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Word Formation System of Suwawa Language Using Computer Program

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Abstract

The objestives of the research of word formation system of Suwawa Language in Computer Program are giving the description of i) the **WFRs** (world formation rules) of affixes in Suwawa language, ii) the system of WFRs in Suwawa language and its word structure. The method used in this research is qualitative. It analyzes language data in the True Basic program. The finding of this research is the rules of the words, which consist of simple and complex rules of derivation, inflection, and compound. Those are 9 rules. From the 9 rules found 41 prefix, 1 infiks '*in*', 14 suffix, 17 compound. Besides, there is only the positive degree rule in Suwawa Language. ***PhR*** (Phonological Restricton) which is included in ***TR*** (Truncation Rules) of ***RR****s* (Readjustment Rules) found seven rules. In ***CR*** (compound rules), there is a rule named ***PCR***s (Partial compound rules) which has three kinds of ***PCR***s those are: a) ***PCR***s of fisrt syllable, b) ***PCR***s of second syllable, and c) ***PCR***s of affixes as to form.

Keywords: Word formation rule, Suwawa, Language, True Basic Program

1. Introduction

The Word formation system which is studied in this article is directly related to morphological item. It refers to word formation of a language, then it is usually unique, because of its own complex rules. For example, Suwawa as a local language in Gorontalo Province in Indonesia has also its own complex rule of word formation. Because of the naturally of that language, word formation of Suwawa language related to affix and it has to be known what affixes are in it and how the system of the word formation belong to Suwawa language, eventhough there is Suwawa language dictionary has been written and published by Pateda in 2001. It seems the rules of word put and organized in dictionary, but the forms of word in a dictionary are needed to illustrate the meaning. It is too hard to describe the morphological systems in detail in dictionary.

Furthermore, morphology of Suwawa language has been studied by kasim *et al.*in 1981. It discusses one of the points of the result of their research. The point they found includes the amount of seven kinds of affixes from the four data of story in Suwawa language. Those are prefix, suffix, infix, konfix, compound and reduplication. This research is still completed by the description of the WFRs (Word Formation Rules) of Suwawa language. To find the rules might be helped easily by the application of True Basic Program as linguistic computation.

The intended meaning of using the program of BASIC (Beginners All-purpose Symbolic Instruction Code) is to have the view of words formation and to know how the structure of words formed in a language. BASIC was invented in 1963 by John Kemeny and Thomas Kurtz and place it in the public domain, and the TRUE BASIC was introduced by them in 1985 in order to restore the BASIC language to its original all purposes status. This language has many features which make it an ideal to use in beginning computer programing. The language generation analyzes in this program deal with the generation of language in which language pieces are put and language wholes are out put, applied the morphological level to generate words, and the syntactic level to generate sentence or full text (Cook, 1992).

Suwawa language is one of local languages that could be analyzed by this TRUE BASIC program in order to get and to know about the WFRs. Analyzing the WFRs of this language has considered Suwawa society's daily language used, because based on the pre-research in the field, there is no special rules of language stratification levels such as *kromo, inggil* in Javanesse.

To have information the word formation of Suwawa language and its affixes in this project, it uses computer or TRUE BASIC main program synchronized the generative morphological model. By operating and organizing the program and the model, it gives results of the illustration of using affixes and its rules in that language.

2. Theoritical Bases

2.1 The Rule of Forming Words in Generative Morphology

Talking about the rules of forming word, Bauer (1988) illustrates that the term of 'morphology' was given to the study the change in the form of words. It is given example of

changing words in English i.e. *desert- deserter, design – designer* etc. According to Bauer (1988) this is the study of the shapes of the words related to changes in meaning, By extension, the term 'morphology' is not only for the study of shapes of words, but also for the collection of units which are used in changing the form of word. In this point, Bauer focuses on the forming and changing meaning of words. It is difference with Scalice about the discussion of language rules morphologically. There is one of the models of word formation suggested by Scalice (1984 pg. 68) which it puts in a diagram as below. The diagram generate words which may be stored in the dictionary of a language.

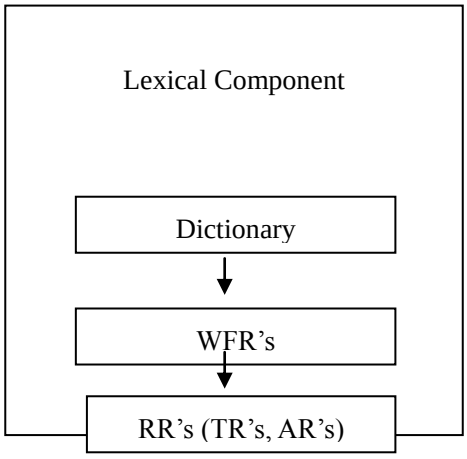

Figure 1. Generating words stored in dictionary

The diagram illustration is about that lexicon includes a set of rules, the RR's (Readjustment Rules) which apply to the output of WFR's (Word Formation Rukes). The RR's are divided into two subsets. Trancation Ruless (TR's) and Allomorphy Rules (AR's). Both types of rules are "morphological" rules, not phonological rules, and more ever, are separated from the WFR's themselves.

2.2 Word Formation Rules

To make it clearer the illustration above, Sudiraatmadja (2006) illustrated some word formation rules. (i) Compounding Rules (CR), Derivation Rules (DR), and Inflection Rules (IR). Those rules are as:

2.2.1 Compounding Rules (CR)

Allen in Scalice (1984 pg. 116) refers to the proposal as the Extended Ordering Hypothesis (EOH) or the model of lexical morphology is in three leves as;

Level I: + affixation
Level II: # affixation
Level III: compounding

Based on Allen's idea is that this is a hypothesis according to which "level III morphological proses are ordered after all rules of affixation". This claim is uncontroversial

as far as the relation between level I affixation and compounding is concerned. That is, + affixes do not occur on the outside of compounds, but they may occur, as three leves predicts within compound. It is illustrated in the following examples.

+ affix outside compounds	*+ affix inside compounds*
*[in + [fuel – injected]]	[[inhospitable] [looking]]
*[[battle-hero] + ic]	[[heroic] [sounding]]
*[[street-music] + al]	[[musical] [sounding]]

The controversial, instead, is the relation between level II affixation and compounding. Allan bases her claim that level III processes must be ordered after level II processes on both phonological and morphological arguments. The following morphological arguments is unproblematic ordering, where the level II prefix cannot be attached to a compound.

re#	re-clean	but	*re# [vacuum-clean]
	re-mail		*re# [blackmail]
de#V	de-sensitize		*de# [self-sensitize]
de#N	de-forest		*de# [pine-forest]
mal#	mal-formation		*de# [home-formation]

2.2.2 Derivation Rules (DR)

It is stated the deriation rules from Scalise (1984), then summarized by Sudiraatmadja (2006 pg. 15) as well as the following description.

[Pre + [Word]]	[Pre + [Stem]]
[Pre # [Word]]	[Pre # [Stem]]
[[Word] + Suf]	[[Stem] + Suf]
[[Word[# Suf]	[[Stem] + Suf]
[[[Word] + Suf] # Suf]	[[[Stem] + Suf] # Suf]
[[Pre + [Word]] # Suf]	[[Pre + [Stem]] # Suf]
[Pre # [[Word] + Suf]]	[Pre # [[Stem] + Suf]]
[Pre # [Pre + [Word]]]	[Pre # [Pre + [Stem]]]

2.2.3 Inflection Rules (IR)

Scalise (1984) argues that IR's are included in syntactic derivation. In contrast to prefixes and suffixes, inflectional morphemes do not change the syntactical category of their base. IR's determine the number, gender, case, tense, etc. of the words. IR's cannot interfere in the internal strukture of compounds. Further more, inflectional morphemes cannot attach to stem. Thus, stem should be from affix then it can be a word or morphem. Subsequently, it represents the structure of the IR's as the following.

1. [[[ ] +Suf] # [ ]]
[[ ] # [[ ] + Suf]]
[[ ] # [Pre + [ ]]

2. [[[ ] # [ ]] + Suf]
[Pre + [[ ] # []]

1. [[word] + Infl]

[[Word] # Infl]

[[Pre + [Word]] # Infl]

[[Word] + Suf] # Infl]

[[[Pre + [Word]] + Suf] # Infl]

2. [[[ ] # [ ]] + Suf] # Infl].

Related to forming words, it needs to illustrate the two terms, those are word and morpheme. Sudiraatmadja (2003) stated that based on the theory of generative morphology, morpheme is used as the element of forming , and word is used as the substance or base of word formation. It means word formation can be in structure or generation form as the sentence formation of Chomsky's theory of generative grammar (1966). It is also formulated by Gleason (1980) that there may be grammars describing only word formation, or only sentence formation, or going beyond the sentence level. All these maybe equally valid within their own frame of reference. This illustration refers that the structure of language or element of languge, in this case word formation has own model of generative named generative morphological model.

Based on the above explanaion, it is stated by Lyons (1969) that morphology deals with the internal structure of words and syntax with the rules governing their combination in sentences. In another word, Lyons stated that such minimal units of gramatical analysis of which words may compose, are customarily referred to as morphemes. To make deeply understand this illustration Badudu (1975) concludes that in morphological point, it discusses about how words formed from morphemes, and how is the relationship between one morpheme to another to form its word.

When we analyze words it shows that there are words not only consist of one morpheme but also consist of two morphemes. According to Nida (1949) morphemes consists of two types, those are 1) internal composition of morphemes with its types are (i) Morphemes consisting of segmental phonems, (ii) Morphemes consisting of suprasegmental phonemes, (iii) Morphemes consisting of segmental and suprasegmental phonemes. 2) Formal relationships of morphemes to each other, consists of (i) Additive morphemes, (ii) Replacive morphemes, and (iii) Substractive morphemes.

Following the theory of morphemes, Badudu (1975) may make three groups of the smalest type of words those are (i) Basic morphemes that seems as word, (ii) basic morphemes that does appear as woord, and (iii) affix does not seem as word, but it always depend on basic morphemes. Related to the expert's opinion about the types of morphemes and words, there are also suggested about the kinds of words and its forming for all languages in the world. For the kinds of word, Leech *et.al* (1982) classified the words into two kinds, those are open and closed word classes. Open class word consists of noun, verb, adjective, and adverb.

This kind of word is readily can be new word because of its formation rules of the

syntactically, i.e. in English verb *go* will be changed into *goes* for the object of the third person singular he/she. Edding *es* is the rule of English grammar. The closed words are as determiner, pronoun, preposition, conjunction, operator verb (modal), and interjection.

For the kind of forming word, It is stated by Dinneen (1967) that the form of words can be free form, combination of free, and bound form, each form has its characteristic meaning. Then, there are three ways of clssifying forms. (i) morphologically, according to composition of complex or compound forms. (ii) Syntactically, according to the distribution of simple, context, or compound forms. (iii) According to the function of the forms.

2.3 The Model of Computer Program

In operating computer for understanding language, firstly one has to know the language system based on linguistic theory. Sudiraatmadja (2003) stated that we have to know more about the language systems of sounds and phonemes before operating computer. Our knowledge about the language we made, is as very well preparation to organize this program. The computer program is an organization codes which perhaps the programmer can give instuction to the computer. These codes are as the imperative or the descriptive. Such imperative codes can be in PL/I, PASCAL, BASIC, C++ to prepare those instruction to computer. Then, description code is as LISP and PROLOG, in order to prepare the store proses and instruct for bringing the saving to the surface.

All instructions named features of command consist of addings, reducting, erasing, changing, repeating, combining, insering. Each instruction is organized based on computer job logically as known as the algorithm organization or structure. Hays (1967) said that algorithm is a complex instruction for information processing. The purpose of the computer is to carry out algorithms; to make them effecacious and convenient, the nature of algorithms has been studied intensively before. Cook (1992) stated that programming languages are codes which enable the user to give instructions to the computer.

The TRUE BASIC main program organized by John Kemeny and Thomas Kurtz is for forming words. Later, Cook (1992) states that with the commands above the user should be able to enter the system, run any program, print the program listing, print the program output, even make minor changes in the programs. The user should also acquire the beginning of aditing skills so necessary for the writing of programs.

The system commands are the commands to control language system. Those are; HELLO; this command enters the True Basic system and it is typed and entered at the DOS prompt. When HELLO command is entered, the True Basic split screen appears. On the command line the form of the True Basic prompt is OK. BYE; the BYE command exits the True Basic system.

By using all commands in the True Basic, computer progmmer is able to organize the language data of word formation. All processings of word formation in True Basic will be illuustrated in processing data analysis in research result or report.

3. Method

The method used in this project is descriptive qualitative. As the language sources from the society's field, it uses holistic or plus context term (Mahsun, 2005). It means that a language project of research always exists in multiple contexts of language elements, systems and structure, and meaning. Besides, the language data in this project analyzed by using computer program of TRUE BASIC qualitatively.

The language data in this project have been taken from the field and document of story in Suwawa language. The data of Suwawa language from the field were chosen and recorded from the key two informen of Suwawa society, those are about their experience as in their daily life in Bone Bolango Office, then one of a custom holder gave information about three Suwawa society's histories. Those were recorded and considered as the data of this project.

The data were also derived from document of poems in wedding ceremony. formal communication recorded from one. From the language data, those were listed the words and stems of Suwawa language. Those analyzed its affixes and then made those equivalent into algorithms of organization the computer program of TRUE BASIC.

3.1 The Technique of Analyzing Data

There are some steps to analyze the data;

a) Writing Suwawa Language from the speech to writen form form

b) Translating the data of Suwawa language into Indonesian

c) Organizing the unity and the coherent of the witen data

d) Storing the data of language into True Basic in HELLO command with its systems of computer program

e) Checking wrong typing then organizing the structure of each word within its affix system, stem and meaning.

f) Printing out the analysis results of words formation in Suwawa language.

g) Describing the word formation or affix, and the kinds that resulted from computer program. It is reported in a scientific writing.

4. The Research Findings and Discussion

4.1 Findings

To illustrate the finding of this research is based on three research problems stated in the previous part, those are "what affixes are included in the formation word of Suwawa language? How the word formation system in Suwawa language? How are the possibility of the word structure of Suwawa language in computer program?" From these questions, there are four parts of data analysis of Suwawa language the writer might answer to. It is combining by using computer program of True Basic to analyze. The ways the writer has

been processing are:

(i) Dividing the four data in to sixteen sub-data. The reason is because the True Basic Program only needs simple text, so one text of data has been divided in more than one text. For these facts, data I was divided in to two sub-data, data II was divided nto seven sub-data, data III was divided in to three sub-data, and data IV was divided in four sub-data (those data are in appendix).

(ii) Processing sixten sub-data in True Basic Program.

(iii) Printing the results data analysis from the True Basic process.

(iv) Classifying Suwawa language words from the simple form to complex one of the system forming words of that language. This way is followed by the steps of:

a) Determining and dividing the kinds of Suwawa language form of affix
b) Determining word structure of the languge and its kinds of Word Fomation Rules (WFRs) of that language has been found.

From the processing of the data analysis, it is found the three important things relate to the objectives of this research. It is stated systematically as follows:

a) The result of the word formation or its affixes in Suwawa language.
b) The result of the words structure of Suwawa language description from computer program of True Basic. It results the description of word formation system and the kinds of the rules of Suwawa language.

4.1.1 The Kinds of Suwawa Language Affixes.

The kinds of Suwawa language affixes derived from data analysis in computer program of True Basic and found them as they are:

a) Prefix: there are 41 prefix found in Suwawa language based on the analyzing data from the True Basic Program, those are:

o odunia ‘in this world’ bi ‘only’
u utaey ‘the vehicle used bo ‘only’
ma mamodangapo ‘will catch’ de demongodulaa ‘to the parents’
mo mogulito ‘to tell’ do dosadia ‘have prepared’
me meyinggatao ‘to arrive there lo talobanta ‘towards child’
no nootoginthopo ‘has dreamed’ po poyiguwa ‘bathroom’
ne nekakali ‘has stated long’ ta takakali ‘’who are stating’
he hepogagalumaliyo to towuudu ‘on its custom’
hi hihadiriya’has been attending’ dao daomopodembingo ‘just to apply’
ja ja do ‘no’
doo doobilo-bilogiyo ‘is being looking at’
ino inodutola ‘have refrained’
mongo mongowutato ‘many relatives’

moti motitonggo ‘to squat’
mong mongilalo ‘to imagine’
moo mootoginthopo ‘will dream’
mopo mopotayu ‘to make some will face..’
motolo motowuudu ‘doing based on custom’
nopo nopobantala ‘to adopt’
noo noobiago ‘keep care’
ogi ogitotayanga ‘is jumping to each other’
pei peipoponaga ‘ask to be done’
polo poloutiya ‘all of the things’
poo mopooligago ‘to make faster than’
poti potitayuwa ‘face to please’.
Potidalana ‘the stream to through away’
nene neneguato ‘uncontrol many times to crash into’
tanetanekakali ‘who has been stating long time’
tanotanopotugutayi ‘who have brought down’
jabi jabimopooligago ‘dosen’t mean to make someone to be in hurry’
loti lotihelumo ‘to work tohether’
tonggo tonggobeatiyo ‘
ugi ugilangga-langgata ‘the things which are in different height’

b) Infix: there is only one kind of infix found in Suwawa language, that is *–in-* ; example *pinolao*, the root of this word formation is *lao* ‘go’. It has prefix *po* then the word would be *polao* ‘go, please’ and then the word would be *pinolao* which has another meaning of ‘the thing that bring together’.

c) Suffix: the suffix in Suwawa language are 14 kinds as they are

-o lapatao ‘after that’ -ntho tiyamantho ‘our parents’
-yi ponagayi ‘conduct!’ -wo tombupuwo ‘put on one’s lap’
-iya wuudiya ‘its custom’ -ya taeya ‘put on!’
-na gigayona ‘as time goes on’ -yo tonggobeatiyo ‘to engange to’
one than more people
-niya tutuniya ‘its truth’ -lo lopobantalo ‘has adopted’
-wa inopongakuwa -mao baliniyamao ‘its meaning’
‘have been promised’
-liyo *mahepogagalumaliyo* ‘has been being worked together’
-po dangapo-modangapo ’to catch!

d) Compound formed Words: there are 17 compound formed word found in Suwawa language, those are:

ogi to do mopo
tane dao mopo

domotolo lopao
mahepo tano
motolo jabimopoo
no pao bimopoo
noo - toginthopo boma
tano - poo-wali dopo-tolimo
demongo

4.1.2 The Words Structure of Suwawa Language and Its Rules

The description from computer program of True Basic results the description of word formation system and the kind of the rules of Suwawa language. The finding of this research which is based on the above procedure found that, two parts of word formation systems of Suwawa language those are 1) the simple rule and 2) the complex rule, included the word compound rule. Compound rules consist of two forms of inflectional rule and derivational rule. Those two parts cover in five word formation rules of Suwawa language. These WFRs are as follows.

i) ***DR*** (derivation rules)

- The simple of ***DR*** is as the rule that consists of a word and its one prefix or one suffix, examples : VCVV = *udaa* 'which is big' = [u # [daa]$_{Adj}$] $_N$ = [Pre # [Word]]. (Sub-data 1.2), VCVVV = *utaea* 'that the vehicle' = [u # [tae] # a]] = ***DR***: [Pre #[Word] # Suf]]. (Sub-data 2.2).

- The complex of ***DR*** is the rule consists of a word or stem, prefix and suffix, example: CVCVCCVCVCVV = *nomomgodulaa* 'for the parents' = ***DR***: [no # [mongo # [dulaa]$_S$]$_N$] $_N$ = [Pre # [Pre # [Stem]]]. (Sub-data 1.1). the other example in sub-data 2.2): CVVCVCVCCVCVCV *doinopongakuwa* 'that has been established' = ***DR***: [do #[ino# [po# [ngaku]]]] # wa] = **[**Pre #[Pre# [Pre# [Word]]]] # Suf].

ii) ***IR*** (Inflexional rules)

- There is only one infix in Suwawa Language, that is –in-. It can be in both the simple and the complex of forming words. Example:

a) the simple of ***IR*****:** *pinolao* 'that what brought to visit' = [p # [in INF # [o #[lao]$_V$] $_V$]$_N$ = [Pre # [Inf # [+ Pre #[lao]$_V$] $_V$]$_N$. (sub-data 1.1).
b) the complex of ***IR:*** CVCVCVCCCVCVV *dotinunggulao* 'till to find the finish' = [do # [t # Inf in [nunngula] o #]]] = ***IR:*** [Pre # [Inf # [Word] # Suff]]]. (Sub-data 1.2).

iii) ***PhR*** (Phonological Restricton). It is included in ***TR*** (Truncation Rules) of ***RRs*** (Readjustment Rules)

- CVCVCVV lapatao 'after that' = [[[lapato] # o]$_N$ + a-]$_S$ # o]$_N$, derivation and adjustment = [[[word] # -B]$_N$ -A]$_S$ # Suf]$_N$. The ***TR*** of ***RRs*** found from Suwawa language are 7 rules. One of the description rule is as:
[A+[B-root]X]Y.

O a 3
0 a 3

Code A = final sound O (lapatO)$_N$,

B = previous sound o.

a = the changed sound

o = the final sound of suffix that is given up where the letter or final sound is changed by A [lapatA]$_S$).

a) o – a = in *lapato* to be *lapaitao*
b) o – iya = in *yitato* to be *yitatiya*
c) o – ayi = in *tugutu* to be *tugutayi*, *dangapo-dangapayi*, *ntawango-ntawangayi*
d) u – iya in *lumadu* to be *lumadiya*
e) p – m = in *palihara* to be *momalihara* (Indonesian language)
f) u – eyi = in *lolahu* to be *laheyi*
g) t = n = in *tolimo* to be *monolimo*

iv) ***CR*** (Compound Rules)

In Suwawa language, it is found only the positive degree rule from those both negative and positive one. Still related to ***CR*** (compound rules), there is a rule named ***PCR***s (Partial compound rules). This rule has three kinds of ***PCR***s found in Suwawa language those are: a) ***PCR***s of fisrt syllable, b) ***PCR***s of second syllable, and c) ***PCR***s of affixes as to form the word:

4.2 Discussion

4.2.1 The Kinds of Suwawa Language Affixes

4.2.1.1 DR (derivation rules)

It is found that the WFRSs of derivation in Suwawa langage. It has variation based on its form of the each word. The variations consist of 9 forms or rules:

(i) One prefix with its one root or stem. CVCVCVV nogimoo = [no # [gimoo]]$_V$ = ***DR*****:** [pre# [stem]$_S$]$_V$,
(ii) One suffix with its one root or one word. CVCVCVCV tunugiya = [tunugu] # iya]] = ***DR*****:** [Word] # Suf]], CVCVCVCV tutuniya = [tutu] # niya]] = ***DR*****:** [Word] # Suf]]. Both suffixes are iya and niya. Iya is included in phonological restriction.
(iii) One prefix, one suffix with its one root or one word. CVCVCVCCVCV nolawongayi = [no # [lawonga]yi#] v]v = ***DR*****:** [Pre # [Word] Suf #]v]v
(iv) Two prefix with one root or one word. CVCVVVCV mopoaito = [mo # [po # [aito]]] = ***DR*****:** [Pre # [Pre[# [Word]]]
(v) Two prefix with one root or one word and one suffix. CVCVCVCCVCV moposambewo =[mo #[po# [sambe]]] # wo] = ***DR*****:** [Pre #[Pre # [Word]]] #Suf]

(vi)Three prefix with one root or one word. CVCVVCVCVCVCV lopootonapato = [ta # [no #[o # [tonapato]]]] = ***DR*:** [Pre #[Pre #[Pre # [Word]]]].

(vii)Three prefix with one root or one word and one suffix. CVVCVCVCCVCVCV doinopongakuwa =[do #[ino# [po# [ngaku]]]] # wa] = ***DR*: [**Pre #[Pre# [Pre# [Word]]]] # Suf].

(viii) One prefix, three suffix, and one word. VCVCVCVCVCVCVCV olimaniyabituwa = [o # [[[[[lima] # niya]] # bi [# tu [# wa]] ***DR*:** = [Pre # [[[[[Word] # Suf]] # Suf [#Suf [#Suf]].

(ix)Five prefix and one word. CVCVCVCVVCVCCCVCV jabimopoolinggago [ja #bi #[mo #[po # [o # [ligago]]]]]] = ***DR*:** [Pre # [Pre #[Pre #[Pre # [Pre # [ligago]]]]]].

From the nine word formation rules, it is found that in Suwawa language, the words are varied in terms of verb, noun, adjectives, adverb, and stem.

4.2.1.2 IR (Inflexional rule)

This rule is the only one that has found in Suwawa language. That is *in* as in example of the word *pinolao.*

4.2.2 PhR (Phonological Restricton)

Suwawa language prefixes found in this research are derived from the data analysis with its process as in sub-data 1.1 till to sub-data 4.4. Those words are as the result of data processing from the True Basic program. To choose them are based on the needs of possibility to make and find the rules of Suwawa language word formation. Phonological restrictons stated by Sudiraatmadja (2006:17) is that "those occur on account of certain effects caused by the attachment of some morphemes to the base. There are phonological conditions in the base for certain *WFRS* to apply". In Suwawa language the phonological restricton can be seen as below.

CVCVCVV lapat<u>a</u>o = $[[[lapato]\ \#\ o]_N + a\text{-}]_S\ \#\ o]_{N,}$ this rule is as derivational rule because of the infix *o* in the word *lapato.* But because of the restriction, this word has another rule of truncation, the rule is = $[[[word]\ \#\ \text{-}B]_N\ \text{-}A]_S\ \#\ Suf]_N$. (code # is the changing of word form that put previous letter *o* contais meaning. Code + is the changing of word form that put *a* '*lapat<u>a</u>*' does not have meaning without affix of the second *o* '*lapat<u>a</u>+<u>o</u>*' (Sudiraatamaja, 2003:10, with its example of no. 11 & 18).

[A+[B-root]X]Y.

O a 3
0 a 3

Where code A = final sound O $(lapatO)_N$,
B = previous sound o.
a = the changing sound
o = final sound of suffix that has to be let it (where the final letter or sound is changed by A $[lapatA]_S$).

The word ‘lapata’ does not have meaning, but when it puts ending *o* (there is adjustment *o* to be *a*) the word has meaning ‘finish’. The word ‘lapata is restricted form ‘lapato’ with sufiks *o* then it becomes ‘lapatao’, the word meaning is ‘after that’. Thus, this word has two rules as derivation rule and phonological restriction or truncation rule.

According to Aronoff 1976 (in Sudiraatmadja, 2006 pg. 27) “TRs delete the last morpheme before affix attaches. Consistent with the point of departure, the word base hypothesis”, these rules are also in conformity with the main claim “one suffix, one rules:, or “unitary base hypothesis”. Furher more, it is sated that based on this hyphotesis *WFRS*s should operate on the base belonging to only one lexical category. Aronoff (1985) and Scalise (1986) have discussed about this relate to the inconsistency of WFRs operation *structurally* and *semantically*. *Structurally*, the appearing counterevidence can and cannot tolerate onather *WFRS*s to aply (*V+able+ity* = acceptable, *N+able+ity* = is not), and *semantically*, the operation *WFRS*s generate same meaning (-ed in study-studied) in one side, but in other side the same affix carries different meaning.

To this result of the research, it would be one format of the seven kinds below. Those rules include in ***PHRR***s phonological restriction rule or ***TR***s Trancational rules category. It is given 4 examples of operating the rules, and those are taken from the fact of Suwawa language phonological restriction.

a) o – a = in *lapato* to be *lapaitao*
b) o – iya = in *yitato* to be *yitatiya*
c) o – ayi = in *tuguto* to be *tugutayi*, *dangapo-dangapayi*, *ntawango-ntawangayi*
d) u – iya in *lumadu* to be *lumadiya*
e) p – m = in *palihara* to be *momalihara* (Indonesian language)
f) u – eyi = in *lolahu* to be *laheyi*
g) t = n = in *tolimo* to be *monolimo*

The example of the rules:

1) lapatao = lapatO + lapatAo

PHRRs or ***TR*** **:** [A+[B-root]X]Y.

O a 3
0 a 3

where code A = final sound O $(lapatO)_N$,

B = previous sound o.

a = the changing sound

o = final sound of suffix that has to be let it (where the final letter or sound is changed by A $[lapatA]_S$).

2) momalihara = moM + palihara = momalihara.

PHRRs or ***TR*** **:** [A + [B-root]X]Y = [mo*M* +[p- [palihara] $_{SV}$]XY

[A+[B-root]X]Y.

M p 3
0 m 3

where code A = final sound M (mom-)$_{Prefix}$
B = previous sound p.
P = the changing sound M
0 = final sound of suffix that has to be let it (where the final letter or sound is changed by M [moMalihara]$_V$).

3) Monolimo = moN + tolimo

PHRRs or ***TR*** **:** [A + [B-root]X]Y = [moN +[t- [tolimo]$_V$]XY
[A+[B-root]X]Y.
N t 3
0 t 3
where code A = final sound N (mon-)
B = previous sound n.
n = the changing sound t
0 = final sound of suffix that has to be let it (where the final letter or sound is changed by N [moNolimo]$_V$).

4) motugutayi = [mo # [tuguto]]$_V$ # ayi] =

PHRRs or ***TR*****:** [Pre # [Word]]$_V$ # ayi] =
[A+[B-root]X]Y.
O a 3
0 a 3

where code A = final sound O (tugutO)$_V$
B = previous sound o.
a = the changing sound o
o = final sound of suffix that has to be let it (where the final letter or sound is changed by A [tugutA]$_V$).

4.2.3. CR (Compound Rules)

Compound rules have its own forms based on each language system used by a certain society. As has been stated in the previous point, that language data of Suwawa analyzed in True Basic program, and found such this rules of ***CR.*** One of the examples of a word shows this: CVCV-CVCVV *tilo-tiloa* 'is peeping' (Sub-data 2.1). The rules suited to Scalise 1986 (in Sudiraatmadja, 2006) is as; []x, [ ]y →[[ ]x Q [ ]y]. To apply the word *tilo-tiloa* would be = [[tilo] Q [tiloa]] = ***CR*****:** [[Stem]x Q [Word]y].

Still according to Aronoff 1976 (in Sudiraatmadja (2006) there are two kinds rules related to ***CR***, those are positive and negative degree. In Suwawa language word formation found the only one of positive degree, as the example in sub-data 3.1. Others, there is ***PCR***s (Partial

compound rules) which consists of three kinds of its forms. All of the rules can be seen as follows:

i) ***CR*** of ***PD*** (Positive degree) :

CVVCVV leidaa '*the oldest biggest mant*' = $[[lei]_N$ Q $[daa]_{Adv}]$ = ***CR*** of ***PD*****:** [[word] Q [Word]].

ii) ***PCR***s (Partial compound rules): There are three kinds of ***PCR***s found in Suwawa language compared with the result of research about Suwawa language structure by Kasim *et.al* (1981).

a. ***PCR***s of fisrt syllable:

CVCVCVCVCVCVCVCVCV *mahepogagalumaliyo* 'has been being worked together', it is from the root galuma ' work together' = DR : [ma# [he # [po # [ga] Q [galuma]]]]] # liyo]. CVCVCVCVCVCVCVCVV = KD [Pre # [Pre # [Pre # [Stem] Q [word]]]] # Suf] (Sub-data 2.1).

b. ***PCR***s of second syllable:

CVCV-CVCVCVCV *pido-pidodoto* 'safe' [[pido] Q [pidodoto]] = ***CR*** of second syllable**:** [ ]x, [ ]y →[[ ]x Q []y $[[Stem]_V$ Q [Word]] $_V$ (Sub-data 2.6).

c. ***PCR***s of affixes as to form the word:

CVCVCVCVCV neneguwato 'tertambrak-tabrak' $[[ne]_{Prefix}$ Q $[ne]_{Prefix}]$ # [guwato]] = ***CR*** of affixes as to form the word**:** [ ]x, [ ]y →[[ ]x Q []y $[[Stem]_V$ Q [Word]] $_V$ nenetapado, (Sub-data 2.5).

5. Conclusions

Based on the result of analyzing *WFR*s of Suwawa language through computer in True Basic Program, it has found the variation forms of the language derivation rules as in general exist in many languages in the world. Those rules consist of simple and complex rules of derivation, inflection, and compound. The simple rules consists of a word and its one prefix or one suffix and the complex one is as a word has more than one prefix and suffix. There are five prefixes and one suffix in Suwawa language. In other side, it is found one prefix and five suffixes in this language. Besides, there are one prefix only and one suffix only, there are compounding one prefix and one suffix, two prefix , two prefix and one suffix, three prefix, three prefix and one suffix, four prefix, one prefix and three suffix, five prefix. One of the acts of the research result, there is only one infix of '*in*' in Suwawa Language.

Related to compound rules of Suwawa language, it is found only the positive degree rule from those both negative and positive one. ***PhR*** (Phonological Restricton) which is included in ***TR*** (Truncation Rules) of ***RR***s (Readjustment Rules) found seven rules; those are in concert with the facts of language data found from the field. Still related to ***CR*** (compound rules), there is a rule named ***PCR***s (Partial compound rules). This rule has three kinds of

PCRs found in Suwawa language those are: a) ***PCR***s of fisrt syllable, b) ***PCR***s of second syllable, and c) ***PCR***s of affixes as to form.

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