Research Paper

Adverbial Affixations In Toba Batak: A Study Of Generative Morphology

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ABSTRACT: *The objective of this paper is to explore adverbial affixations in Toba Batak from the viewpoint of generative morphology. The theory applied in this study is Halle's model (1973). The basic principle in generative morphology is that the process of word formation can generate actual words and potential words. According to generative morphology, the mechanism of word formations will be postulated in the list of morphemes, word formation rules, filter, and dictionary. The method of this study is qualitative descriptive; it is a method that describes language phenomena naturally without any exception or manipulation. The results reveal that there are three types of adverbs in Toba Batak which can be generated by affixation processes i.e. adverbs of manner, adverbs of frequency, and adverbs of time. Adverbial afixations for adverbs of manner are infix-um-, the suffix -an, affix combinations(-umal-, and -umar-); affixes for adverbs of frequency areprefixum-, infix-um-, and the suffix -an; affixes for adverbs of time are prefixes(maN-, nar-, nantu-, bod-,bot-, saon-, siap-), the suffix-an, affix combinations(sad-onandna-an). These affixes are attached to adverbial root words, adjectival root words, and nominal root words to generate adverbs. The grammatical functions of these affixes are to form new adverbs from adverbs, adjectives, and from nouns. Therefore, the processes of adverbials affixations in this study are both derivational andinflectional.The grammatical and lexical meanings of these affixes vary, depending on what affixes are added to the root words.If thecomplex wordscontain idiosyncratic properties of the word, they have to be put into a filter to be processed before they are put into the dictionary.*
KEYWORDS:*AdverbialAffixations, Grammatical Functions, Grammatical and Lexical Meanings, Inflectional, Derivational*

I. INTRODUCTION

Toba Batak language is one of the regional languages in Indonesia especially the most spoken in North Sumatra province. Language cannot be separated from culture. What people mean is realized in language. Therefore, linguistics and cultures are the centre of analysis in the process of translating human activities (Sembiring, 2016: 1142). In most villages in *Tano Batak* 'Batak Land' such as Samosir sub-district, Toba Samosir sub-district, Humbang Hasundutan sub-district, and Tapanuli Utara sub district Toba Batak is used in daily social interaction. A person might utter one sentence in different ways depending on where he is, with whom he is speaking to, etc. (Ambarita, 2017a: 8557). Toba Batak belongs to Austronesian spoken by 3 million people in Sumatra (Crystal, 1993: 40).

A lot of linguists have focused their study on generative morphology, such as Botha, Brekle, Coseriu, Dokulil, Erben, Fleischer, Gauger, Gruber, Hansen, Hatcher, Henzen, Kastovsky, Koziol, Lees, Ljung, Malkiel, Marchand, Morcintec, Motsch, Neuhaus, Rohrer, Stein, Weinreich, dan Zimmer (Lipka, 1975: 176). Other linguists areHalle (1973), Aronoff (1976), Scalise (1982), Loe (2018), Zainuddin (2012), Nasution (2011), Sukri (2008), Simpen (2008), Murdiyanto (2000), etc.

II. ABRIEF NOTE ON WORD FORMATIONS

Morphology is the study of morphemes and their arrangements in forming words (Haspelmath et al, 2002: 1; Anderson, 1982: 582). Morphemes as the elements of words play important roles in word formation, therefore, there are a lot of morphological issues that can be discussed, not only free morphemes but also bound morphemes (Ambarita, 2017d: 131). In other words, a base morpheme can be modified in order to form new words either derivation words or inflection words by affixation processes (Ambarita, 2017c: 131). Affixations include prefixations, infixations, suffixations, affix combinations, and multi-affixations.

2.1Theoretical Frame

According to generative morphology in Halle's model (1973), the rules of word formation would then tell us among other things how the morphemes are to be arranged in sequences to form actual words (Halle, 1973: 4). Halle suggested that morphology consists of three distinct components, they are (1) List of Morpheme (henceforth: LM), (2) Word Formation Rules (henceforth: WFR), and (3) Filter (henceforth: FILT)which contains the idiosyncratic properties of words. One can think of the morphology, then, as producing a long list of words is designated by the term dictionary(henceforth: DICT) (Halle, 1973; Aronoff, 1976, and Djardjowidjojo, 1988).

LM includes roots, stems, bases, and affixes. It is the WFR that determines how the morphemes of a language are arranged in sequences to form the actual words of that language. WFR must be able to generate all the well-formed words of a language and exclude the ill-formed ones. The words of a language, however, cannot be derived wholly by means of regular rules because there exist semantic, phonological, and lexical idiosyncrasies (Scalise, 1984: 25). Halle proposes to treat such words in FILT. The words that actually pass through the FILT constitute DICT of the language as the final component.

In reference to word formations in generative morphology (Halle, 1973: 8) there are four integrated components required, they are, LM, WFR, FILT, and DICT. However, this theory is needed to be modified to analyze data in Toba Batak. Therefore, there are two components added respectively, i.e. Orthographic Rules (henceforth: OR) and Phonological Rules (henceforth: PR). These components are placed between FILT and DICT.

This study applied qualitative descriptive method. This study is intended to describe the real phenomena of Toba Batak. This study is both documentary and field research because the data originated from written and oral sources.

2.2List of Morphemes

Parts of word formations in LMare realized as roots, stems, bases, and affixes. LM in Toba Batak are manifested in free word roots, stems, bases, and affixes, such as prefixes, infixes, suffixes, and multiple affixations (Ambarita, 2017b: 191). Apart from free word bases, affixationsare the other elements of LM. This study found that adverbial affixations in Toba Batak as the manifestations of LM include affixes i.e.*par-*, *-an*, *-umal-*, *-umar-*, *um-*, *-um-*, *maN-*, *nar-*, *nantu-*, *bod-*, *bot-, saon-*, *siap-*, *sad-on*,and *na-an.*

2.3Word Formation Rules

In this study, word formation rules (henceforth: WFR) of ADV in Toba Batak are done by modifying root words (henceforth: RW) to form adverbs (henceforth: ADV).The WFR is that adverbial affixations are attached to RW to form ADV. The root words can be adjectives (henceforth: ADJ), can be nouns (henceforth: N), and can also be ADV. The results of the WFRare both inflection words (henceforth: IW) and derivation words (henceforth: DW).

2.4Filter

FILT is the third component in generative morphology. The function of FILT is to stop and process unacceptable forms sent by WFR to FILT. FILT must check idiosyncratic properties of words, such as phonological, semantic, and lexical idiosyncrasies. Phonological idiosyncrasy, for example, can include morphophonological processes *i.e.* phoneme assimilation, phoneme deletion, phoneme addition, etc. FILT as the component of the information list must have references to each lexeme, include potential words but not non-existence words (Jackendoff, 1975: 645).

2.5 Orthographic Rules

OR are the other name for spelling rules. In other words, orthography refers to the rules for writing a language, such as a convention of spelling. The written forms of communication are probably the most problematic issue of all language learning for non-native Toba Batak speakers. In general, the orthography in Toba Batak is not complicated. Toba Batak orthography uses a set of rules that governs how speech is realized in writing. However, Toba Batak uses only twenty-six letters of the Latin alphabet.

2.6 Phonological Rules

PR is an acceptable way of pronouncing a systematic morphophonological process in a language. PR is a notation to capture sound-related operations performs when producing spoken language. PR describes how a speaker goes from the abstract representation stored in the brain to the actual sound they articulate when they speak. PR starts with the underlying representation of a sound or what the speaker actually pronounces.

2.7Dictionary

DICT is the last component in generative morphology to save all acceptable words or well-formed but not ill-formed. The well-formed are both IW and DW sent by WFR directly to DICT and also those processed by FILT and sent to DICT to be saved. All words in DICTare facilitated with their meanings and distinctive features.

III. DISCUSSIONS AND FINDINGS

Based on data analysis, there are three types of ADV in Toba Batak which can be generated by affixation processes *i.e.* ADV of manner, ADV of frequency, and ADV of time. Adverbial afixations for ADV of manner are prefix (henceforth: PREF) *par-*, infix (henceforth: INF) *-um-*, suffix (henceforth: SUF) *-an*, affix combinations (henceforth: AC) *-umal-*, and *-umar-*; affixes for ADV of frequency are PREF *um-*, INF *-um-*, and SUF *-an*; affixes for ADV of time are PREF *maN-*, *nar-*, *nantu-*, *bod-*, *bot-, saon-*, *siap-*, SUF *-an*, and AC *sad-on* and *na-an.*

The grammatical functions (henceforth: GF) of these affixes are to form new ADV from ADV, ADJ, and from N.Therefore, the processes arebothderivational andinflectional. The grammatical meanings (henceforth: GM) and the lexical meanings (henceforth: LM) of these affixes are determined by the affixes attached to RW. The following discussions deal with the processes of adverbial formation concerning IW and DW in the view of generative morphology.

3.1 Adverbs of Manner

ADV of the manner in Toba Batak can be generated by affixation processes of INF *-um-*, SUF *-an*, AC *-umal-*, and AC *-umar-* as discussed in the following parts.

3.1.1Infiks [*-um-*]

Morphological processes to form ADV are found by inserting INF [*-um-*] to RW as presented in (i). The processes of forming ADV by INF [*-um-*] are formulated as follows: [RW]ADJ/ADV + INF[*-um-*]N → [DW]ADV. Idiosyncratic properties of words are not found in the processes of forming ADV by inserting INF [*-um-*].

(i). [*humátop*]

The processes of adverbial affixation in *humatop* [*humátop*] are shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔[OR]   ↔[PR] ↔ [DICT]]
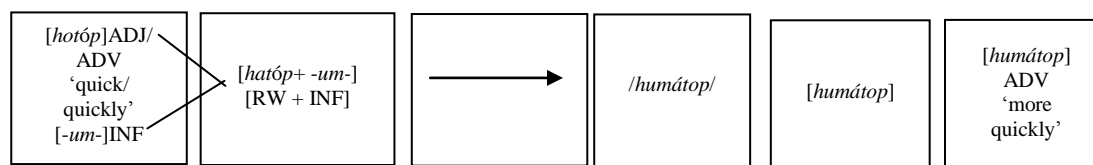
In Toba Batak ADV of manner may have the same forms as ADJ. However, they are distinguished by the context and their distribution in sentences. ADV in Toba Batak are moveable; they can take place in the front position, middle position, and back position of sentences as presented below:

(a). ADV *hatop*in front position:
*Hatop*dopardalannahujuma.
'quick(intensifier)the way he walksto the garden'.
'*Quickly*, he walks to the garden'.

(b). ADV*humatop* in middle position:
Pardalannape*humatop*dohujuma.
'the way he walksok*more quick*(intensifier)tothe garden'.
'He walks *more quickly* to the garden'.

(c). ADV in final position:
Pardalannahujumape*humatop* .
'the way he walkstothe gardenok*morequick*ly
'He walks to the garden *more quickly.*

(d) Compare with *hatop* as ADJ below
Parkarejona*hatop*doibana.

'worker who quick (intensifier)   he'.
'He is a quick worker'.

In (a) '*hatop* do pardalanna hu juma' the position of ADV is in front of the sentence. *Hatop* in Toba Batak can mean 'quick' as ADJ and can also mean 'quickly' as ADV in English. However, the grammatical category of *hatop* in Toba Batak can be distinguished clearly based on the context of the sentences where it is used. The words *hatop* in (a), (b), and in (c) all prescribe how he walks to the garden. In other words, ADV *hatop* in these contexts modifies the verb 'walk'.
The processes of combining INF [-*um*-] to ADJ/ADV [*hatóp*]is presented in the following steps.

[*humátop*]
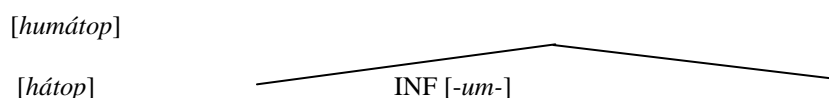
 [*hátop*]   INF [-*um*-]

The scheme describes that DW *humatop* [*humátop*] is formed from RW [*hatóp*] and INF [-*um*-] → DW[*humátop*]. The rules of forming DW [*humátop*] as an ADV of manner can be formulated as follows: [RW[*hatóp*]ADJ + INF[-*um*-]N → DW[*humátop*]ADV. The GM of DW [*humátop*] is 'to express that something is done in a higher degree than stated in RW'. The LM of DW [*humátop*] is 'more quickly'. DW [*humátop*] is the variation of[*ukkátop*] 'more quickly and [*hatopán*] 'more quickly.

3.1.2 Sufiks [-*an*]
The attachment of SUF [-*an*] to RW as shown in (ii) is the variation of PREF [*un*-] and the variation of INF [-*um*-]. The processes of forming ADV by attaching SUF[-*an*] is formulated as follows: [RW]ADV + SUF[-*an*]N → [IW]ADV. Idiosyncratic properties of words are not found in the processes of forming ADV by inserting SUF[-*an*], therefore, there is no process in FILT.
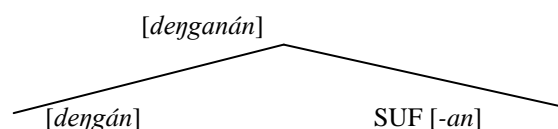
(ii). [*deŋganán*]
The processes of adverbial affixation in *degganan*[*deŋganán*] are shown in the following diagram.
[[LM] ↔[WFR] ↔[FILT]↔ [OR] ↔[PR] ↔ [DICT]]

[*deŋgán*]ADJ 'good' [-*an*]SUF	[*deŋgán*+-*an*] [RW + SUF]	→	/*deŋganán*/	[*deŋganán*]	[*deŋganán*] ADV 'better'
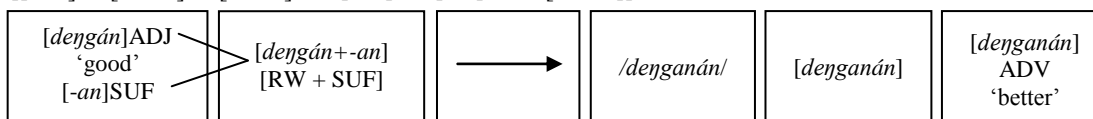
The processes of combining SUF [-*an*] to RW [*deŋgán*] 'good' as in [*deŋganán*] 'better' is the variation ofcombining PREF [*un*-] as in [*uddéŋan*] 'better' and also the variation of combiningINF [-*um*-] in [*duméŋan*] 'better'.The processes of combining SUF [-*an*] to ADJ [*deŋgán*]is presented in the following steps.

[*deŋganán*]

      [*deŋgán*]   SUF [-*an*]

The scheme above can be explained as follows.DW [*deŋganan*] is formed from RW [*deŋgán*] and SUF [-*an*] → DW[*deŋganán*]. The rules of forming DW [*deŋganán*] as an ADV of manner can be formulated as follows: [RW[*deŋgán*]ADV + SUF [-*an*]N → DW[*deŋganán*]ADV. The LM of DW [*deŋgán*] is 'to express something is done to a higher degree or more completely than stated by the RW'. The LM of DW [*deŋganán*] is 'better'.
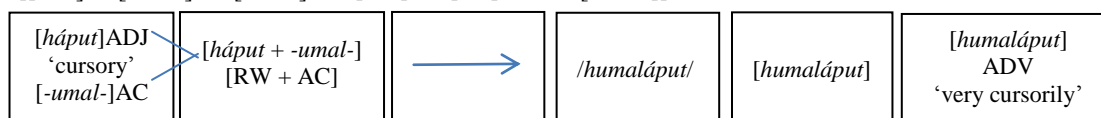
3.1.3 Affix Combinations [-*umal*-]
The GF of AC [-*umal*-] is to form ADV from ADJ RW. The GM emerged as the result of the processes is 'to express intensifier mentioned in the RW' as presented in (iii).
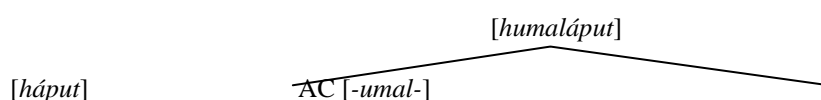
(iii). [*humaláput*]

The processes of adverbial affixation in *humalaput* [*humaláput*] is shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔ [OR] ↔[PR]   ↔   [DICT]]

[*háput*]ADJ 'cursory' [-*umal*-]AC	[*háput* + -*umal*-] [RW + AC]	→	/humaláput/	[*humaláput*]	[*humaláput*] ADV 'very cursorily'

The processes of combining AC [-*umal*-] toRW[*háput*] is presented in the following steps.

```
                          [humaláput]
                         /          \
[háput]            AC [-umal-]
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The scheme above can be explained as follows.DW [*humaláput*] is formed from RW [*háput*] as an ADJ and AC [-*umal*-] → DW[*humaláput*]. The rules of forming DW [*humaláput*] as an ADV of manner can be formulated as follows: [RW[*háput*]ADJ + AC [-*umal*-]N → DW[*humaláput*]ADV. In other words, DW [*humaláput*] consists of two morphemes, i.e. [*háput*] as free morpheme and AC [-*umal*-] as a bound morpheme. The rule of formation processes of DW [*humaláput*] can be formulated as follows: [RW[[*háput*]ADJ + AC [-*umal*-]N → DW[*humaláput*]ADV. That is to say that ADV [*humaláput*] derives from RW [*háput*] as a free form integrated with AC [-*umal*-]. The GM of DW [*humaláput*] is 'to intensify the way of doing an activity as stated in the RW'. The LM of DW [*humaláput*] is 'very cursorily'.
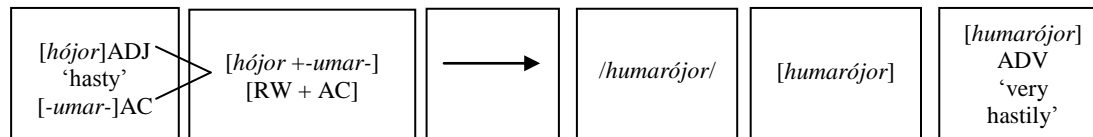
3.1.4 Affix Combinations [-*umar*-]

The GF of AC [-*umar*-] is to form ADV from ADV. The GM of AC[-*umar*-] is 'to express something in higher degree than stated in the RW' as shown in (iv).
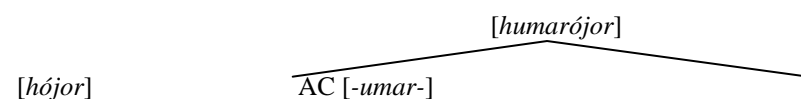
(iv). [*humarójor*]

The processes of adverbial affixation in *humarojor* [*humarójor*] is shown in the following diagram.

[[LM] ↔[WFR] ↔[FILT]↔[OR]   ↔[PR] ↔ [DICT]]

[*hójor*]ADJ 'hasty' [-*umar*-]AC	[*hójor* +-*umar*-] [RW + AC]	→	/humarójor/	[*humarójor*]	[*humarójor*] ADV 'very hastily'

The processes of combining AC [-*umal*-] toRW [*hójor*] are presented in the following steps.

```
                          [humarójor]
                         /          \
 [hójor]            AC [-umar-]
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DW [*humarójor*] is formed from RW [*hójor*] and AC [-*umal*-] → [*humarójor*]. The rules of forming DW [*humarójor*] as an ADV of manner can be formulated as follows: [RW[*hójor*]ADJ + AC [-*umal*-]N → DW[*humarójor*]ADV. DW [*humarójor*] consists of two morphemes, i.e. [*hójor*] as a free morpheme and AC [-*umal*-] as a bound morpheme. The rule of formation processes of DW [*humarójor*] can be ruled out as follows: [RW[[*hójor*]ADJ + AC [-*umal*-]N → DW[*humarójor*]ADV. In other words, ADV [*humarójor*] as DW derives from RW [*hójor*] as a free form combined with AC [-*umal*-]. The GM of DW [*humarójor*] is 'to intensify the way of doing an activity as stated in the RW'. The LM of DW [*humarójor*] is 'very hastily'.

3.2 Adverbs of Frequency

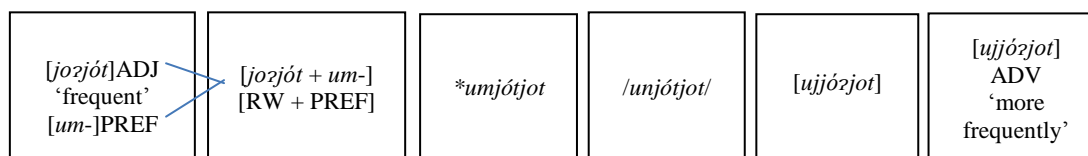ADV of frequency in Toba Batak can be generated by PREF *um*- INF -*um*-, and SUF -*an* as presented below.

3.2.1Prefiks[*um*-]

Morphological processes in Toba Batak to generate ADV from ADJis also done by attaching PREF *um*- to RW which will result in DW. The processes of adverbial formation by PREF *um*- is done by the following rule: [RW]ADJ + PREF[*um*-]N → [DW]ADV. Idiosyncratic properties of words are not found in the processes of forming new words using PREF*um*-, either phonological idiosyncracies, semantic idiosyncrasies, or lexical idiosyncrasies as presented in (v).

(v). [*ujjóʒjot*]

The processes of adverbial affixation in *unjotjot*[*ujjóʒjot*]is shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔[OR]↔[PR] ↔   [DICT]]

[*joʒjót*]ADJ 'frequent' [*um-*]PREF	[*joʒjót + um-*] [RW + PREF]	*umjótjot	/unjótjot/	[*ujjóʒjot*]	[*ujjóʒjot*] ADV 'more frequently'

Based on the diagram above, the processes of attaching PREF *um*-in DW *unjotjot*[*ujjóʒjot*]can be explained as follows.LM which consists of [*joʒjót*] as RW and [*um-*] as PREF are sent to WFR. Next, WFR formulates the rules of the formation of [*joʒjót*] + [*um-*]/*umjótjot*/. It was found that the DW *umjotjot*containsphonological idiosyncratic properties of the word, therefore, it has to be put into FILT to be processed. The result of the process in FILT isdriven to the next component, i.e. OR/*unjótjot*/ and further to PR /*ujjótjot*/ and finally put into DICT to be saved as actual word /*ujjótjot*/. Words in Toba Batak are not always spelled as they are pronounced. In other words, spelling in Toba Batak follows some basic rules.In other words, the processes of adverbial affixation ini DW [*ujjóʒjot*] is done by the following steps.
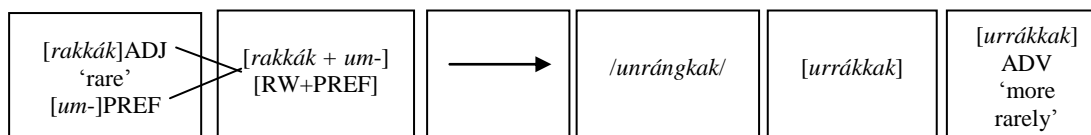
[*ujjóʒjot*]

[*jóʒjot*]   ~~PREF~~ [*um-*]
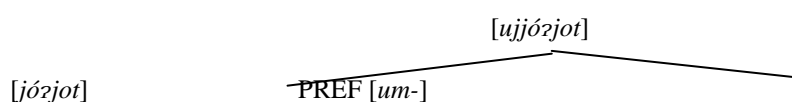
DW [*ujjóʒjot*]is formed from RW[*jóʒjot*]and PREF [*um-*] → DW[*ujjóʒjot*].The rules of forming DW [*ujjóʒjot*] as an ADV of frequency can be formulated as follows: [RW[*joʒjót*]ADV + PREF[*um-*]N → DW[*ujjóʒjot*]ADV. In Toba Batak, PREF [*um-*] has an allomorfic sound to be assimilated to sound [*un-*] if the initial phoneme of RW is [*j*], therefore, the result of the process is not *umjotjot*because this formation is ill-formed in Toba Batak. However.The GM of DW[*ujjoʒjot*]is 'to express a higher degree of ADV of frequency than stated in the RW'. The LM of DW[*ujjóʒjot*]is 'more frequently'.
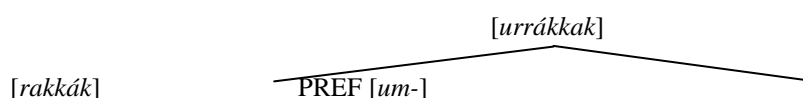
(vi). [*urrákkak*]

The processes of adverbial affixation in *unrakkak*[*urrákkak*] are shown in the followingdiagram.

[[LM] ↔[WFR] ↔ [FILT]↔ [OR]   ↔[PR] ↔   [DICT]]

[*rakkák*]ADJ 'rare' [*um-*]PREF	[*rakkák + um-*] [RW+PREF]	→	/unrángkak/	[*urrákkak*]	[*urrákkak*] ADV 'more rarely'

The process of combining PREF *um*-in DW [*urrákkak*]in (vi) is done by the following steps.

[*urrákkak*]

[*rakkák*]   PREF [*um-*]

DW [*urrákkak*]is formed from RW[*rakkák*]and PREF [*um-*] → DW[*urrákkak*].The rules of forming DW [*urrákkak*] as an adverb of frequency can be formulated as follows: [RW[*rakkák*]ADV + PREF[*um-*]N → DW[*urrakkak*]ADV. The GM of DW[*urrákkak*]is 'to express a higher quality of ADV of frequency thanstated by the RW'. The LM of DW[*urrákkak*]is 'more rarely'
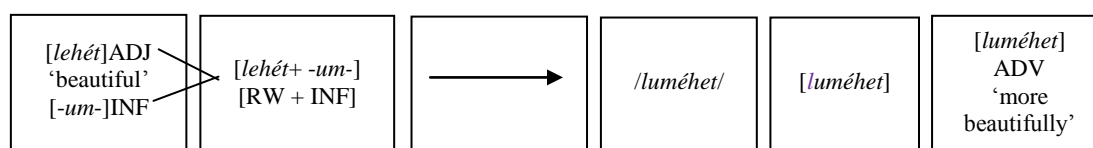.

3.2.2 Infiks [-*um-*]

Morphological processes to form ADV is also found by inserting INF [-*um-*] to RW in (vii). The processes of forming ADV by INF [-*um-*] is formulated as follows: [RW]ADJ + INF[-*um-*]N → [DW]ADV. Idiosyncratic properties of words are not found in the processes of forming ADV by inserting INF [-*um-*].
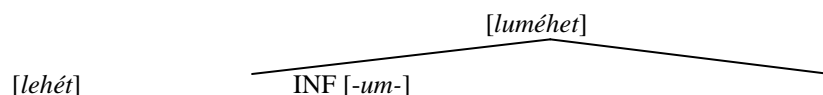
(vii). [*luméhet*]

The processes of adverbial affixation in *lumehet*[*luméhet*] are shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔ [OR]   ↔[PR]   ↔ [DICT]]

[*lehét*]ADJ 'beautiful' [-*um*-]INF	[*lehét*+ -*um*-] [RW + INF]	→	/*luméhet*/	[*luméhet*]	[*luméhet*] ADV 'more beautifully'

The processes of combining INF [-*um*-] to ADJ [*luméhet*] is presented in the following steps.

```
                              [luméhet]
                             /        \
 [lehét]              INF [-um-]
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The scheme describes that DW [*luméhet*] is formed from RW [*lehét*] and INF [-*um*-] → DW[*luméhet*]. The rules of forming DW [*luméhet*] as an ADV of manner can be formulated as follows: [RW[*lehét*]ADJ + INF[-*um*-]N → DW[*luméhet*]ADV. The GM of DW [*luméhet*] is 'to express comparative form of ADV of frequency as stated in the RW'. The LM of DW [*luméhet*] is 'more beautifully'. DW [*luméhet*] is the variation of [*ulléhet*] 'more quickly' and [*lehetán*] 'more beautifully'.
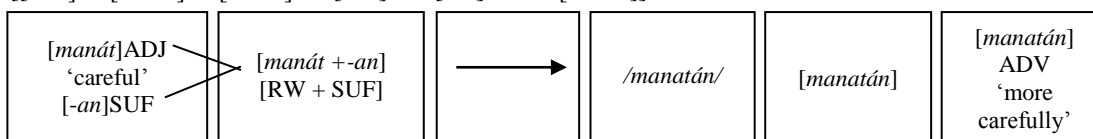
3.2.3 Sufiks [-*an*]
The processes of forming ADV by attaching SUF[-*an*] to ADJ RW presented in (viii) is formulated as follows: [RW]ADJ + SUF[-*an*]N → [DW]ADV. Idiosyncratic properties of words are not found in the processes of forming ADV by inserting SUF[-*an*], therefore, there is no process in FILT as discussed in the following.
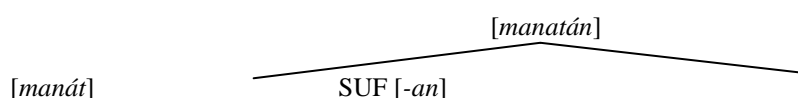(viii). [*manatán*]
The processes of adverbial affixation in *manatan*[*manatán*] is shown in the following diagram.

[[LM] ↔[WFR] ↔[FILT]↔ [OR]   ↔[PR]   ↔ [DICT]]

[*manát*]ADJ 'careful' [-*an*]SUF	[*manát* +-*an*] [RW + SUF]	→	/*manatán*/	[*manatán*]	[*manatán*] ADV 'more carefully'

The processes of combining SUF [-*an*] to RW [*manát*] 'careful' as in [*manatán*] is presented in the following steps.

```
                              [manatán]
                             /        \
 [manát]              SUF [-an]
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The scheme above can be explained as follows.DW [*manatán*]is formed from RW[*manát*]and SUF [-*an*] → DW[*manatán*]. The rules of forming DW [*manatán*] as an ADV of manner can be formulated as follows: [RW[*manát*]ADV + SUF [-*an*]N → DW[*manatán*]ADV. The GM of DW[*manatán*]is 'to express how something is done'. The LM of DW[*manatán*] is 'more carefully'.

3.3 Adverbs of Time
Based on data analysis, ADV of time in Toba Batak are generated by attaching affixes to RW i.e. ADV of time are PREF *maN*-, PREF *nar*-, PREF *nantu*-, PREF *bod*-, PREF *bot*-, PREF *saon*-, PREF *siap*-, SUF -*an*, AC *sad-on*, AC *na-an*. These affixes are attached to RW to generate ADV.
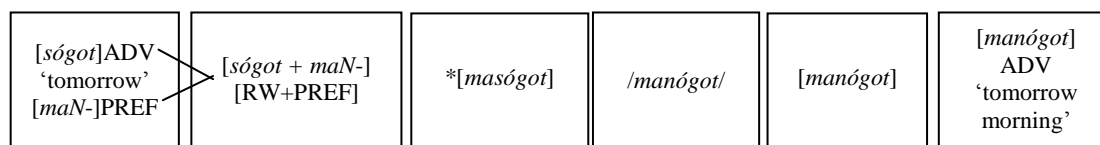
3.3.1Prefiks[*maN*-]
Morphological processes in Toba Batak to generate ADV can also be done by attaching PREF [*maN*-]to RW in data (ix). The processes of adverbial formation by PREF [*maN*-]is done by the following rule: [RW]ADV + PREF[*maN*-]N   →   [IW]ADV.   There are idiosyncratic properties of wordsespecially phonological idiosyncrasy found in forming new words using PREF [*maN*-]*,* as shown in the following diagram.
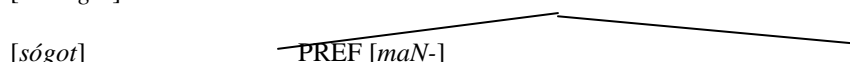
(ix). [*manógot*]
The processes of adverbial affixation in *manogot* [*manógot*] is shown in the following diagram.
[[LM] ↔[WFR] ↔ [FILT]↔ [OR] ↔[PR] ↔ [DICT]]

[*sógot*]ADV 'tomorrow' [*maN-*]PREF	[*sógot + maN-*] [RW+PREF]	*[*masógot*]	/*manógot*/	[*manógot*]	[*manógot*] ADV 'tomorrow morning'

The rule of using PREF [*maN-*] is formulated as follows: [*maN-*] → [*man-*] if the initial phoneme of RW is [*s*]; phoneme [*s*] as the initial phoneme is assimilated as illustrated below:
[*manógot*]

[*sógot*]   PREF [*maN-*]

IW[*manógot*] is formed from RW [*sógot*] and PREF [*maN-*] → IW[*manógot*]. The rules of forming IW [*manógot*] as an ADV of time can be formulated as follows: [RW[*sógot*]ADV + PREF[*maN-*]N → IW[*manógot*]ADV. The presence of the PREF *maN-* does not change the position of the word stress because PREF *maN-* is neutral affix. The GM of IW[*manógot*]is 'to express more specific ADV of timethan stated inthe RW'. The LM of IW[*manógot*]is 'tomorrowmorning'.
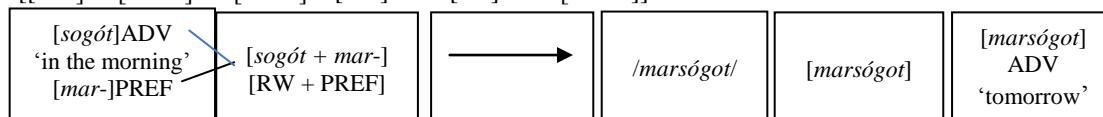
3.3.2 Prefiks[*mar-*]
PREF *mar-* can also be attached to RWto generate new ADV as displayed in data (x). The processes of adverbial formation by PREF *mar-* are done by the following rule: [RW]ADV + PREF[*mar-*]N → [IW]ADV. There is no process in FILT because idiosyncratic properties of words are not found in forming IW using PREF *mar-,* either phonological idiosyncracies, semantic idiosyncrasies, or lexical idiosyncrasies.
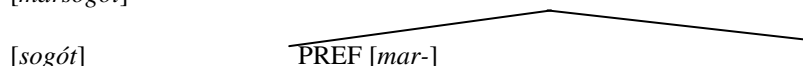
(x). [*marsógot*]
The processes of adverbial affixation in *marsogot* [*marsógot*] is shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔[OR]   ↔[PR] ↔ [DICT]]

[*sogót*]ADV 'in the morning' [*mar-*]PREF	[*sogót + mar-*] [RW + PREF]	→	/*marsógot*/	[*marsógot*]	[*marsógot*] ADV 'tomorrow'

The process of attaching PREF *mar-*in IW [*marsógot*]is done by the following steps.

[*marsógot*]

[*sogót*]   PREF [*mar-*]

According to the scheme above, IW [*marsógot*] is formed from RW [*sogót*] 'in the morning'and PREF [*mar-*] → IW[*marsógot*]. The rules of forming IW [*marsógot*] as an adverb of frequency can be formulated as follows: [RW[*sogót*]ADV + PREF[*mar-*]N → IW[*marsógot*]ADV. The stress of the word is in the second syllable of the RW [*sogót*], however, the stress changes to the first syllable of the RW as in [*marsógot*] because PREF[*mar-*] is non neutral afix.
The GM of IW [*marsógot*] is 'to express more general ADV of time as stated inthe RW'. The LM of IW [*marsógot*] is 'tomorrow'.
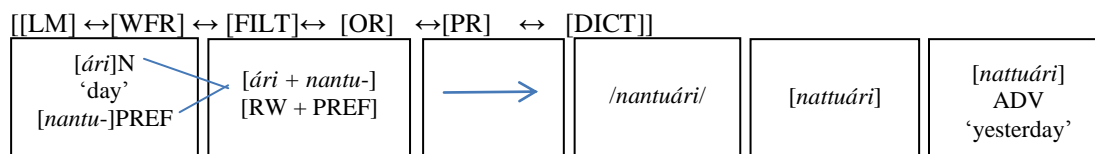
3.3.3 Prefiks[*nantu-*]
PREF *nantu-* can also be attached to RW to generate new ADV. The processes of adverbial formation by PREF *nantu-* in data (xi) is done by the following rule: [RW]N + PREF[*nantu-*]N → [DW]ADV. There is no process in FILT because idiosyncratic properties of words are not found in forming DW using PREF *nantu-,* either phonological idiosyncracies, semantic idiosyncrasies, or lexical idiosyncrasies.
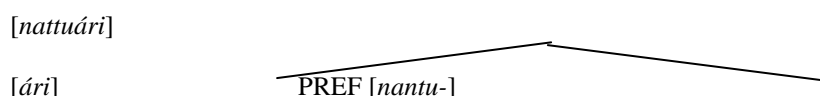
(xi). [*nantuári*]

The processes of adverbial affixation in *nantuari* [*nattuári*] is shown in the following diagram.

[[LM] ↔[WFR] ↔ [FILT]↔ [OR] ↔[PR] ↔ [DICT]]

[*ári*]N 'day' [*nantu-*]PREF	[*ári* + *nantu-*] [RW + PREF]	→	/*nantuári*/	[*nattuári*]	[*nattuári*] ADV 'yesterday'

The process of attaching PREF *nantu-*in IW [*nattuári*]is done by the following steps.

[*nattuári*]

[*ári*]　　　　　　PREF [*nantu-*]

According to the scheme above, DW [*nattuári*] is formed from RW [*ári*] 'day'and PREF [*nantu-*] → DW[*nattuári*]. The rules of forming DW [*nattuári*] as an ADV of time can be formulated as follows: [RW[*ári*]N + PREF[*nantu-*]N → DW[*nattuári*]ADV. The GM of DW [*nattuári*] is 'to express more specific part of ADV of time than stated in the RW'. The LM of DW [*nattuári*] is 'yesterday'.

Orthographically, the word is written as /*nantuári*/ and phonologically it is written as [*nattuári*]. In Toba Batak, if alveolar nasal voiced consonant [*n*] precedes sound [*t*], sound [*n*] is assimilated and it is pronounced as alveolar plosive voiceless consonant [*t*]. Therefore, the word *nantuari* is pronounced as [*nattuári*] with doubled [-*t*-] or [-*tt*-]. Other examples are: *untabo* [*uttábo*] 'more deliciously', *untiur* [*uttíur*] 'more clearly', *untonggi* [*uttóŋgi*] more sweetly', etc.
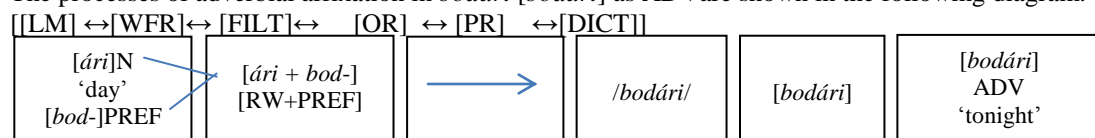
3.3.4Prefiks [*bod-*]

The processes of adverbial formation by PREF *bod-*in data (xii) is done by the following rule: [RW]N + PREF[*bod-*]N → [DW]ADV. There is no idiosyncratic properties of words found in forming new DW in using PREF *bod-,* either phonological idiosyncracies, semantic idiosyncrasies, or lexical idiosyncrasies.

The GF of PREF *bod-* is to form a new ADV from N. Whereas, the GM emerging as the result of the attachment of PREF *bod-*to RW is to express a more specific ADV of time than stated in the RW.

(xii). [*bodári*]

The processes of adverbial affixation in *bodari* [*bodári*] as ADVare shown in the following diagram.

[[LM] ↔[WFR]↔ [FILT]↔ [OR] ↔ [PR] ↔[DICT]]

[*ári*]N 'day' [*bod-*]PREF	[*ári* + *bod-*] [RW+PREF]	→	/*bodári*/	[*bodári*]	[*bodári*] ADV 'tonight'

The process of attaching PREF *bod-*in DW *bodari* is done by the following steps.

[*bodári*]
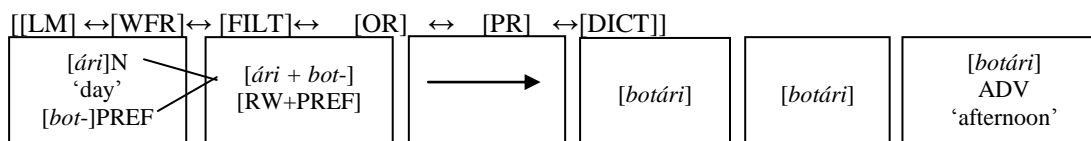
[*ári*]　　　　　　PREF [*bod-*]
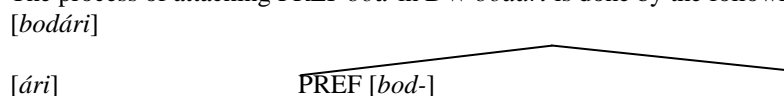
The scheme above can be explained as follows.DW [*bodári*] is formed from RW [*ári*] and PREF [*bod-*] → DW[*bodári*]. The rules of forming DW [*bodári*] as an ADV of time can be formulated as follows: [RW[*ári*]N + PREF[*bod-*]N → DW[*bodári*]ADV. The GM of DW [*bodári*] is 'to express more specific ADV of time than stated in the RW'. The LM of DW [*bodári*] is 'tonight'.

3.3.4 Prefiks [*bot-*]

In data (xiii) the processes of adverbial formation by PREF *bot-*are done by the following rule: [RW]N + PREF[*bot-*]N → [DW]ADV. There are no idiosyncratic properties of words found in forming new DW in using PREF *bot-,* either phonological idiosyncracies, semantic idiosyncrasies, or lexical idiosyncrasies. The GF of PREF *bot-* is to form a new ADV from N. Whereas, the GM emerging as the result of the attachment of PREF *bot-*to RW is to express a more specific ADV of time than stated in the RW.
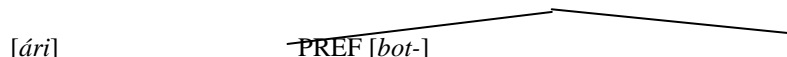
(xiii). [*botári*]
The processes of adverbial affixation in *bodari* [*bodari*] as ADVis shown in the following diagram.

[[LM] ↔[WFR]↔ [FILT]↔ [OR] ↔ [PR] ↔[DICT]]

[*ári*]N 'day' [*bot-*]PREF	[*ári + bot-*] [RW+PREF]	→	[*botári*]	[*botári*]	[*botári*] ADV 'afternoon'

The process of attaching PREF *bot-*in DW *botari* is done by the following steps.

[*botári*]

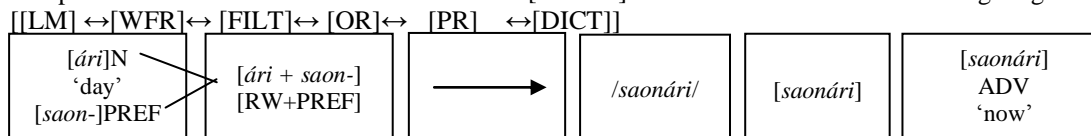[*ári*]   ~~PREF~~ [*bot-*]

        The scheme above can be explained as follows.DW [*botári*] is formed from RW [*ári*] and PREF [*bot-*] → DW[*botári*]. The rules of forming DW [*botári*] as an ADV of time can be formulated as follows: [RW[*ári*]N + PREF[*bot-*]N → DW[*botári*]ADV. The GM of DW [*botári*] is 'to express more specific ADV of time than stated in the RW'. The LM of DW [*botári*] is 'afternoon'.

3.3.5 Prefiks [*saon-*]
The processes of adverbial formation by PREF *saon-* in data (xiv) is done by the following rule: [RW]N + PREF[*saon-*]N → [DW]ADV. The GF of PREF *saon-* is to form a new ADV from N. Whereas, the GM emerging as the result of the attachment of PREF *par-* to RW is to express a more specific ADV of time than stated in the RW.

(xiv). [*saonári*]
The processes of adverbial affixation in *saonari* [*saonári*] as ADVis shown in the following diagram.

[[LM] ↔[WFR]↔ [FILT]↔ [OR]↔ [PR] ↔[DICT]]

[*ári*]N 'day' [*saon-*]PREF	[*ári + saon-*] [RW+PREF]	→	/*saonári*/	[*saonári*]	[*saonári*] ADV 'now'

The process of attaching PREF *saon-*in DW *saonari*is done by the following steps.

[*saonári*]

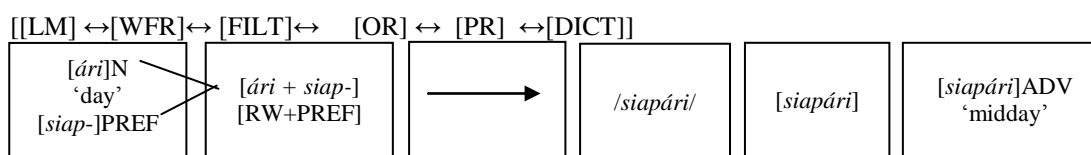[*ári*]   ~~PREF~~ [*saon-*]

        The scheme above can be explained as follows.DW [*saonári*] is formed from RW [*ari*] 'day'and PREF [*saon-*] → DW[*saonári*]. The rules of forming DW [*saonári*] as an ADV of time can be formulated as follows: [RW[*ári*]N + PREF[*saon-*]N → DW[*saonári*]ADV. The GM of DW [*saonári*] is 'to express more specific ADV of time than stated in the RW'. The LM of DW [*saonári*] is 'now'.

3.3.6Prefiks [*siap-*]
The processes of adverbial formation by PREF *siap-* is done by the following rule: [RW]N + PREF[*siap-*]N → [DW]ADV. The GF of PREF *siap-* is to form new ADV from N. Whereas, the GM emerging as the result of the attachment of PREF *siap-* to RW is 'to express a more specific ADV of time than stated in the RW' as shown in (xv)..
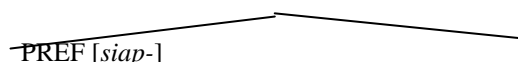
(xv). [*siapári*]
The processes of adverbial affixation in *siapari* [*siapari*] as ADVare shown in the following diagram.

[[LM] ↔[WFR]↔ [FILT]↔ [OR] ↔ [PR] ↔[DICT]]

[*ári*]N 'day' [*siap-*]PREF	[*ári + siap-*] [RW+PREF]	→	/*siapári*/	[*siapári*]	[*siapári*]ADV 'midday'

The process of attaching PREF *saon-*in DW *siapari*is done by the following steps.

[*siapári*]

[*ári*]   PREF [*siap-*]

       The scheme above can be explained as follows.DW [*siapári*] is formed from RW [*ári*] 'day'and PREF [*siap-*] → DW[*siapári*]. The rules of forming DW [*siapári*] as an ADV of time can be formulated as follows: [RW[*ári*]N + PREF[*siap-*]N → DW[*siapari*]ADV. The GM of DW [*siapári*] is 'to express more specific ADV of time than stated in the RW'. The LM of DW [*siapári*] is 'midday'.

3.3.7 Sufiks [-*an*]
The processes of attaching SUF [-*an*] to RW are formulated as follows: [RW]N + SUF[-*an*]N → [DW]ADV. Idiosyncratic properties of words are not found in the processes of forming ADV by inserting SUF[-*an*], therefore, there is no process in FILT as presented below.
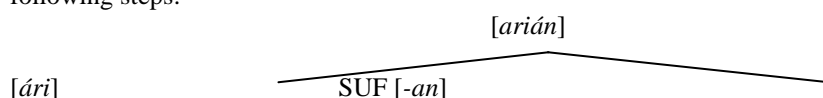(xvi). [*arián*]
The processes of adverbial affixation in *arian* [*arián*]in (xvi) are shown in the following diagram.

[[LM] ↔[WFR] ↔[FILT]↔   [OR] ↔[PR] ↔ [DICT]]

[*ári*]N 'day' [-*an*]SUF	[*ári+-an*] [RW + SUF]	→	/*arián* /	[*arián*]	[*arián*] ADV 'daylight'
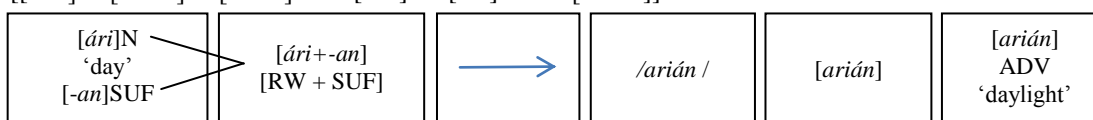
       The processes of combining SUF [-*an*] to RW [*ari*] 'day' as in [*arián*] 'daylight' is presented in the following steps.

[*arián*]

[*ári*]   SUF [-*an*]

       The scheme above can be explained as follows.DW [*arián*] is formed from RW [*ári*] 'day' and SUF [-*an*] → DW[*arián*]. The rules of forming DW [*arián*] as an ADV of time can be formulated as follows: [RW[*ári*]N + SUF [-*an*]N → DW[*arián*]ADV. The GM of DW [*arián*] is 'to express more specific ADV of time than stated by the RW'. The LM of DW [*arián*] is 'daylight'.
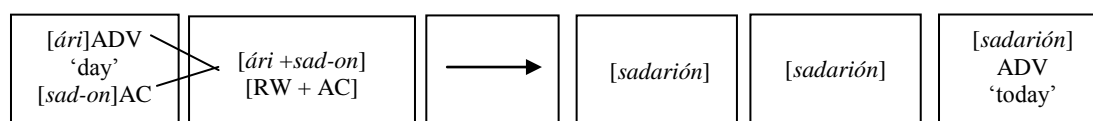
3.3.8 Affix Combinations [*sad-on*]
The GF of AC [*sad-on*] is to form ADV fromN. The GM of AC [*sad-on*] is to express something more specific than stated in the RW as presented (xvi).

(xvi). [*sadarión*]
       The processes of adverbial affixation in *sadarion* [*sadarión*] is shown in the following diagram.
[[LM] ↔[WFR] ↔[FILT]↔   [OR]   ↔ [PR] ↔   [DICT]]

[*ári*]ADV 'day' [*sad-on*]AC	[*ári +sad-on*] [RW + AC]	→	[*sadarión*]	[*sadarión*]	[*sadarión*] ADV 'today'

       The processes of combining AC [*sad-on*] toRW [*ari*] is presented in the following steps.

[*sadarión*]

[*ári*]   AC [*sad-on*]

DW [*sadarión*] is formed from RW [*ari*] 'day' andAC [*sad-on*] → [*sadarión*]. The rules of forming DW [*sadarión*] as an ADV of time can be formulated as follows: [RW[*ári*]N + AC [*sad-on*]N → DW[*sadarión*]ADV. DW [*sadarión*] consists of two morphemes, i.e. [*ari*] as a free morpheme and AC [*sad-on*] as a bound morpheme. The rule of formation processes of DW [*sadarión*] can be ruled out as follows: [RW[[*ári*]ADV + AC [*sad-on*]N → DW[*sadarión*]ADV. In other words, ADV [*sadarión*] as DW derives from RW [*ári*] as a free form combined with AC [*sad-on*]. The GM of DW [*sadarión*] is 'to express more specific ADV of time than stated in the RW'. The LM of DW [*sadarión*] is 'today'.
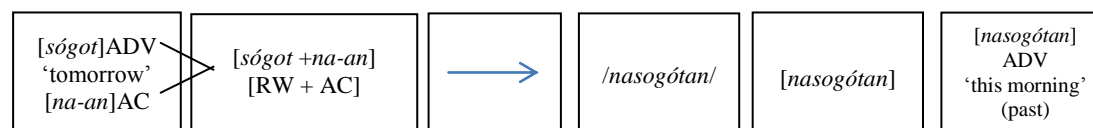
3.3.9 Affix Combinations [*na-an*]

The GF of AC [*na-an*] is to form ADV from ADV. The GM of AC [*na-an*] is 'to express something more specific than stated in the RW' as presented in (xvii).
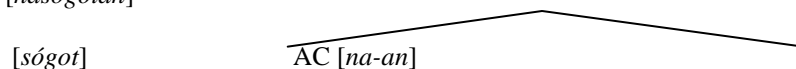
(xvii). [*nasogótan*]

The processes of adverbial affixation in *nasogotan* [*nasogótan*] are shown in the following diagram.

[[LM] ↔[WFR] ↔[FILT]↔ [OR]   ↔ [PR] ↔ [DICT]]

| [*sógot*]ADV 'tomorrow' [*na-an*]AC | [*sógot* +*na-an*] [RW + AC] | → | /nasogótan/ | [*nasogótan*] | [*nasogótan*] ADV 'this morning' (past) |

The processes of combining AC [*na-an*] toRW [*sógot*] is presented in the following steps.

[*nasogótan*]

 [*sógot*]   AC [*na-an*]

IW [*nasogótan*] is formed from RW [*sógot*] 'tomorrow' andAC [*na-an*] → [*nasogótan*]. The rules of forming IW [*nasogótan*] as an ADV of time can be formulated as follows: [RW[*sógot*]ADV + AC [*na-an*]N → IW[*nasogótan*]ADV. IW [*nasogótan*] consists of two morphemes, i.e. [*sógot*] as a free morpheme and AC [*na-an*] as a bound morpheme. The rule of formation processes of IW [*nasogótan*] can be ruled out as follows: [RW[[*sogot*]ADV + AC [*na-an*]N → IW[*nasogótan*]ADV. In other words, ADV [*nasogótan*] as IW derives from RW [*sógot*] as a free form combined with AC [*na-an*]. The GM of IW [*nasogótan*]is 'to express more specific ADV of time than stated in the RW'. The LM of IW [*nasogótan*] is 'this morning'.

IV. CONCLUSIONS

The results show that there are three types of ADVin Toba Batak which can be generated by affixation processes i.e. ADV of manner, ADV of frequency, and ADV of time.Adverbial afixations for ADV of manner are INF -*um*-, SUF -*an*, AC (-*umal*-, and -*umar*-); affixes for ADV of frequency are PREF *um*-, INF -*um*-, and SUF -*an*; affixes for ADV of time are PREF (*maN*-, *nar*-, *nantu*-, *bod*-, *bot*-, *saon*-, *siap*-), SUF -*an*, AC (*sad-on* and *na-an*).ADJ, ADV, and N are modified by attaching these adverbial affixations to RW. The GF of these affixes are to form bothIW and DW. In so doing, the processes of adverbial affixations in this study areboth inflectional and derivational. The GM and LM of these affixes vary, depending on what affixes are attached to the RW. If the IWor DW contains idiosyncratic properties of words, they have to be put into FILT to be processed before they aresaved in DICT.

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