited	
unknown	**un**well		**dis**respectful	
unlike			**dis**reputable	
			dissatisfied	
			dissimilar	

de-	non		anti	a(n)
deformed	**non**aligned		**anti**-war	**a**chromatic
declassified	**non**contributory		**anti**-government	**a**sexual
decomposed	**non**custodial		**anti**climactic	**a**symmetrical
decompressed	**non**negotiable		**anti**competitive	
decontaminated	**non**destructive		**anti**dumping	
demilitarized	**non**fiction		**anti**septic	

1. Regressive Assimilation of Prefix in-

Prefix {in-} is further broken down into table 2 below.

Table 2

Morpheme {in-}			
Allomorph [*in*-]	Allomorph [*il*-]	Allomorph [*ir*-]	Allomorph [*im*-]
inadequate	**il**legal	**ir**relevant	**im**mature
incorrect	**il**literate	**ir**religious	**im**mortal
indivisible	**il**logical	**ir**relevant	**im**measurable
inedible	**il**legible	**ir**reducible	**im**moderate
inflammable	**il**legitimate	**ir**reparable	**im**modest
insensitive		**ir**replaceable	**im**mobile
insecure		**ir**retrievable	**im**permanent
intolerant		**ir**reclaimable	**im**polite
intransitive		**ir**reconcilable	**im**pertinent
invisible		**ir**recoverable	**im**perfect
		irredeemable	**im**possible
		irresolvable	**im**pious
		irreverent	
		irrefutable	
		irregular	
		irrational	
		irremovable	
		irresponsible	

If we look at table 2, it seems that the adjective-formation for word list in the three columns from right is idiosyncratic. The prefixal morpheme {in-} turns out to have various allomorphs [in-], [il-], [ir-], and [im-]. Speech sound [in-] which is an allomorph of morpheme {in-}, reveals no occurrence of phoneme alteration, differing from three other allomorphs.

The three other allomorphs [il-], [ir-], and [im-] come into existence because the final phoneme /n/ (nasal velar) of the morpheme {in-} is adjacent to other initial phonemes of the base *legal, relevant, mature, possible*. When /n/ (nasal velar) precedes /l/, /r/, /m/, /p/, it yields denasalization. Denasalization is when phoneme /n/ undergoes a change caused by phonologically conditioned environment that is the presence of /l/, /r/, /m/ and /p/. This is called

regressive assimilation, the following certain phoneme affects the preceding phoneme, which is right-to-left.

in- + legal	⟶	illegal
in- + relevant	⟶	irrelevant
in- + mature	⟶	immature
in- + possible	⟶	impossible

2. Why Assimilation occurs?

There is what the so-called phonetic similarity, in that two speech sounds can be described to be phonetically identical after the occurence of sound alteration if they share the same phonetic features. For instance; each of two following sounds has phonetic features as follows:

[n]	[l]
voiced	voiced
alveolar	lateral
nasal	alveolar

We could assimilate one or two of the features of the two speech sounds into another speech sound. For example, sound [n] would lose its nasal feature (denasalization) and be altered by lateral feature [l] that follows it. The alteration can be seen as follows:

* np ⟶ ll

as in the words *illegal, illiterate, illogical, illegible, illegitimate*.

Schema 2 below on English consonant phonemes may help figure it out.

Schema 2. English consonant phoneme system

		Bilabial	Labio dental	Dental	Alveolar	Alveo palatal	Velar	Glottal	
Stops	voiceless	p			t		k		
	voiced	b			d		g		
Affricates	voiceless					č			
	voiced					ĵ			
Fricatives Slit	voiceless			f	θ				h
	voiced			v	ð				
Groove	voiceless				s	š			
	voiced				z	ž			
Lateral	voiced				l				
Nasals	voiced	m			n		ŋ		
Semi vowels	voiced	w			r	y			

3. Prefixing without Altering Phonemes

The phenomenon of phonologically conditioned has already been elaborated in the explanation named assimilation. Meanwhile, there is another phenomenon which is called morphologically conditioned. Beside prefix [im-], [il-] and [ir-], as the allomorphs of morpheme {in-}, there are other prefixes which do not manifest different forms. Check table 3.

Table 3

un-		in-	dis-	mis-
unable	**un**married	**in**adequate	**dis**advantageous	**mis**spent
unbearable	**un**natural	**in**correct	**dis**loyal	**mis**placed
unclean	**un**occupied	**in**divisible	**dis**connected	**mis**guided
undetected	**un**predictable	**in**edible	**dis**contented	**mis**handled
unethical	**un**qualified	**in**flammable	**dis**honest	**mis**directed
unfair	**un**real	**in**sensitive	**dis**similar	**mis**translated
unguessable	**un**safe	**in**secure	**dis**courteous	**mis**pronounced
unhappy	**un**titled	**in**tolerant	**dis**obedient	**mis**treated
unimportant	**un**usual	**in**transitive	**dis**organized	**mis**laid
unjustifiable	**un**varied	**in**visible	**dis**pirited	
unknown	**un**well		**dis**respectful	
unlike			**dis**reputable	
			dissatisfied	
			dissimilar	

de-	non	anti	a(n)
deformed	**non**aligned	**anti**-war	**a**chromatic
declassified	**non**contributory	**anti**-government	**a**sexual
decomposed	**non**custodial	**anti**climactic	**a**symmetrical
decompressed	**non**negotiable	**anti**competitive	
decontaminated	**non**destructive	**anti**dumping	
demilitarized	**non**fiction	**anti**septic	

Table 3 demonstrates that the prefix {un-}, {in-}, {dis-}, {mis-}, {de-}, {non-}, and {anti-} can be attached to base under no certain conditions, except for {in-} partially as has been elaborated before. The table also informs that *un-* prefixed adjectives outnumber others, because this prefix tends to be productive. Therefore, a dictionary does not list all such adjectives. Prefix *un-,* and *dis-*, which denote 'not', can attach to all base adjectives except certain adjectives with phoneme-initial /p/, /l/, dan /r/. Nevertheless, exceptions apply on the following lexicons, that prefix *un-* would remain there when meeting phoneme /l/, /m/, /p/.

unlike	**un**predictable	**un**real
unmarried	**dis**loyal	**dis**reputable

Why such? It turns out that not all prefixes are subject to the existing rules. The exception words would be morphologically conditioned as on the prefixes *un-, in-, dis-, mis-, de-, non-, anti-,* and *a(n)-.*

4. The Semantic Meanings of Each Prefix
4.1. Prefix *un-, in-, dis, a(n)-, non-*

For adjectives, the prefixes function to denote the general meaning of 'not X'. For example, the word *just, direct, possible, legal, responsible*, *honest, symmetrical, biological,* when a prefix attaches to them, they become *unjust, indirect, impossible, illegal, irresponsible*, *dishonest, asymmetrical* and *non-biological.* It can be exemplified in the following sentences.

(1) *Your decision is **un**fair for both of us.*
(2) *His sentences were **in**direct.*
(3) *It is **im**possible that pigs can fly.*
(4) *The government must stop the **il**legal logging.*
(5) *An **ir**responsible leader is the one who talks more but do less.*
(6) *He was fired because he was **dis**honest.*
(7) *That website offers **a**symmetrical dresses for women*
(8) ***Non**-biological parents can be awarded child custody.*

4.2. Prefix mis- and de-

As everybody knows that adjectives in English can indeed be derived from verbs; e.g. *marry* that derives *married* as in the sentence *Yesterday we posted an article by a married man.*

Regarding prefix *mis-*, it always attaches to verbs to convey the meaning 'inaccurate(ly), wrong(ly)': *mispronounce, misreport, misstate, mistrial*. The prefixed verbs then can derive adjectives, as in the sentence

(9) *The teacher has written my **mis**pronounced name.*

Just the same as prefix *mis-*, prefix *de-* always attaches to verbs to form reversative and prevative verbs, e.g. *deform, decompress, deconstruct* (Plag, 2002: 125). The prefixed verbs then can derive adjectives, as in the sentence

*(10)   I won't use this **de**formed mug.*

4.3. Prefix *anti-*

This polysemous prefix can express two different, but related notions. In words like *anti-war, anti-abortion, anti-capitalistic, anti-scientific, anti-freeze, anti-glare.* It can be paraphrased as 'against, opposing', with denominal, de-adjectival and deverbal derivatives behaving like adjectives (e.g. *anti-war movement, Are you pro-abortion or anti-abortion?*, *an anti-freeze liquid*).

G. CONCLUSION

Prefixation process in this study is derivational process which constructs negation forms of adjectives from word class of adjective. In the process, sound change is of a necessity. It is caused by either phonological or morphological conditioning. Prefix {in-} is not always regular all the time and cannot always attach to any base with any initial phoneme. For new L2 learners or even English-acquiring children, this might be a problem that they encounter. Apparently, it is generally rule-governed. The rule is well-known as morphophonemic rule, one of which is assimilation. In assimilation, a sound changes due to phonologically-conditioned environment. Sound changes in word formation resulted from assimilation imply a reason – the simplicity in the articulatory effort. Consider, if

/in-/ + /relevant/ $\longrightarrow$ /inrelevant/

the articulation of the word *inrelevant* seems to be cumbersome and *irrelevant* is the simplest.

It is expected that L2 learners can benefit from the study. They are expected to have semantic predictability, the ability to be able to recognize the semantic of the derivatives through their morphological structure, and able to attach a morpheme to another morpheme in order to form a new word without confusion. It is time for them not to always follow intuition in doing these.

Recommendations

Having studied the morphophonemic process, this section provides a space which is of an opportunity for doing further studies. It is recommended that further researchers do experimental research by conducting a test regarding morphological awareness or semantic predictability for L2 learners.

H. BIBLIOGRAPHY

Bussman, Hadumod. 1998. *Routledge Dictionary of Language and Linguistics*. London and New York; Routledge.

Crowley, Terry. Bowern, Claire. 2010. *An Introduction to Historical Linguistics*. 4th edition. Oxford; Oxford University Press.

Echols, John. M, Hasan Shadily. 2000. *Kamus Inggris Indonesia*. Jakarta; PT Gramedia.

Encarta Dictionaries. 2009. Microsoft.

Encyclopedia Britannica. 2009. Ultimate Reference Suite.

Gleason, H.A.1961. *An Introduction to Descriptive Linguistics*. USA; Holt, Rinehart and Winston, Inc.

Josiah, Ubong Ekerete & Udoudom, Juliet Charles. 2012. Morphophonemic Analysis of Inflectional Morphemes in English and Ibibio Nouns: Implications for Linguistic Studies. *Journal of Education and Leaning*, 1 (2), 72-81.

Katamba, Francis. 1993. *Modern Linguistics; Morphology*. New York; St Martin Press.

Kridalaksana, Harimurti. 2005. *Mongin-Ferdinand de Saussure (1857-1913): Peletak Strukturalisme dan Linguistik Modern*. Jakarta: Yayasan Obor Indonesia.

McCarthy, Andrew Carstairs. 2002. *An Introduction to English Morphology.* Edinburgh; Edinburgh University Press.

Lee, Siok Hua. 1997. *The Morphological and Morphophonemic Awareness of College-preparation ESL Learners: An Integrated Study*. [Unpublished Thesis]. Canada; Simon Fraser University.

Plag, Ingo. 2002. *Word-formation in English*. UK; Cambridge University Press.

Yule, George. 2010. *The Study of Language*. 4th ed. New York: Cambridge University Press, 2010.