PHONOLOGICAL PROCESS OF PREFIX /IN-/ IN FRENCH

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Abstract: This article aims to know sound variations of prefix /in-/ in French and to explain phonological process of prefix /in-/ in French. The addition of the prefix / in-/ can change the meaning of words into the opposite meaning. This prefix has orthographic and phonetic variation which means there are phonological rules in it, the focus of research is on sound variations and phonological rules prefix / in-/ in French. The research subject is French, while the object research is adjective in French with prefix / in-/. This research is a qualitative descriptive study with observation method and note-taking technique. The approach used is transformational generative phonology. The addition of the prefix /in-/ indicates that this prefix has a function as a negative marker (negative prefixes). The result of the analysis shows that sound variations of prefix /in-/ in French are [iŋ-], [in-], [im-], [il-], [iß-]. The phonological process that occurs in it is an assimilation process. Assimilation process that occurs in the form of nasalization because there are changes in the sound of consonants that are nasalized in the nasal sound environment.

Keywords: assimilation, phonological process, prefix /in-/

According to *Institute Français d'Indo*nésie (IFI), French is a language spoken widely by more than 300 million speakers in several countries spread across 5 continents such as Canada, Madagascar, Haiti, Belgium, Morocco, etc. It belongs to the Latin language which has been continuously developed into French lang-uage used as it is today. Latin is as very inflective language as Greek (Hocket: 1954). Because of the influence of Latin language, French is not only included in one inflective language; For instance on verb conjugations, yet French also has a high level of language derivation. One of the examples we can find is the prefix found in adjectives.

The process of forming a word is basically not detached from the process of derivation (Katamba, 1993: 44). Affixation is one of the derivation processes that can cause new words due to the meaning, category, and manner of the word changed. Changes in meaning of words are located in the prefix of negation which can change the meaning into refutation. The negation prefix

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/in-/ has orthographic and phonetic variation. It means that there are several sound rules in it, For example is the word *utile* [ytil] in French it has the meaning of "useful", when the prefix negation /in-/ is added, the word becomes *inutile* [*inytil*] and the meaning changes into "useless". Yet, in another case like the word capable [kapabl] which has the meaning of "able", it is changed into incapable [ɛ̃kapabl] and its meaning becomes "incapable" when the prefix negation in- is added so the prefix in- can be regarded as a morphophonemic process because it causes the appearance of pronunciation and adjustment of the writing resulting in a new variation or allomorphs of a morpheme. In linguistics, the changes in morpheme variation are examined in morphophonemic. According to Katamba (1993: 34) morphophonemic is part of the linguistic study related to morphology and phonology which is used to explain how morphemes are realized at the phonological level then.

This study focuses on variations and rules of sounds in the French negation prefix in-, so that it is more focused in its phonological point of view. The purpose of this study is to figure out the sound variations appear in the French negation prefix in- and to know the phonological process of it.

Previous research on phonological processes has been carried out by several researchers. Francis and Taylor (2015) in their research on Affixal Negation in French, German, and Russian discussed the types of affixes, especially prefixes that have the function of negation markers in French. Francis and Taylor discuss how the types of prefix negation go through their morphological or word formation. Meanwhile, Indrawati (2015) conducted a study on the Phonological Process in Adopting Indonesian Words into Ciacia in Buton District, Southeast Sulawesi and found the phonological processes that occur in the adoption of Indonesian words into Ciacia in the form of adding and removing sounds at the end of words. That is because the Ciacia language does not recognize the existence of words with closed tribes. Furthermore, Ridwan (2020) in his research entitled Phonological Variation of Taliabu Language Dialects discusses the phonological variations of three Talibu dialects based on variations in vowel sounds and variations in consonant sounds. The three Talibu dialects referred to are the Kadai dialect of the Siboyo dialect and the Mange dialect.

The results of the research explained that the three dialects have the same form and meaning but there are significant phonological differences between the Mange dialect and the Kadai dialect. Subsequently, Hardiany (2019) examining the "phonological process on the prefix /Me-/ in Indonesian language" and explained that the phonological process that occurs in the prefix /me-/ in Indonesian language is the addition of consonant and also the assimilation of consonant-vocal. It is also explained several rules for adding sound in the phonological process of the prefix /me-/ in Indonesian language. Zen (2016) conducted a research in his thesis entitled "Phonological Change in Sanskrit Vocabulary in Javanese", it is found that to explain the existence of sound changes in the process of absorption of Sanskrit vocabulary in Javanese can be seen through the rules. The rules represent patterns of change from groups of words that have the same pattern. Then, 43 sound change rules can be found in this study. Subsequent research was carried out by Tauk (2016) entitled "Processes and Positional Phonological Rules of Helong Language: Generative Study" which discussed the process of sound change in the Helong language and found 5 processes and rules of sound change, including vocal deletion, consonant deletion, metathesis, dissimilation, and gemination. In addition, Nurhantoro (2014) carried out a study on "The Assimilation of English Negative Prefixes Forming Adjectives" and discussed the forms of English negative prefix and explained its phonological process.

The similarity between this current study and several previous studies mentioned above is to focus on the phonological process and the sound change rules, while the difference is on the data material which is in the form of French. In addition, French has several prefixes that function as negative prefixes markers, including *dé-, dés-, mé, més, mal, non-, and in-*. All of the prefixes mentioned is considered a negative derivative prefix (Francis, 2015). But the interesting thing is in the prefix in- because it has an allomorph and allographic form. In this research, it reveals and explains the influence of phonological processes that cause the formation of various allomorphs and allographs in French prefixes.

In this study, the theory used is transformational generative phonology. It emerges and develops in the transformational grammar, also called transformational-generative grammar. Generative grammar was first raised by Noam Chomsky in a book called Syntactic Structure (Sampson, 1980). Transformational grammar assumes that the emergence of language variation is based on a process of transformation and there are generalizations of languages in the world, it can be inferred that there are universal rules in the form of language patterns in the human mind. One of the studies on transformational grammar is about the phonological rules in generative phonology. There are 2 concepts in generative phonology; deep structure and surface structure. Deep structure is symbolized with / / while surface structure is symbolized with []. Deep structure is the language patterns that exist in the human mind, while surface structure is a variation of language that appears in its concrete form. This transformation process (phonological rule) is the one that connects the deep and the surface structure. To be able to understand it, it is necessary to look at the distinctive features of sound. Odden (2005: 136) stated that the theory of distinctive features is a set of phonetic features that is based on sound properties used in phonological analysis. So, through this distinctive feature, we can see the difference between one sound and another, to explain the sort of phonological rules in it then. There are 4 parameters used in distinctive features: (1) Major class features (consists of: syllabic, consonantal-nonconsonantal, sonorantnonsonorant) (2) Place of articulation features (consists of: coronal-noncoronal, nonanterior) (3) Manner of articulation features (consists of: continuant-noncontinuant), and (4) Vowels features (consists of: round, height, backness, tense dan lax).

Schane (1992) stated there are 4 categories of phonological processes: (1) assimilation, (2) syllable structure processes, (3) weakening and strengthening, and (4) neutralization. According Laver in Nafisah (2017: 75) stated that assimilation is a phonological process in which there is an influence between one sound and another, and this result in the features of influenced sounds changed based on the sounds that influence. There is an influence between the sound and the segment in a word or among the components of compound words. According to Chaer (2007: 135) assimilation is a phonological process where there is a change of a sound into another sound due to the influence of the surrounding sound. Katamba (1991: 86) stated that there are six processes of assimilation, namely palatalization, labialization, sound assimilation, assimilation of place of articulation, assimilation of manner of articulation and nasalization. Meanwhile Schane (1992) stated that there are 4 sorts of assimilation: consonant-vocal, vocal-consonant, vocal-vocal and consonant-consonant.

METHOD

This research is a qualitative descriptive study. The data sources used are from Le Petit Larousse dictionary which includes adjectives in French with the prefix / in /. Besides using it, the researcher also used mobile application named *Transcription* version 1.6.9; a tool to know French-specific phonetic transcriptions, to check phonetic transcript and converted its data.

In this study, the researcher used observation method. According to Sudaryanto (2015) there are two basic techniques in this method: (1) participatory observation; there is an involvement or participation of the researcher in using the language, and (2) non-participatory observation; there is no an involvement or participation of the researcher in using the language. In this study, the researcher didn't involve in using the language, but the researcher only observed the using of the language in a dictionary. So the technique used here is non-participatory observation.

Besides, the researcher also used note-taking method to gain the data from the language analyzed by the researcher. At first, the data from dictionary was orthographic, but this current study is about the phonological process. So, the researcher converted those data into the phonetic one. There are several steps used to figure out the phonological process in this study; observing the distribution of sound, observing the form of allophones, determining the phonological rules, and observing the distinctive features of sound in the phonological process occurred.

FINDINGSS AND DISCUSSION

Findings

French has two classifications of affixation, prefix and suffix. The prefix /in-/ is included in prefix that attached to the adjective, which functions as a negative prefix marker. An interesting thing that can be found is that the prefix /in/

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has several forms of allomorphs and allographs. These causes there are several adaptation of pronunciation of the prefix /in-/ in French

In French, the addition of the prefix /in-/ indicates that this prefix has a function as a negative prefix. The addition of prefix /in-/ caused an assimilation process because the change in the sound of the prefix is influenced by the sound afterwards or in other words the prefix /in-/ is assimilated to the following sound.

The adjective affixation process of the prefix /in-/ shows the meaning of refutation. Its existence causes sound changes when the morpheme creates a word. The following is the phonological process of the prefix /in-/ on the forming adjectives in French.

Table 1. Adjectives with Prefixes /In-/

Stem	Adjectives Affixation	Glosa
patjã	iŋpatjã	"impatient"
Byvabl	iŋbyvabl	"undrinkable"
kɔʁekt	iŋkɔʁekt	"incorrect"
Define	Iŋdefini	"unclear"
fidɛl	iŋfidɛl	"disloyal"
vylneĸabl	iŋvylneʁabl	"insusceptible"
toleĸabl	iŋtoleʁabl	"intolerant"
akseptabl	inakseptabl	"inacceptable"
Efikas	inefikas	"ineffective"
Odibl	inodibl	"inaudible"
токаl	imoĸal	"immoral"
Legal	illegal	"unofficial"
reel	iĸeel	"unreal"

Table 2. Velar Nasal Sound on Prefix /In-/

Stem	Adjectives Affixation	Glosa
patjã	iŋpatjã	"impatient"
рғк	іŋрεк	"uneven"
Batabl	Iŋbatabl	"impervious"
kɔʁekt	iŋkɔʁekt	"incorrect"
kõsjã	iŋkゔsjã	"unconscious"
depãdã	iŋdepãdã	"independent"
Define	iŋdefini	"unclear"
fidɛl	iŋfidɛl	"disloyal"
Vizibl	iŋvizibl	"unseen"

Table 3. Alveolar Nasal Sound On Prefix /In-/

Stem	Adjectives Affixation	Glosa
aksɛptabl	inakseptabl	"unacceptable"
atãdy	inatãdy	"unexpected"
efikas	inefikas	"ineffective"
elegã	inelegã	"inelegant"
odibl	inodibl	"inaudible"
ublijabl	inublijabl	"unforgettable"
ytil	inytil	"useless"
экganize	inɔʁganize	"unplanned"

Table 4. Bilabial Nasal Sound On Prefix /In-/

Stem	Adjectives Affixation	Glosa
metabl	imetabl	"unusable"
токаl	imokal	"immoral"
modest	immodest	"improper"
motive	imotive	"unmotivated"
mobil	imobil	"immovable"
mɔʁtɛl	imɔʁtɛl	"undead"
mãʒabl	imãʒabl	"inedible"
mateʁijɛl	imateʁijɛl	"intangible"

Table 5. Alveolar Lateral Approximant Sound On Prefix /In-/

Stem	Adjectives Affixation	Glosa
limite	ilimite	"unlimited"
legal	ilegal	"unofficial"
lizibl	ilizibl	"unread"
lezitim	ilezitim	"invalid"
lisit	ilisit	"disallowed"
lozik	iloʒik	"illogic"
letre	ilɛtʁe	"illiterate"
lymine	ilymine	"unlighten"

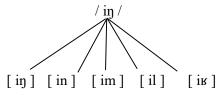
Table 1 shows that /iŋ/ is an underlying form. It is because the prefix is not affected by the surrounding sound environment and can be seen in its distribution, in a sense, this prefix /iŋ/ which

has a high level of occurrence frequency used as a prefix negation on adjectives.

Tabel 6. Uvular Fricative Sound On Prefix /in-/

Stem	Adjectives Affixation	Glosa
кеalizabl	iʁealizabl	"infeasible"
ьеspэ̃sabl	iʁɛspɔ̃sabl	"irresponsible"
кеgylje	iĸegylje	"irregular"
керакаbl	isepasabl	"unfixable"
кεspiкabl	iĸɛspiĸabl	"unrelieved"
кеel	ireel	"unreal"

Afterwards, we can observe the allophone of phoneme /iŋ/. It is the variation and also the form of the sound realization of the phoneme. It can be recognized that the allophone form of phoneme are /iŋ-/ are [iŋ-], [in-], [im-], [il-],and [iʁ-]. The following is the scheme of the allophone form:



Based on the table 1 the prefix /in-/ can indicate the change of sound based on the words surrounding it. The sounds generated are velar nasal, alveolar nasal, bilabial nasal, alveolar lateral, and uvular fricative.

Discussion

Prefix /in-/ Become Velar Nasal

Prefix /in-/ can be velar nasal when it encounters initial phoneme like fricative and plosive. Velar is a sound that is pronounced with the back part of the tongue against the soft palate, also known as the velum. Whereas, Nasal is a sound caused by the existence of obstruction in the nasal cavity (Odden, 2005: 28). Therefore, velar nasal is a sound that is pronounced with the back part of the tongue against the velum along with the existence of obstruction in the nasal cavity.

Table 2 shows that the prefix /in-/ will be [iŋ-] when it encounters plosive and fricative sound. The sorts of plosive are bilabial plosive voiceless [p], bilabial plosive voiced [b], alveolar

plosive voiceless [t], alveolar plosive voiced [d], and velar plosive voiceless [k]. In the other hand, fricative sounds are labiodental fricative voiceless [f] and labiodental fricative voiced [v]. The phonological rule is as follows:

Its distinctive feature is as follows:

$$\begin{bmatrix} + \text{ nasal} \\ + \text{cor} \\ + \text{ ant} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ nasal} \\ - \text{ cor} \\ - \text{ ant} \end{bmatrix} / - \begin{bmatrix} - \text{ syl} \\ + \text{ con} \\ + \text{ son} \end{bmatrix}$$

It can be inferred that prefix /in-/ is influenced by or assimilated with the following sound. The sound change is realized with [iŋ-] sound or it is defined as velar nasal. Basically, velar area of the palate (roof of the mouth) is relatively wide and the movement of the dorsum is not that precise. Therefore, velar is easy to assimilate, by displacing the articulation back or front depend on the quality of contiguous vowels (Odden 2005: 31). The assimilated sounds are fricative and plosive, either voiced or voiceless.

Prefix /in-/ Become Alveolar Nasal Sound

Prefix /in-/ become alveolar nasal when it encounters the initial phoneme of vowel sound. Alveolar is a sound produced by sticking the tip of the tongue to the alveolus. Whereas, Nasal is a sound caused by the existence of obstruction in the nasal cavity (Odden, 2005:31). It can be inferred that alveolar nasal sound can be generated by sticking the tip of the tongue to the alveolus along with the existence of obstruction in the nasal cavity.

Table 3 indicates that prefix /in-/ will be alveolar nasal [in-] when it encounters vowel sound. The vowel sounds are open front unrounded [a], close-mid front unrounded [e], close-mid back rounded [o], close back rounded [u], close front rounded [y], and open-mid back rounded [o]. The following is its phonological rules: / in-/ \longrightarrow [in-] / - v

Based on the rule above, we can infer: prefix /in-/ become alveolar nasal sound when it encounters vowel sound. The distinctive feature of the rule is as follows: Vol. 13, No. 2, August 2020, pp. 321-327

$$\begin{bmatrix} + \text{ nasal} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ nasal} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix} / - \begin{bmatrix} + \text{ syl} \\ - \text{ cons} \end{bmatrix}$$

Prefix /in-/ assimilates with the sound afterwards. The sound change can be generated with [in-] sound and defined as alveolar nasal sound. That sound is vowel sounds; rounded or unrounded.

Prefix /in-/ Become Bilabial Nasal Sound

Prefix /in-/ become bilabial nasal sound when it encounters initial phoneme of bilabial nasal sound. Bilabial is a sound that caused by a constriction of both lips or between upper and lower lips is closed. Whereas, Nasal is a sound caused by obstruction in the nasal cavity. It can be inferred that bilabial nasal sound is generated by constricting the both lips; upper and lower lip, along with the existence of obstruction in the nasal cavity.

Table 3 and Table 4 shows that the prefix /in-/ will sound [im-] when it encounters the consonant sound of bilabial nasal [m]. In Indonesian language, this sound called bilabial nasal consonant. The sound [m] can be found in some words like *makan* (eat) and *mandi* (take a bath) and the following is its phonological rule:

$$/ \text{ in-} / \longrightarrow [m] / - [m]$$

Based on the rule above, we can infer: velar nasal sound become bilabial nasal when it encounters bilabial nasal sound. The distinctive feature of it is as follows:

$$\begin{bmatrix} + \text{ nasal} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ nasal} \\ - \text{ cor} \\ + \text{ ant} \end{bmatrix} / - \begin{bmatrix} + \text{ nasal} \\ - \text{ cor} \\ + \text{ ant} \end{bmatrix}$$

Prefiks /In-/ Become Alveolar Lateral Approximant Sound

Prefix /in-/ becomes alveolar lateral approximant sound when it encounters initial phoneme of alveolar lateral sound. Alveolar is a sound generated by sticking the tip of the tongue on the alveolus. Meanwhile, lateral approximant sound can be generated when the airstream proceeds along the sides of the tongue, but it is blocked by the tongue from going through the middle of the mouth. It can be inferred that alveolar lateral approximant sound can be generated by sticking the tip of the tongue on the back of the mouth along with the airstream blocked in the

middle of the mouth. This sound belongs to voiced sound.

Table 5 indicate that the prefix /in-/ will sound [il-] when it encounters alveolar lateral approximant [l]. In Indonesian, this sound is called the lateral alveolar approximation, the sound [l] is found in the words *lalat* (fly) and *lapar* (hungry). The phonological rules that emerge in the sound changes are as follows:

$$/ \text{in-} / \longrightarrow [il] / - [1]$$

Based on the rule above, we can infer: prefix /in-/ can be alveolar lateral approximant when it encounters alveolar lateral approximant sound. The distinctive features of these rules are:

$$\begin{bmatrix} + \text{ nasal} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{ syl} \\ + \text{ cons} \\ + \text{ son} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix} / - \begin{bmatrix} -\text{ syl} \\ + \text{ cons} \\ + \text{ son} \\ + \text{ cor} \\ + \text{ ant} \end{bmatrix}$$

Prefix /in-/ Become Uvular Fricative Sound

Prefix /in-/ can be uvular fricative when it encounters the initial phoneme of uvular fricative sound. Uvular is a sound generated with the back of the tongue against the uvula. Several sorts of Uvula are stop, fricative, nasal, trill, or approximation. In other hand, fricative is a sound produced by forcing air through a narrow channel made by placing two articulators close together; such as the lower lip against the upper teeth in the case of [f], the back of the tongue against the soft palate in the case of [k] in French. It can be inferred that uvular fricative sound is a sound pronounced with the back of the tongue against the uvula along with the airstream come out through two articulators; the back of the tongue and the uvula.

Tabel 6 indicates that the prefix /in-/ will be the [Iʁ-] sound when it encounters the uvular fricative sound [ʁ]. In the Indonesian phonological system does not recognize the uvular fricative sound [ʁ]. The phonological rules that appear on sound changes are as follows:

$$\langle \text{iu-} \rangle \longrightarrow [R] / - [R]$$

Based on the rule above, we can infer: The prefix /in-/ becomes the uvular fricative when it encounters the sound of uvular fricative. The distinctive features of the rules are:

$$\begin{bmatrix} + \text{ nasal} \\ - \text{ cor} \\ - \text{ ant} \\ + \text{ voiced} \end{bmatrix} \rightarrow \begin{bmatrix} - \text{ syl} \\ + \text{ cons} \\ + \text{ son} \\ - \text{ cor} \\ - \text{ ant} \\ + \text{ cont} \end{bmatrix} - \begin{bmatrix} - \text{ syl} \\ + \text{ cons} \\ + \text{ son} \\ + \text{ cor} \\ + \text{ ant} \\ + \text{ cont} \end{bmatrix}$$

CONCLUSION

The prefix /in-/ in French represents the negation. Analysis results show that There are several variations of the sound form of the prefix /in-/ in French; [iŋ-], [in-], [im-], [il-], [iʁ-]. The prefix / in-/ can indicate changes in sound based on the surrounding word environment. As a result,

there is a variation of sound in the prefix /in-/. Variations of sounds that occur are velar nasal, alveolar nasal, bilabial nasal, alveolar lateral, and uvular fricative.

The phonological process that occurs in it is an assimilation process; there is an influence between one sound and another. This results in the features of the influenced sound changing in accordance with the influencing sound. The assimilation sound process that occurs is in the form of nasalization because there are changes in the sound of consonants that are nasalized in the nasal sound environment.

REFERENCES

Hockett, C.F. (2004). *Two Models of Gramatical Description* dalam Francis Katamba. *Morphology*. London and New York: Routledge.

Indrawati, D. (2015). Proses Fonologis dalam Pengadopsian Kata Bahasa Indonesia ke dalam Bahasa Ciacia di Kabupaten Buton, Sulawesi Tenggara. *Jurnal Pena Indonesia*, 1(1): 96-104.

Francis & Taylor. (2015). Affixal Negation in French, German, and Russian. *WORD Journal*, 20(1): 47-66.

Hardiana & Rosdiani. (2019). Proses Fonologis pada Prefiks /Me-/ dalam Bahasa Indonesia. *Jurnal Philosophica*, 2(1): 35-40.

Katamba, F. (1993). *Modern Linguistics: Morphology*. London: The Macmillan Press Ltd.

Larousse. (1990). *Petit Larousse Dictionnaire Illustré*. Paris: Larousse.

Nafisah, S. (2017). Proses Fonologis dan Pengkaidahannya dalam Kajian Fonologi Generatif. *Jurnal Deiksis*, 9(1): 70-78.

Nurhantoro, T. S. (2014). The Assimilation of English Negative Prefixes Forming Adjectives. *Jurnal Lantip*, 4(2): 1-10.

Nursari, S. (2020). Morphology of Folklore Batu Naga Lampung. *Jurnal Retorika*, 13(1): 164-173.

Odden, D. (2005). *Introducing Phonology*. UK: Cambridge University Press.

Ridwan, et al. (2020). Phonological Variation of Taliabu Language Dialects. *Jurnal Retorika*, 13(1): 156-163.

Sampson, G. (1980). *Schools of Linguistic*. United States of America: Stanford University.

Schane, S. A. (1992). *Phonology Generative*. University of California, San Diego. Summer Institute of Linguistik.

Sudaryanto. (1993). *Metode dan Aneka Teknik Analisis Bahasa*. Pengantar Penelitian Wahana Kebudayaan Secara Linguistis. Yogyakarta: Duta Wacana University Press.

Tauk, D. (2016). Proses dan Kaidah Fonologis Posleksikal Bahasa Helong Kajian Generatif. Jurnal Linguistika, 23(45): 148-157.

Zen, A. L. (2016). "Perubahan Fonologis Kosakata Serapan Sansekerta dalam Bahasa Jawa". *Tesis*. Semarang: Fakultas Ilmu Bahasa Universitas Diponegoro.