kansas
working
papers
in
linguistics

volume 6
1981

edited by

Hiroshi Nara and Hope Goldman

Articles

THE SEMANTIC STRUCTURE OF VERBAL REDUPLICATION:
A Case Study of Reduplication in Amharic,
Hindi, Malay, Salish and Siroi*

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Abstract: The aim of this paper is to investigate the
various semantic properties of verbal reduplication in
five languages, namely: Amharic, Hindi, Malay, Salish
Dialects and Siroi[1] using Chafe's model as proposed and
developed in his Meaning and the Structure of Language
(1970). In consideration of the "naturalness" of
reduplication, it is hypothesized that the semantic
properties of this process may be generalized into a set
of universal semantic properties, within which all the
reduplicative functions in any given language may be
categorized.[2]

Introduction

'Nothing is more natural than the prevalence of reduplication, in
other words, the repetition of all or parts of the radical element.'
(Sapir 1921:79). This naturalness which Sapir observed is reflected in
the existence of some type of reduplication in many, perhaps most,
languages. In some languages the process is still productive, while in
others only relics of its past manifestations may be observed. It is a
characteristic feature of pidgins and creoles as a whole, in which total or
partial repetition of a word is used to denote intensity or plurality
(Bynon 1978:260). If reduplication is a natural phenomenon in language then
it may be assumed that the function of this morphological process would show
some universal semantic properties linked to the process and to the human
mind that develop it. In other words, if we find a manifestation of
reduplication in a language, we ought to be able to predict that its
function is one of a set of specific functions.

Studies on reduplication in various languages have proposed various
functions expressed by this process. Morris Swadesh (1971:144) includes the
following as possible functions: repetition, continuation, scattered
distribution in space, plurality, extension or continuity in space,
intensiveness, large size and adjectival or generic quality. This list
could be further extended to include dimunitivization as exemplified in
Salish, reciprocality in Amharic, Malay and simultaneity in Hindi. Some of
the functions listed above share basic semantic properties which could be
used as determinants in grouping them into fewer semantic categories.
Rosen (1977) in her study of the functions of reduplication in Indonesian,
claims that in Indonesian, reduplication has three basic semantic functions:
(1) distributive force or indefiniteness (2) simile, and (3) intensiveness.
In defining the three functions Rosen says (1977:1):

Distributive force involves cases in which the goal of the verb is not definite, and indefinite pronouns like 'someone' and 'anyone' which do not refer to a specific person. Simile involves cases in which the verb means 'to be like something' or to 'pretend to be like something' which contain the idea that the subject is not really the something referred to. Intensiveness includes cases that convey the idea of approaching a limit.

This study will basically be limited to the discussion of reduplication of verbs, adverbs and adjectives, which according to Chafe's model are grouped under the label verbals, considered as playing a central role in the description of all natural languages. In the model they are considered elements under the node V differing only in that adverbs and adjectives predicate states whereas verbs predicate events. The following discussion will present instances of reduplication of verbs, adverbs and adjectives in each of the five languages, followed by a semantic specification for each category. Finally, a specific set of semantic features adequate for the description of the verbals will be proposed.

Reduplication of Verbs

Of the five languages studied only Hindi does not have instances of the verb-reduplication.[3] Amharic, Malay, Siroi and some of the Salish dialects show instances of the reduplicative process in verbs. Examples:

Amharic

(1)	məngər	'to tell'	mənəgagər	'to tell bit by bit'
(2)	məfəlləg	'to look for'	məfəlaləg	'to look here and there for'
(3)	məngər	'to tell'	mənnəgagər	'to discuss'
(4)	məfəlləg	'to look for'	məffəlaləg	'to look for each other repeatedly'
(5)	sibbir	'he broke completely'	sibirbirr	'he smashed (broke into pieces)'
(6)	minzirr adərrəgə	'he changed money completely'	minzirzirr adərrəgə	'he changed all his money'

(Hodge, 1964:367-370)

In the above examples, the reduplication exemplified in (1)-(4) basically takes the form of left-copying the penultimate consonant of the non-reduplicated word plus /a/. In examples (5) and (6) the final syllable is reduplicated. Semantically, (1) and (2) indicate a fracturing of the process of the action or give a reiterative character to the verb. (3) and (4) on the other hand, indicate reciprocity.

Amharic has two reciprocal forms, which are used interchangeably by native speakers. The first type of reciprocal verb (not shown in (1)-(6)) copies the final consonant of the first syllable plus /a/, and does not signal the repetition of the action nor that it involves more than two persons. In the second type of reciprocal verb, called 'reduplicated reciprocal' (seen in (3) and (4)) we have 'double reduplication,' copying of

the final consonant of the first syllable plus /ə/ and the copying of the following consonant plus /a/.[4] Semantically, this type of reduplication emphasizes that the action is performed repeatedly or that more than two persons are involved in the performance of the action. Examples:

	Basic form	Simple Recip.	Red. Recip.
(7)	məfəlləg 'to look for'	məffal 'to look for each other'	məffəlal 'to look for each other repeatedly'
(8)	məkfəl 'to divide'	məkkafəl 'to share'	məkkəfafəl 'to be divided among several persons'
(9)	məmənzər 'to change'	məmmənazər 'to exchange'	məmmənəzazər 'to exchange repeatedly' (Hodge, 1964:370)

(5) and (6) are examples of two types of intensive aspects in Amharic, the 'intensive aspect' and the 'reduplicated intensive aspect.' The latter appears to denote a higher degree of intensity by specifying the distributiveness of the objects of the action as in example (5).

Malay

(10)	pukul	'to hit'	memukul-mukul	'to hit repeatedly'
(11)	cari	'to look for'	mencari-cari	'to keep on looking'
(12)	pukul	'to hit'	pukul-memukul	'to hit each other'
(13)	cari	'to look for'	cari-mencari	'to look for each other'
(14)	jalan	'to walk'	(ber)jalan-jalan	'to walk aimlessly'
(15)	duduk	'to sit'	duduk-duduk	'to sit around aimlessly' (Omar, 1975:185-224)

The above examples of verb-reduplication in Malay show three distinct but related processes, (a) right-copying of the stem minus the prefix men- as in (10) and (11)[5], (b) right-copying of the stem plus the prefix men- as in (12) and (13) and (c) complete copying of the stem as in (14) and (15). Semantically, (10) and (11) imply repeated or continuous action: (12) and (13) imply reciprocity, which requires a plural subject while (14) and (15) imply aimlessness of action.

Salish (Kalispelm)[6]

(16)	seu	'to ask'	susunu'ł	'one who likes to ask questions'
(17)	kai	'to write'	kaikaimu'ł	'one who writes much'
(18)	pols	'to kill'	popolsemu'ł	'one who especially kills animals'
(19)	pog	'to scatter'	pgo'g	'it got scattered'
(20)	lich	'to bind'	lchi'ch	'it becomes bound' (Haeberlin, 1918:162)

The above examples of reduplication from Kalispelm, one of the Salish dialects, reported by Haeberlin (1918:162), show two types of reduplication namely a 'left-hand'[7] reduplication as exemplified in examples (16)-(18) and end-reduplication i.e. the repeating of the last consonant of the stem together with the metathesis of the final consonant with the preceding vowel, as exemplified in (19) and (20).

In (16) to (18) the suffix -uɫ denotes 'the person who does something.' Literally, the reduplicative meaning for the three examples can be generalized as 'one who V and V.' Thus (16) could be literally read as 'one who asks and asks questions' and (17) could be translated as 'one who writes and writes.' If this inferrence is correct then it falls into the category of repeated or continuative action present in both Amharic and Malay discussed earlier.

(19) and (20) according to Haeberlin 'express the passing from one state into another' (pg.163). The two examples imply that the patient is already in the state expressed by the stative verb. But it also indicates that prior to the completive state expressed by the stative verb the patient did undergo a process of 'movement' from one state 'unscattered,' or 'unbound' to the state of being 'scattered' or 'bound.' This process may be termed as continuative or progressive. In the following examples the movement is still in progress.

| (21) | guika | 'to dress'(?) | guikuku | 'it is being dressed.' |
| (22) | ntok | 'to conceive'(?) | chines-ntkokomi | 'I am being conceived' (Haeberlin, 1918:163) |

Siroi[9]

(23)	bari	'to roll'	bari-bari	'to roll and roll'
(24)	buru	'to jerk'	buru-buru	'to shake'
(25)	ful.	'to graze'	ful-ful	'to scrape'
(26)	kiny-et	kiny-et-ng-ate		
	sleep-1s.pr.	sleep-1s.pr-cm-3s.pr.		
	'He is pretending to sleep'			
(27)	malmbi-k-et	malmbi-k-et-ng-ate		
	cry-cm-1s.pr.	cry-cm-1s.pr.-cm-3s.pr.		
	'He is pretending to cry'			

(Wells, 1979:36)

The morphological process of reduplication in the above examples is quite simple; basically it is just the complete copying of the root of the verb. Semantically, (23) to (25) signify "plurality or intensification of an action" (Wells, 1979:36) while (26) and (27) according to Wells, signify "pretence."

The analysis of the verb-reduplication in the four languages reveals a variety of reduplicative processes, ranging from the complete reduplication of the verb root to partial reduplication involving copying of a single consonant, metathesis and double reduplication as seen in the

Kalispelm and Amharic examples. In terms of semantic properties or functions there appear to be less divergence. Some appear to exhibit purely the semantic feature of repetition or continuity as in examples (1) and (2) in Amharic, (10) and (11) in Malay, (16) to (20) in Kalispelm, (23), (24) and (25) in Siroi. All the reduplicated verbs which reflect this semantic property are clearly action verbs, expressing an activity, i.e. something that someone does and by definition they must be accompanied by agents. In others, semantic features such as reciprocity (3), (4), (7), (8), (9), (12), (13) and aimlessness of action (14) and (15) occur in conjunction with the repetitive or continuative feature.

Amharic and Malay exhibit the semantic feature reciprocity, absent in at least one of the four languages.[10] In both languages reciprocity manifested through reduplication also denote repeated action and plurality of agent. More interestingly, as discussed earlier, Amharic has two types of reduplicative reciprocity, namely, 'simple reciprocity' in which the plurality of action or agent is not emphasized and 'reduplicative reciprocity' in which plurality of action and/or subject is emphasized as shown in examples (7) (8) and (9). It can thus be generalized that the semantic feature 'reciprocity' is accompanied by the feature 'repetition or continuity' of action, not vice versa. The agents of reduplicative verbs with these semantic features will have to be specified in terms of plurality. Language-specific semantic rules as required in Amharic, to account for the 'reduplicative reciprocity' will also have to be specified.

So far all our examples exhibit repetition and/or continuity of action. We are left with examples (5) and (6) in Amharic which Hodge describes as expressing "intensive aspect" (Hodge 1964:48), (14) and (15) in Malay which express "aimlessness of action" and finally (26) and (27) in Siroi which indicate "pretence."[11]

For reasons which will be made obvious later only, we will first discuss the Malay and Siroi examples which imply the meaning of 'aimlessness of action" and "pretence" respectively. The meaning of "aimlessness of action" in the Malay examples and the meaning of "pretence" in the Siroi examples share one common semantic feature which until another suitable term is found will be labeled $\underline{/\text{-intent}/}$. Briefly this selectional unit denotes an action is done without a serious goal or intent. The duration of the action involved in the process makes it plausible for us to categorize this type of verb-reduplication under the major semantic feature of repetition or continuity. The semantic feature of $\underline{/\text{-intent}/}$ will have to be added to the major semantic feature of repetition or continuity to account for reduplication of this type.

The Amharic examples which express intensiveness of action do not appear to have the semantic feature of repetition or continuity of action. This feature is not shared by the four languages studied in this paper. There are, however, languages which exhibit this feature in reduplicated verbs. Fox (1978) reports that Big Nambas, a language spoken in the New Hebrides has this characteristic of reduplicated verbs (Example (28)). It is also present in Bardi, a language in Northwestern Australia, reported by Metcalfe (1975) as shown in example (29).

(28)a.　i - <u>tr</u> - nas
　　　　he　cut　banana
　　　　'He cut the banana.'

　　b.　i - <u>trtr</u> nina
　　　　he cut-cut **grass**
　　　　'He was cutting the grass vigorously.'

(29)　<u>yar-yar</u> in du-na-na
　　　paddle-paddle he - ∅ - duration - did
　　　'He kept on paddling hard.'

The above examples indicate continuity of action, contrary to the Amharic examples which do not. It appears that in case of Amharic, examples (5) and (6), the semantic feature intensiveness is not dominated by the feature continuousness as in Big Nambas and Bardi, and as such has to be treated as an exception of some action-process verbs in the language probably having only "intensiveness" as a major selectional unit.

According to the model chosen in this study the verb is the central element around which the sentence is built. Chafe contents that the verb is always present, although it may in some instances be deleted before a surface structure is reached. He asserts that:

> ... the nature of the verb determines what the rest of the sentence will be like, in particular, that it determines what nouns will accompany it, what relations of these nouns to it will be and how these nouns will be semantically specified ... (1970:97).

The predicative elements (verbs) and nominal elements (nouns) may be semantically specified in terms of (1) selectional units, (2) derivational units, and (3) inflectional units. The role of a selectional unit, such as <u>state</u>, <u>action</u>, <u>process</u>, <u>potent</u>, etc. is to narrow the conceptual field until finally a lexical unit or a verb root such as <u>dance</u>, <u>die</u>, etc. is chosen as the narrowest concept of all. A derivational unit converts a particular verb or noun root, with certain intrinsic properties, into a derived lexical unit with different properties. Inflectional units are considered as semantic units because they add some meaning to the verb or noun, but they cannot be predicted given a lexical unit. In other words, given a lexical unit, such as <u>bring</u> the selectional units for it can be predicted (e.g. action, process, benefactive, etc). But, the presence or absence of inflectional unit <u>past</u> does not determine in any way the choice of the lexical unit nor does the presence of the lexical unit such as <u>buy</u> say anything about whether or not <u>past</u> is present. It is because of this difference in function that selectional units are written above the line and the inflectional units written below it as in the following example:[12]

\

Sentence: Bob <u>has sung</u>

(30)
   V
   action
   <u>sing</u>
   generic
   perfective

If a derivational unit obtains in a verb, as in the sentence <u>the door has opened</u> (process verb) derived from <u>the door is open</u> (state verb), a derivational unit is indicated in the following manner:

Sentence: The door <u>has opened</u>

(31)
   V
   process
   <u>open + inchoative</u>
   perfective

The semantic features of verb-reduplication discussed above are repetition or continuation, reciprocity, reciprocity with emphasis or repetition (as in the case of Amharic examples (7), (8) and (9)) and aimlessness. The feature that seems to be common among the four languages is repetition or continuity which Rosen calls "distributive force" or "diffuseness." However, these terms are rather too encompassing because they cover reciprocity, aimlessness of action (without intention) in Indonesian and presumably other semantic features of reduplication if we were to use them for reduplication in other languages. It is necessary in a satisfactory description of reduplication in any language to have a more detailed semantic specification of the verbs or nouns. A term such as "distributive force" or "diffuseness" alone would not be able to differentiate reduplication indicating mere repetition of action, from repetition with reciprocity or from repetition of action without any intention.

In providing the semantic specification of reduplication for the languages studied in this project, it is assumed that reduplication in these languages share some common selectional units which are then followed by language specific selectional and inflectional units that are properties idiosyncratic to some languages.

Most of the reduplicated verbs in the four languages belong to the action-process class, i.e. verbs that require an agent and a patient. Another selectional feature which they share is the semantic property of repetition or continuity, and for this we will use the term <u>continuous</u>. These selectional features may be formalized as follows:

(32) V
   action-process
   continuous
   <u>root</u>

Verbs with these selectional features are commonly inflected by reduplication. (32) would have the following more complete specification.

(33)   V
        action-process
        continuous
        <u>root</u>
        reduplication
        <u>root-reduplication</u>

Using the above formalization we can specify the semantic configuration of verb-reduplication in Amharic (1) (2), Malay (10) (11), Kalispelm (16) (17) (18) and Siroi (23) (24) (25) with the addition of other inflectional units specific to each of the languages. Examples:

(34)   Malay   <u>memukul-mukul</u>:
                           V
                           action-process
                           continuous
                           <u>pukul</u>
                           reduplication
                           transitive

                           <u>memukul-mukul</u>
                           'to keep on hitting'

(35)   Amharic   <u>mənəgagər</u>:
                           V
                           action-process
                           continuous
                           <u>mənəgər</u>
                           reduplication

                           <u>mənəgagər</u>
                           'to tell bit by bit'

(36)   Kalispelm   <u>kaikai(mul)</u>:
                           V
                           action-process
                           continuous
                           <u>kai</u>
                           reduplication

                           <u>kaikai(mul)</u>
                           'one who writes much'

(37)   Siroi   <u>ful-ful</u>:
                           V
                           action-process
                           continuous
                           <u>ful</u>
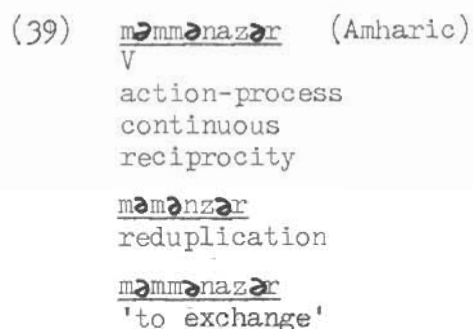   reduplication

                           <u>ful-ful</u>
                           'to scrape'
                           (to graze and graze)

Since the reduplicated verbs are action-process verbs, they will automatically require accompaniment of agent nominal and patient nominal. The agent nominal as determined by any action-process verb should at least have the selectional unit "animate" plus other selectional features wherever necessary. For example in the Malay sentence Ahmad memukul-mukul kucing itu (Ahmad keeps on hitting the cat), the semantic configuration of the sentence would be the following.

(38)

V	patient	agent
action-process	N	N
continuous	animate	animate
	-human	human
pukul		unique
reduplication	kucing	
transitive	definite	Ahmad
		'Ahmad'
memukul-mukul	kucing itu	
'to keep on hitting'	'the cat'	
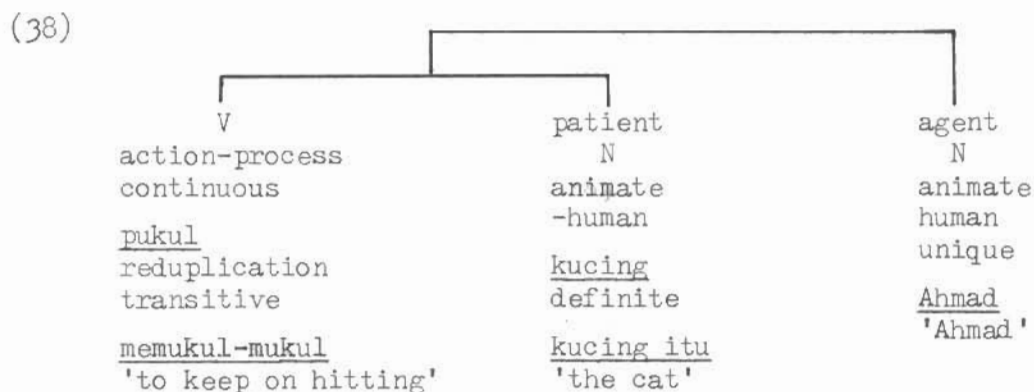
Within the class of action-process verbs there is a sub-class of verbs which may be reduplicated to indicate reciprocity. Amharic and Malay exhibit this as indicated by examples (7), (8), (9) and (12), (13) respectively. The selectional unit 'reciprocity' can then be added to the semantic configuration of a verb which would then signal another type of reduplication which differentiates reciprocal action from reduplication indicating just continuity or repetition of action discussed above. Since reciprocity in both of these languages also inherently indicate repetition or continuity of action, this selectional feature is maintained in the semantic configuration of reduplicated reciprocal-verb.[13] The semantic configurations of the Amharic məmmənazər (9) and the Malay pukul-memukul (12) would look something like the following:

(39) məmmənazər (Amharic)
V
action-process
continuous
reciprocity

məmənzər
reduplication

məmmənazər
'to exchange'
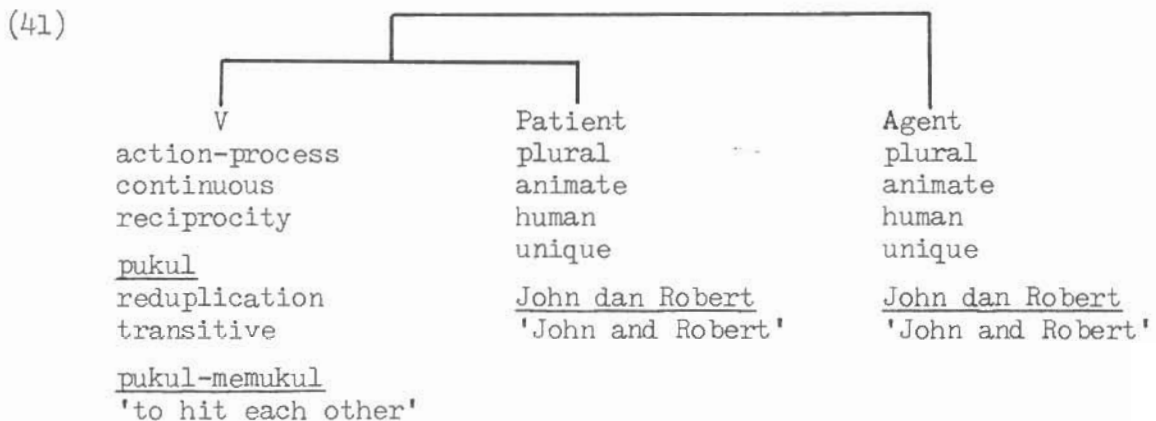
(40)   pukul-memukul   (Malay)
        V
        action-process
        continuous
        reciprocity

        pukul
        reduplication
        transitive

        pukul-memukul
        'to hit each other'

The selectional unit 'reciprocity' in the two examples has two functions, it determines (i) the form of reduplication of the verb and (ii) semantic configuration of the agent. In Amharic this type of reduplication involves the copying of the final consonant of the first syllable distinguishing it from reduplication indicating mere repetition or continuity of action, in which the penultimate consonant of the root is reduplicated. In Malay the selectional unit 'reciprocity' requires the transitive prefix men- be affixed to the reduplicated word. This contrasts with reduplication indicating purely repetitive action in which the prefix is affixed to the initial form.

-     At the semantic level reduplicated reciprocal verbs in both languages and presumably all other languages require that the agent as well as the patient nouns be plural. It is interesting to note that in case of reciprocal verbs the agent is also a patient, especially when two persons are involved in the action. The semantic configuration of a sentence such as John dan Robert pukul-memukul (John and Robert hit each other (recip.)) would look as follows:

(41)

V	Patient	Agent
action-process	plural	plural
continuous	animate	animate
reciprocity	human	human
	unique	unique
pukul		
reduplication	John dan Robert	John dan Robert
transitive	'John and Robert'	'John and Robert'
pukul-memukul		
'to hit each other'		

In Amharic, as exemplified in (7), (8) and (9) there is another type of verb reduplication which emphasizes the repetition of the action. Another selectional unit which we will call 'iteration,' in this case specific to Amharic, would then be needed to distinguish it from the single reciprocity specified in (39). The selectional unit for this type of verb-reduplication would require another form of reduplication in which not only the final consonant of the first syllable is repeated but also the penultimate consonant. The semantic specification of mæffəlaləg (to look for each other repeatedly) would look as follows:

(42)   V
       action-process
       continuous
       reciprocity
       iteration

       mafəlləg
       reduplication

       maffəlaləg
       'to look for each other repeatedly'

The preceding discussion is centered on reduplication of verbs belonging to the action-process class. There are also cases of reduplicated verbs which are not action-process verbs such as berjalan-jalan (14) 'to walk aimlessly' or 'to take a stroll' and duduk-duduk (15) 'to sit around' in Malay, kinyet-kinyet 'to pretend to sleep' in Siroi. In all the above, the reduplicated verbs are action verbs which are accompanied by an agent denoting its activity. The Kalispelm examples (19) through (22), on the other hand, indicate a process of passing from one state to another. The reduplicated verbs in these examples are action-process verbs, which indicate that the object denoted by the noun has changed its state. In (20), for example, reduplication of the verb lich 'to bind' to lchi'ch 'it becomes bound' implies that the patient object(s) has completed the 'movement' from the state of being unbound to the state of being bound. In (21) of the Kalispelm example, the reduplicated verb guikuku 'it is being dressed,' from the base word guika 'to dress' implies that the patient object is progressing towards the state of 'being dressed.'

In the discussion of reduplicated verbs indicating repetition or continuity of action, as well as verbs reduplicated to indicate reciprocity, the selectional unit 'continuous' was proposed as a unit that could account for repetition of action and reciprocity. The question faced at this juncture is whether the same selectional unit is also inherent in verb reduplication implying 'aimlessness' in Malay (14), (15) or 'pretence' in Siroi (27). These verbs are obviously action verbs, denoting actions performed by an agent without any patient involved. The Malay examples denote an action that is continuous but not necessarily repetitive in nature as is the case of verb reduplication discussed earlier. The Siroi examples could also be considered as a continuous process, because in an activity involving pretence, the *action has to be done continuously to be convincing*, until a *stage arrives* when the pretender feels he has succeeded or failed in the act. In addition, the continuity of action involved is restricted to action verbs such as the equivalent of stand, walk, sit, sleep, cry, etc. Action-process verbs such as the equivalent of hit, read, etc., may not be reduplicated to show aimlessness, or pretence. For example, the Malay verb pukul (to hit) may not be reduplicated to indicate aimlessness. If this is correct, then the selectional unit 'continuous' could also be posited in the semantic configuration of the reduplicated action verbs in Malay and Siroi discussed.[14]

The selectional unit /-intent/ is posited to be appropriate for reduplicated verbs of 'pretence' and 'aimlessness' in Siroi and Malay. In both cases there is no serious intention on the part of the agent to strictly

adhere to the normal connotations associated with the verb. In <u>malmbi-malmbi</u> (27) 'to pretend to cry,' for example, the agent does not have the feeling of remorse or sadness inherent in the word 'cry' and consequently it does not concur with the true intention normally associated with the word. Likewise, when one 'walks aimlessly,' as exemplified in <u>berjalan-jalan</u>, one does not intend to reach a certain specific destination (inherent in the concept of 'walk') but one is merely indulging in an activity the purpose of which is non-existent or deviates from the normal concept of 'walk.'

The reduplication of verbs such as <u>berjalan-jalan</u> (to walk randomly or to take a stroll) in Malay, and <u>malmbi-k-ket malmbi-k-et</u> (he is pretending to cry) in Siroi, could be specified semantically as follows:

(43) <u>berjalan-jalan</u>
      V
      action
      continuous
      -intent

      <u>jalan</u>
      reduplication

      <u>berjalan-jalan</u>
      'to take a stroll'

(44) <u>malmbi-malmbi</u>
      V
      action
      continuous
      -intent

      <u>malmbi</u>
      reduplication

      .
      .
      .

      <u>malmbi-malmbi</u>
      'to pretend to cry'

Finally, the Kalispelm examples (19) to (22) (repeated below) show another case of verb reduplication with an entirely different meaning from those discussed above.

(19)	pog	'to scatter'	pgo'<u>g</u>	'it got scattered'
(20)	lich	'to bind'	lchi'<u>ch</u>	'it becomes bound'
(21)	guika	'to dress'	guiku<u>ku</u>	'it is being dressed'
(22)	ntok	'to conceive'	chines- ntkokomi	'I am being conceived'

As mentioned earlier (19) and (20) indicate completive aspect, while (21) and (22) indicate progressive aspect. In the four examples the reduplicated verbs are process verbs derived from action-process base. This derivational process is termed by Chafe as 'deactitave.' The semantic configuration of a reduplicated verb such as <u>pg'og</u> (19) or <u>guikuku</u> (21) look as follows:

(45) pgo'g
V

process
continuous
completive

pog deactitative
reduplication

pgo'g
'to get scattered'

(46) guikuku
V

process
continuous
progressive

guika deactitative
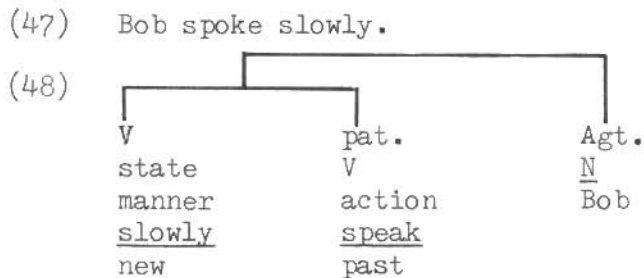reduplication

guikuku
'it is being dressed'

Based on the analysis of verb reduplication in the four languages, two selectional units seem to be shared as a result of reduplication. Firstly, action-process, action and process verbs may be reduplicated. The second selectional unit present in all the reduplicated verbs discussed is continuity. The selectional unit, continuity, however, varies in implication depending on the category of the root-verb. If the root-verb belongs to the action-process class the connotation of repetition of action is obtained in reduplication of the type (1), (2) in Amharic, type (10), (11) in Malay, (16), (17) in Kalispelm, and (23), (24), (25) in Siroi as well as verb reduplication to indicate reciprocity in Amharic and Malay. If the root-verb belongs to the action category, the concept of repetition seems to be less clearly present. In the case of Kalispelm examples (19) to (22), the selectional unit 'continuous' seems to be also present, implied by the reduplication of process verbs which progressively 'moves' the patient from one state to another, such as the movement from the state of being 'unbound' to the state of being 'bound' as exemplified in example (20).

Other than the shared selectional units that unify the process of verb reduplication in the languages, there are language specific selectional (e.g., reciprocity, iteration, -intent), derivational (deactitative as in Kalispelm), and inflectional units (transitive, etc.) which need to be added to the common semantic units, to account for the specific semantic functions of verb reduplication in each of the languages discussed.

Reduplication of Adverbs:

In the following discussion we will only focus our attention to forms equivalent to slowly, fast, easily, etc., which modify the main verb. They are state verbs which indicate the manner, time or location of the action being performed. Thus, in a sentence containing an adverb, the main verb is

specified as a patient, while the adverb is specified as state plus other selectional units appropriate to it. A sentence such as (47) would have the semantic configuration shown in (48).

(47) Bob spoke slowly.

(48)

```
        |————————————————|—————————————————|
        |                |                 |
        V               pat.              Agt.
        state            V                 N
        manner           action            Bob
        slowly           speak
        new              past
```

(Chafe, 1970:303)

Postsemantic development of the semantic configuration of sentence (47) will then have to indicate that the adverb (i.e., manner state verb) becomes the final and acouistically the highest pitched element in the surface structure and, in addition, it acquires a surface structure suffix -ly.

Only three of the five languages studied exhibit reduplication of adverbs. They are Hindi, Malay and Siroi.

Hindi

(49) sudhaa dhiire dhiire calne lagii
      sudha slowly slowly walk started
      'Sudha started walking (very) slowly'[15]

(50) vo jaldii jaldii khaanaa khaa rahaa thaa
      he fast   fast   food   eating was
      'He was eating his food (very) fast'

(51) yah citthii ahbii ahbii aaii hai
      this letter now   now   came
      'This letter has come just now'

(52) tum piiche piiche calo
      you back   back   came
      'You walk at (the) extreme back'

(Abbi, 1975:82&85)

The process of reduplication in Hindi in this case is very simple, i.e. merely the repetition of the base word. Examples (49) and (50) indicate manner state, while (51) and (52), respectively indicate time and locative state. These adverbs may also occur in the unreduplicated forms but they differ semantically in that they lack the feature of 'intensification' which the reduplicated forms exhibit. (Abbi, 1975:83)

Malay

(53) Ali berjalan lambat-lambat
      Ali walk   slow   slow
      'Ali walks very slowly'

(54) Dia makan cepat-cepat
      he eats fast fast
      'He eats very fast'

(55) Mula-mula buat ini
      beginning-beginning do this
      'At the very beginning do this'

(56) Pagi-pagi dia sudah pergi
      morning-morning he has go
      'Very early in the morning he has gone'

(57) Dia duduk tengah-tengah
      he sits middle-middle
      'He sits right in the middle' (very middle)

The process of reduplication in the above examples are just mere repetition of the base word. (53) and (54) indicate manner state, (55) and (56) indicate time state, while (57) indicates locative state. In (56) the adverb is derived from the noun pagi 'morning', and to account for this, the model requires derivational unit 'verbalizer' to derive a state verb from a noun. As in Hindi, the reduplicated adverbs clearly denote 'intensification', a feature absent in the non-reduplicated form.

Siroi

(58) pitik pitik   - 'quickly'
(59) nguail nguail - 'slowly'
(60) lato lato   - 'repeatedly'
(61) sin sin   - 'quietly', 'carefully'
                                    (Wells, 1979:37)

The Siroi examples above follow the same process found in Hindi and Malay. Wells explains that the function of reduplicated 'pure' adverbs in the language as 'emphatic', which may also be interpreted as 'intensification.' It is assumed here that the non-reduplicated forms of the above examples lack the semantic unit intensification. The Siroi examples show only reduplication of manner adverbs. Wells, however, provides examples of words listed under positional adjectives and describes them as "used with motion verbs signifying the continuation of action." (1979:37)

(62) ngamu ngamu kin-ig
      middle middle go-3p.pr.
      'They travel along the middle (of the river)'

(63) mbol mbol kin-it
      above above go-3s.pr.
      'It (the aircraft) travels overhead'

(Wells, 1979:37)

His classification of the reduplicated forms in (62) and (63) as adjectives is obviously incorrect. They are clearly adverbs modifying the main verb kin (to go). The interpretation of the reduplicated forms could then safely be regarded as similar to (58)-(61), i.e., 'intensification.' Examples (64) and (65) below also show that adverbs derived from noun also occur in Siroi. Wells regards them as nouns indicating temporals, which may be appropriately indicated as adverbs with 'intensification' function.

(64) abo-abo
      life-life
      'In the beginning'

(65) mara-mara
      day day
      'Always'

(Wells, 1979:35)

The reduplicated forms in (62) to (65) are here postulated as having 'intensification' function because the unreduplicated forms do not have such semantic feature. Consequently it is only logical and possible that they be postulated to have intensification as a semantic feature.

The examples of adverb reduplication as exemplified in Hindi, Malay and Siroi indicate that state verbs (adverbs) are reduplicated to indicate 'intensification.' This process applies to adverbs of manner, time and location in all the languages. Semantically, the reduplicated adverbs may be specified as follows:

(66)

```
      ┌─────────────────────────────┐
      V                         pat.
      (manner  )                 V
      (time    )
      (location)
      intensification

      root
      reduplication

      root-root
```

Based on the above rule the Hindi reduplicated adverb <u>jaldii jaldii</u> 'very fast' and <u>pagi-pagi</u> 'very early in the morning' (Malay) could be semantically specified as (67) and (68) respectively:

(67)   V
state
manner
intensification

<u>jaldii</u>
reduplication

<u>jaldii jaldii</u>
fast-fast

(68)   V
state
time
intensification

<u>pagi + verbalizer</u>
reduplication

<u>pagi-pagi</u>
'early in the morning'

Reduplication of Adjectives

In Chafe's model an adjective, i.e., the modifier of any object, can denote a state or condition of such object. Like adverbs, they are semantically state verbs. In a sentence with an adjective and a noun, the adjective is specified as a state verb plus other selectional and inflectional units, while the noun is specified as the patient or the state verb. Reduplication of adjectives is found in all or part of the languages studied except Kalispelm. In Kalispelm nouns are reduplicated with adjectival function, i.e., "dimunitive." Some of the functions of the reduplicated adjectives are shared by all the languages while others are shared by a few.

Amharic

(69)	s<u>ə</u>ffi bet	'a large house'	s<u>ə</u>f<u>aff</u>i betoc	'large houses'
(70)	n<u>ə</u>CC dimm t	'a white cat'	n<u>ə</u><u>Ca</u>CC dimm toc	'white cats'
(71)	tinnis w<u>ə</u>nb<u>ə</u>r	'small chair'	tin<u>inn</u>is w<u>ə</u>n<u>əbə</u>roc	'small chairs'
(72)	Keyy	'red'	<u>Keyya</u>Keyy	'reddish'
(73)	neCC	'white'	n<u>ə</u>CCan<u>ə</u>CC	'whitish'

(Hodge, 1964:293-294)

In (69) to (71) reduplication involves copying of final consonant of the first syllable plus a vowel. The vowel following the copied consonants is determined by the vowel of the syllable. Hodge (1968) gives the following rules to account for the process (consonant is indicated by C):

After	The Reduplication is:
- ə -	- Ca -
- i -	- Ci - or - Ca -
(-) a -	- Ca -

In (72) and (73) the whole word is reduplicated and connected by the vowel /a/. The first three examples emphasize that the nouns they modify are plural. The last two examples, adjectives denoting colors, have the sense of 'somewhat'; much in the same way as the English suffix -ish.

Hindi

(74)   raavan kii <u>baRii baRii</u> aa NlcheN thiin
       Ravan of big   big   eyes were
       'Ravan had big eyes'

(75)   is sahar kii saRkeN <u>lambii lambii</u> haiN
       this city of roads long   long   are
       'This city has long roads'

(76)   ek <u>naii naii</u> pahcaan
       one new new   recognition
       'A very new recognition'

(77)   <u>uuNcii uuNcii</u> uRaan
       high   high   flight
       'A very high flight'

(78)   yah <u>KhaTTaa KhaTTaa</u> acaar hai
       this sour   sour   pickle is
       'This pickle is sourish'

(79)   uske pass ek <u>niilii niilii</u> Topii hai
       he   has one blue   blue   cap   is
       'He has a bluish cap'

(Abbi, 1975:96-108)

The process of reduplication in the Hindi examples is just the simple copying of the base word. The meanings of the reduplicated forms however, vary greatly. In (74) and (75), the reduplication of the adjectives indicate that the nouns they modify are plural. (76) and (77) indicate intensification while (78) and (79) indicate the sense of "somewhat" also exemplified by Amharic discussed earlier. It seems that the sense of "somewhat x" is applicable only to singular patient nouns and often marked by the word ek 'a' or 'one'. Without this or other singular markers, the reduplicated form denotes plural patient nouns. Abbi unfortunately does not give examples of patient nouns modified by KhaTTa-KhaTTa 'sourish' or niilii niilii 'bluish'.

Malay

(80) Bangunan di sana <u>tinggi-tinggi</u>
      building there   high-high
      'The buildings there are high'

(81) Anaknya <u>baik-baik</u>
      children his good-good
      'His children are good (well-behaved)'

(82) Rumahnya <u>terang benderang</u> malam ini
      house his bright-bright   night this
      'His house is very bright tonight'

(83) Majlis itu <u>gilang-gemilang</u>
      gathering the grand grand
      'The gathering is very grand'

(84) Topi <u>kebiru biruan</u> itu diambil Ali
      hat blue   blue   the taken Ali
      'The bluish hat was taken by Ali'

(85) Fikirannya <u>kebarat baratan</u>
      though his west   west
      'His thoughts are western-like'

In (80) and (81) the reduplicated form is attained by copying the base word. In (82) and (83), basically the copied form has the infix -<u>em</u>- with slight phonological variations from word to word. In (84) and (85), the prefix <u>ke</u>- is attached to the reduplicated form. Semantically the reduplicated forms denote plurality of patient nouns (80) and (81), intensification (82) and (83) and the sense of "somewhat" (84) and (85). The reduplicated forms in (84) to (85) may also be used to indicate plurality of patient nouns which may only be determined through context. Since in Malay, nouns are not ordinarily inflected to indicate plurality, (84) is thus ambiguous. It may refer to one or more than one hats.
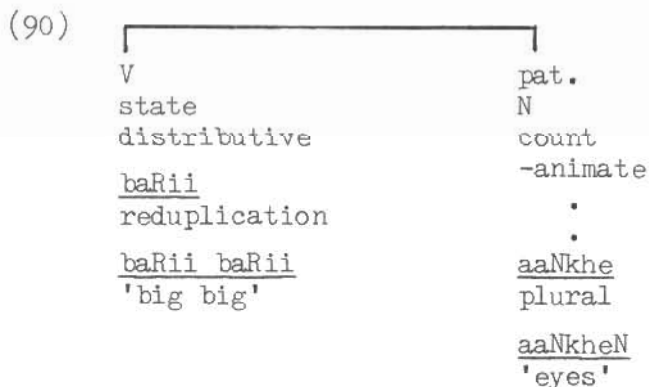
Siroi

(86) tango maye   'a mature man'
      man   good

      tango <u>mage mage</u> 'mature men'
      man   good good

(87) tango sungo   'a ruler'
      man   big

      tango <u>sugo sugo</u> 'rulers'
      man   big big

(88) tango kuen   'a tall man'
      man   tall

      tango <u>kugen kugen</u> 'tall men'
      man   tall tall

<div align="right">(Wells, 1979:37)</div>

The process of reduplication as exemplified by the above examples is the copying of the base word with the infix -g- replacing the central consonant in two syllable words or added to one syllable word. As seen from the examples, reduplication of adjectives denote plurality of the patient nouns.

One semantic feature that seems to be shared by the four languages is the feature "plurality." This is exemplified by (69) to (71) in Amharic; (74), (75) in Hindi; (80), (81) in Malay and (86) to (88) in Siroi. Since the "plural" is normally associated with nouns, the term "distributive" will be used as a selectional unit in specifying the semantic structure of the reduplicated state verbs. The feature "plural" will be used in the semantic configuration of the patient nouns they modify. The semantic configuration of Amharic example (69) and Hindi example (74) will be as follows:

(89)

```
        ┌─────────────────────┐
        V                     pat.
        state                 N
        distributive          count
                              -animate
        səffi
        reduplication           .
                                .
        səfaffi
        'large'               bet
                              plural

                              betoc
                              'houses'
```

(90)

```
        ┌─────────────────────┐
        V                     pat.
        state                 N
        distributive          count
                              -animate
        baRii
        reduplication           .
                                .
        baRii baRii           aaNkhe
        'big big'             plural

                              aaNkheN
                              'eyes'
```

Another semantic features of the reduplicated adjectives is intensity. This is exemplified only in Hindi and Malay as seen in examples (76), (77), (82), (83). The connotation of "somewhat" or "like" as expressed in the English suffix -ish may be categorized under the selectional unit 'intensification.' Abbi (1975) uses the term "approximation" as a separate selectional unit to account for this phenomenom in Hindi. The term 'intensification' denotes a relative state ranging from the lowest to highest degree of intensity of a state or condition. The lowest degree of intensity may be indicated by negation such as in not tall or unhappy while the highest degree of intensity by superlative forms such as in tallest, happiest; very tall or very happy, etc. The concept expressed by somewhat tall or tallish also denotes intensity which lies half-way between not tall and tall. This can be diagrammed as follows:

(91)   not tall   very tall
        ——
                            ↑ tall
                    "somewhat" tall

Based on the above argument reduplicated adjectives indicating "intensification" and "approximation" may be semantically specified under one major selectional unit for which "intensity" is here proposed. The difference between the degree of intensity (i.e., between very and somewhat) may be specified by the selectional unit "intensity" for those reduplicated adjectives with the sense of very and the units "intensity" and "approximation" for reduplicated adjectives with the somewhat sense. Thus gilang gemilang 'very grand' in the Malay example (83) and kebiru-biruan 'bluish' in example (84) may be specified as follows:

(92)   V
         state
         intensity
         gilang
         reduplication

         gilang-gemilang
         'very grand'

(93)   V
         state
         intensity
         approximation
         biru
         reduplication

         kebiru-biruan
         'bluish'

In her analysis Abbi, states that in Hindi reduplication denoting "approximation" is applicable only to adjectives of taste, and color. This happens to be partly true also for Amharic as in examples (72) and (73) which pertain to color, but in Malay this unit is also present in adjectives derived from nouns such as kebarat-baratan 'western-like' or in the case of quality adjectives such as kebodoh-bodohan 'rather stupid.' Further analysis

based on a much more complete data is needed in order to make cross language generalization relating to this.

Conclusion

This study reveals that reduplication of verbs in the five languages exhibit the preponderance of the feature continuous or repetition of action. This "inherent" semantic property of reduplication of verbs is not implausible considering that the act itself is a process involving repetition. Thus it is only "natural" (to borrow Sapir's generalization quoted earlier) that its form reflects its meaning. There are other semantic features shared by some of the languages. Reciprocity is one of them. It is common in Malay, Amharic and some languages in New Guinea and Western Australia. Also, reduplication of some action-verbs in Malay, Siroi and Menomini appear to bring forth the sense of an action deprived of a specific goal. State verbs, traditionally referred to as adjectives and adverbs, however, have different determining semantic properties from pure verbs and from each other. Reduplicated adverbs indicate intensity of action while reduplicated adjectives indicate either distributiveness of the noun or intensity of the state expressed by the adjectives.

There are, of course, instances of reduplication in which the "inherent" features discussed above may not be applicable in their description. The Amharic examples (5) and (6) in which the feature intensiveness does not seem to be dominated by the major feature "continuousness" are cases in point. There are also cases in which this major feature does not seem to be obvious in the present use of verb-reduplication. In Greek, for example, the present use of verb-reduplication to indicate completed action (pluperfect) does not imply any continuousness or repetition of action. But according to Alonzo Williams it is derived from the present tense expressing 'intensive action' involving 'repetition of an act' (1876:56-57). Thus the Greek reduplication indicating the pluperfect could be specified under the general meaning discussed above.

On looking at the various examples of reduplication in the five languages and a number of others, one cannot escape the feeling that there is something that embodies reduplication for all categories of words. Boas and Delora in describing reduplication in Dakota state that 'Reduplication expresses distributive ideas in time and space.' (1964:36). There may not be a single word to express it, but Boas and Delora's generalization may be further specified as 'distributiveness of events, states and objects in time and space.' Distributiveness in this sense encompasses not only repetition of events or number of objects but also the possible range of intensity of a state.

Reduplication is perhaps the most natural morphological process to express continuity or repetition of action or the intensity of a state. What is more natural to express continuity or repetition of an action or intensity of a state than to reduplicate or repeat the symbol used for the action or the state. Thus the semantic features 'continuousness' or 'intensiveness' might be posited to be features that could account for most, if not all, instances of verbal reduplication in natural languages.

* This paper was initially written as a course project under the supervision of Professor Kenneth L. Miner, to whom I am deeply grateful for his criticisms, comments and encouragement in writing it. Expressions of opinion together with errors that may still remain are, of course, my own.

1. These languages are genetically unrelated: Amharic (Hamito-Semitic), Hindi (Indic), Malay (Austronesian), Salish (American Indian) and Siroi (Non-Austronesian New Guinea).

2. Only the functional or inflective type of reduplication in the five languages will be investigated in this study. By this, we mean partial or full reduplication of the word base or stem which produces a meaning consistent with one of the set of functions of reduplication in the language. Forms which occur only as reduplicated forms, and which do not appear to be derived from non-reduplicated stems, will not be considered in this paper.

3. Abbi (1975:20) notes that "patient V which is always the main verb of the sentence, never occurs in reduplicated forms." However, verbs that function as sentence adverbials _are_ reduplicated. The adverbials have the semantic features such as "continuity," "iteration," etc which are shared by main verbs in the other four languages.

4. The two types of reciprocal formation could be represented by rules such as the following:

Simple Reciprocal: $\# \underset{1}{C} \underset{2^o}{V} \underset{3}{C} \underset{4^o}{X} \underset{5}{} \implies 1\ 2\ 3\ 3\ 4\ a\ 5$

Reduplicated Reciprocal: $\# \underset{1}{C_o} \underset{2}{V} \underset{3}{C_o} \underset{4}{(V)} \underset{5}{C} \underset{6}{X} \underset{7}{} \implies 1\ 2\ 3\ 3\ e\ 5\ 6\ a\ 7$

The outputs of both types undergo further prosodic changes.

5. Initial voiceless stops are deleted when prefixed with _men-_ and the reduplicated stem begins with a nasal consonant as in (10).

6. Haeberlin notes that the Kalispelm examples are taken from the pages of Kalispelm-English section of Giordas dictionary. He further notes that the phonetics as well as the English translations in this dictionary are often deficient. Like Haeberlin, I have not changed the phonetic transcription used by Giorda. Giorda's g = x (or x), k = k or q, ch = tc, sh = c, z = ts, gu = x and 'represents an abscure vowel. (Haeberlin, 1918:161).

7.   The term, borrowed from Harrison (1973), describes the reduplicated element in relation to the stem. If (18) is the form polsposem'l then it is termed right-hand reduplication.

8.   Haeberlin does not provide the gloss for the stem in these examples. Thus the gloss is marked (?).

9.   1s = first person singular; pr = present;
cm = class marker; 3s = third person singular.

10.   Haeberlin gives an example of reduplicative reciprocity, with the suffix -nueg in Kalispelm (pg.162). Renck (1975, pg.147) also notes the existence of reduplicative-reciprocal verbs in Yagaria, such as i 'ami a'amihu (to give to each other) and i 'noki a'nuki hu (to embrace each other). According to him this mode of reduplication is unproductive. Joseph (1975:243-244) also notes the existence of reduplication of reciprocal verbs in Pulauan (genetically a language of the Central Highlands of the New Guinea belonging to the Austronesian family).

11.   Josephs (1975:236) gives an example of reduplicated verb which express "aimlessness of action" in Pulauan, i.e., merael 'to walk' - mererorael 'wandering/to walk aimlessly.'

12.   Examples are quoted from Chafe (1970:174).

13.   In other words, when we have reciprocity we must have repetition or continuity of action but not vice versa.

14.   Prof. K. Miner (personal communication) points out the unit "aimlessness of action" also figures in Menomini action verbs such as na-ne-powew 'he stands around' (from ne-powew 'he stands') in which the repetition of the action results in it being aimless in implication.

15.   The bracketed intensifier very has been added by this writer to give sentences (49) and (50) a more appropriate reading.

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