Transformational Paradigms
of Bahnar Clauses

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O. Transformations in battery form have been presented by Henry Hiz.[1] David Thomas has shown how this type of battery can be used to construct « a syntactic analog of the traditional morphological paradigm ».[2] This paper presents the basic clauses of Bahnar, a Mon-Khmer language of Vietnam, in nine transformational paradigms.[3]

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1. Henry Hiz, ‘ The intuitions of grammatical categories », *Methodos* 12 : 48. 1-9 (1960), and Hiz, ‘ Congrammaticality, batteries of transformations and grammatical categories », in *Structure of Language and its Mathematical Aspects,* ed. Roman Jakobson, 1961.

2. David D. Thomas, « Transformational paradigms from clause roots », to appear in *Anthropological Linguistics, 1964.*

3. I am indebted to David Thomas for his help in analysis and writing of this paper.

Each paradigm is one battery. There are two major types of batteries — those which have obligatory verbs and those which do not. Those which have obligatory verbs divide up according to the prefixes they occur with and then further divide along transitive-intransitive lines where transitivity is pertinent. This gives us seven batteries, or paradigms, with verbs: Potential Passive, Intransitive Causative, Transitive Causative, Intransitive Noncausative, Transitive Noncausative, Minimal Noncausative, and the *Jĕi* Battery. Each battery has a completely different set of verbs. Verbs that occur in one battery cannot occur in any of the other batteries. Noun phrases — nominalizations of the batteries — are also given in the paradigms. But clause-combining transformations are not treated here.

The Equative and Locative batteries do not have obligatory verbs and thus act differently from the other batteries.

It will be noted that only elements which are nuclear to the clause are presented in the paradigms. Time, Location, Manner, Reason where it is not nuclear, and possible other tagmemes are not treated here. They are peripheral elements, and most of them could be added to any of the clauses in the first seven paradigms. They are more restricted in occurrence with the Equative and Locative paradigms. Other types of clauses which may be constructed from the paradigms are treated under Battery Multipliers.

1. Constants. The following constants occur in the batteries :

'bât ' place, that which '.

păng ' and, with '. It may be omitted when connecting names of persons.

hĭ is a particle which we have not yet been able to determine the meaning of.

tŏ 'at, in, to'.

kŏ 'a connective preposition which marks the first person or item occurring after the verb except the Goal (or Topic, or Subject of the causative batteries)'. This is its general function in the batteries presented here. However it acts as a connective in other positions also such as between a negative and the following verb (cf. Battery Multipliers). It sometimes substitutes for a longer phrase such as *kŏlih kŏ* 'because of'. In the batteries it substitutes for *kŏlih kŏ* only in the Causer phrase after the verb. Usually the *kŏlih kŏ* phrase is a nonnuclear Reason phrase.

sŭ 'third person pronoun'. This is basically the singular form of the third person but sometimes acts as a plural.

hăp 'third person pronoun'. *hăp* is similar to *sŭ* but is the more informal and familiar form. *hăp* is basically the singular form of the third person but sometimes acts as a plural.

tŏ- 'passive prefix'.

pŏ- 'causative prefix'. [4]

tŏ- 'reciprocal prefix'.

dih-băl 'reciprocal'. *dih-băl* and *tŏ-* (reciprocal) both indicate that the two actors of the clause, or things that they possess, are the objects of each other's action. When the verb root is a single syllable and the addition of the *tŏ-* 'reciprocal' prefix does not cause ambiguity with the other prefixes that may occur on the root, then either *tŏ-* or *dih-băl*, or both, may occur to signal the reciprocal. When the verb root

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4. *pŏ-* 'causative' has two allomorphs : *tŏ-* and *a-*. There are three homophonous *tŏ-* prefixes : the passive, the reciprocal, and the allomorph of the causative. For discussion showing that these are actually different prefixes see Elizabeth Banker, « Bahnar affixation », in this same volume. *dih-băl* « reciprocal » is also treated in her paper.

or stem is disyllabic, or when ambiguity would result if the *to*-prefix were added to the verb root, then *dih-băl* occurs alone to signal the reciprocal. In the Possession Reciprocal *dih-băl* seems to be obligatory even though *to*- occurs on the verb root. In the batteries alternate forms are given showing reciprocals formed with *to*- and those formed only with *dih-băl*.

2. The Potential Passive Battery (PP).

The Potential Passive Battery is characterized by having verbs that can take the passive prefix. Distinctive to this battery are the passives — transformations 6, 9, and 10. However 9 and 10 only occur with *gâ* 'break' and *glĕch* 'turn' and not with other verbs able to occur in this battery.

V (Verb) is filled by verbs which take the passive prefix. The number of verbs that occur in this battery is very limited. Those which we have found so far are : *hek* 'to tear', *hleh* 'take apart at seams', *yaih* 'untie', *ploih* 'open', *hak* 'spread apart', *gâ* 'break', *plŏ* 'peel off', *glĕch* 'turn' *plâ* 'turn over'. [5]

A (Actor) can be filled by a personal pronoun, noun, or noun phrase. Fillers of A_1 and A_2 are the same as the fillers of A.[6]

T (Topic) can be filled by a pronoun, noun, or noun phrase. Its fillers differ from those of Actor in that they do not refer to persons while the fillers of Actor usually do. The fillers of A and T are not in general interchangeable.

P (Possessor) can be filled by a pronoun, noun, or noun phrase. In this battery its fillers are similar to the fillers of A.

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5. *plâ* and some of the other verbs in the batteries have irregular variations from the expected norm as a result of conflict with another homophonous form.

6. Filler in this paper indicates either an actual filler, as in the case of

In the Actor Emphasis, Causer Emphasis, or Minimal Subject Emphasis forms in the batteries (cf. Transformation 2 of this battery) the usual filler of the second Actor, Causer, or Subject spot is *sư* or *hăp* 'third person pronoun' or some other appropriate replacive pronoun for the first spot. However in certain cases the exact form used in the first spot is repeated in the second spot: *yă jĭ kơ yă* 'woman hurt prep. woman' '*The woman was hurt*'. Often the first spot is omitted as in *lôch hĭ kơ kiĕk* 'die particle prep. tiger', '*The tiger died*'.

In the Nominalization of Verb forms in the batteries (cf. Tr. 8) *sư/hăp*, and in certain cases other pronouns, seem to refer to the possessor of the state described by the verb.

POTENTIAL PASSIVE BATTERY

Set gâ
'Set broke (it)' $\langle A, V \rangle$ (Minimal Active)

Set gâ (hĭ) ko sɯ
'Set broke (particle) prep. he'
Set broke (it) $\langle A_1, V, (h\breve{\imath}), ko\, A_1 \rangle$ (Actor Emphasis)

Set gâ jâng Rŏk
'Set broke leg Rok'
Set broke Rok's leg $\langle A, V, TP \rangle$ (Full Active)

jâng Rŏk Set gâ
'leg Rok Set broke'
It was Rok's leg that Set broke $\langle TP, A, V \rangle$ (Topic Emphasis)

jâng ('bât) Set gâ...
'leg (that) Set broke...'
The leg that Set broke... $\langle T, ('b\hat{a}t), A, V \rangle$ (Nominalization of Topic)

jâng Rŏk togâ
'leg Rok passive-broke'
Rok's leg broke $\langle TP, to\text{-}V \rangle$ (Passive)

7. *Set (păng) Hrit togă dih-băl jăng*
   'Set (and) Hrit recip-broke recip. leg'
   Set and Hrit broke each other's leg ⟨A₁, (păng), A₂, tơ-V, dih-băl, T⟩ (Possession Reciprocal)

$$\langle A_1, (\text{păng}), A_2, \text{tơ-V, dih-băl, T} \rangle$$

8. *togă su...*
   'passive-broke its...'
   Its break... ⟨tơ-V, su/hăp⟩ (Nominalization of Verb)

$$\langle \text{tơ-V, su/hăp} \rangle$$

9. *Rŏk togă jăng*
   'Rok passive-broke leg'
   Rok has a broken leg ⟨P, tơ-V, T⟩ (Passive State)

$$\langle P, \text{tơ-V, T} \rangle$$

10. *Rŏk jăng togă*
    'Rok leg passive-broke'
    Rok has a broken leg ⟨P, T, tơ-V⟩ (Passive State)

$$\langle P, T, \text{tơ-V} \rangle$$

INTRANSITIVE CAUSATIVE BATTERY

1. *gre hur*
   'vehicle out-of-order'
   $\langle$S, V$\rangle$
   (Minimal)

2. *gre hur kɔ Set*
   'vehicle out-of-order because-of Set'
   $\langle$S, V, kɔ C$\rangle$
   (Minimal plus Causer)

3. *Set pɔhur*
   'Set make-out-of-order'
   $\langle$C, pɔ-V$\rangle$
   (Minimal Causative)

4. *Set pɔhur gre*
   'Set make-out-of-order vehicle'
   $\langle$C, pɔ-V, S$\rangle$
   (Full Causative)

5. *gre Set pɔhur*
   'vehicle Set make-out-of-order'
   It was the vehicle that Set put out of order
   $\langle$S, C, pɔ-V$\rangle$
   (Subject Emphasis, Causative)

⟨S, ('bǎt), C, pɔ-V⟩ (Nominalization of Subject)

⟨C₁, pɔ-V, (hĭ), kɔ C,⟩ (Causer Emphasis)

C₁, (pǎng), C₂, pɔ-V, dih-bǎl, S⟩ (Possession Reciprocal)

⟨V, sur/hǎp⟩ (Nominalization of Verb)

6. gre ('bǎt) Set pɔhur...
'vehicle (that) Set made–out-of-order....'
The vehicle that Set put out of order....

7. Set pɔhur (hĭ) kɔ sur
'Set make–out-of-order (particle) prep. he'.
Set put (it) out of order

8. Rŏk (pǎng) Set pɔhur dih-bǎl gre
'Rok (and) Set make–out-of-order recip. vehicle'
Rok and Set put each other's vehicle out of order

9. Hur sur...
'out-of-order its...'
That part which is out of order...

10. *Rŏk oh (hĭ) kɔ sɯ*

'Rok sad (particle) prep. he'

Rok is sad

(Subject Emphasis Minimal) ⟨S_1, V, (hĭ), kɔ S_1⟩

11. *Rŏk (păng) Set pɔɔh dih-băl*

'Rok (and) Set make-sad recip.'

Rok and Set make each other sad

(Causative Reciprocal) ⟨CS_1, (păng), CS_2, pɔ-V, dih-băl⟩

12. *Rŏk (păng) Set tɔɔh dih-băl*

'Rok (and) Set recip-sad recip.'

Rok and Set are sad because of each other

(Simple Reciprocal) ⟨CS_1, (păng), CS_2, tɔ-V, dih-băl⟩

13. *tɔ ŏu chɔt*

'At here happy' 'It's happy here'

(No Subject) ⟨tɔ, L, V⟩

3. The Intransitive Causative Battery (IC). The Intransitive Causative Battery is characterized by having verbs that can take the causative prefix but are unable to take a Goal. It contrasts with the *Jĕi* Battery in that the *Jĕi* Battery always has the verb root before the Subject. Distinctive to this battery is the presence of the causative transformations 3-8, 11, and the absence of Goal in these transformations.

Not all verbs able to occur in 1-8 are able to occur in 9. Examples of those that can occur in 9 are: *kro* 'dry', *lĕch* 'go out', *iĕ* 'small'. Examples of those that do not are: *o'h* 'sad', *hli* 'afraid'.

Verbs able to occur in 1-8 which can take Subjects that are persons (or in a few cases animals) are also able to occur in 10 and 11. A few of these verbs are also able to occur in 9.

A few of these verbs that are able to take Subjects that are persons can also occur in 12. Some verbs that are able to occur in 12 do not occur in 9, others do.

13 is restricted to only a few verbs able to occur in 1-11. At least one of these verbs is also able to occur in 12. 13 has no Subject.

V (Verb) in this battery is filled by any verb (except *jĕi*) which can take the causative prefix but which cannot take a Goal. Examples: *huŏng* 'fall', *jĭ* 'hurt, sick' *iung* 'stand up', *jur* 'go down', *tŏ* 'hot', *ro* 'flow', *'bĭch* 'lie down', *lŏch* 'die', *'dông* 'float'.

S (Subject) can be filled by a pronoun, noun, or noun phrase. The Subject in this battery is that which is subject of the verb root and that which is caused to perform the action of the verb root in the causative forms (cf. Tr. 4).

C (Causer) can be filled by a pronoun, noun, or noun phrase. It is the person or sometimes an abstract or inanimate object or animal that causes the Subject to perform the action of the verb root. Its fillers, however, usually refer to persons, while the fillers of the Subject spot divide out more equally into reference to persons or things, depending upon the verb with which they occur. In some clauses the fillers of the Subject and Causer are interchangeable, in others they are not. Fillers of C_1 and C_2 are only persons.

CS_1 CS_2 (Causer-Subject) indicates that the filler of the spot is acting both as Causer and Subject because of the reciprocal action. CS can be filled by a pronoun, noun, or noun phrase. Fillers refer to persons.

L (Location) is filled by a pronoun, noun, or noun phrase, or by a locative such as *ŏu* 'here'. Its fillers mainly refer to places or inanimate objects but in some cases refer to persons. Location is usually peripheral but in 13 seems to be nuclear.

In this battery *koʼ* can substitute for *koʼlih koʼ* 'because of' in transformation 2 with most verbs. However with verbs like *lui* 'believe', *oʼh* 'sad', *hli* 'afraid', *koʼ* is the only appropriate form and not *koʼlih koʼ*. ¡These verbs occur in all of the transformations except 9 and 13 though *hli* may also occur in 13.

A few verb roots take causative-like prefixes but function like noncausative verbs. This seems to be because these prefixes have now become part of the verb root. In the following examples the verb roots belong to the Minimal Noncausative Battery while the verb roots plus derivational prefix belong to the Transitive Noncausative Battery. *hloh* 'more than', *poʼhloh* 'to talk so as to give the idea that you

are better than the other person', *bang* 'clear', *tobang* 'make to see clearly'.

In the following examples all of the words except *powao* belong to the Transitive Noncausative Battery. *powao* belongs to the Minimal Noncausative Battery. *wao* 'understand', *powao* 'make oneself understand', *choh* 'break ground', *pochoh* 'break ground with an animal, to plow', *drâng* 'to answer', *podrâng* 'ask (to make to answer)'.

4.   The Transitive Causative Battery (TC).

The Transitive Causative Battery is characterized by having verbs that can take the causative prefix and are able to take a Goal. Distinctive to this battery are causative transformations with Goal — 7, 8, 10-12, 15.

Only verbs that take an animate Goal can occur in 16: *'bôh*, 'see', *'bŏu* 'smell', *kăp* 'bite', *băt* 'know', *pŭ* 'carry on one's back'.

'bŏu 'smell' and *kăp* 'bite' act like the other verbs in this battery except that they occur in 7' and 10' instead of 7 and 10. In 14 and 15, C_1 and C_2 replace CS_1 and CS_2 giving a Possession Reciprocal.

V (Verb) can be filled by verbs which can take the causative prefix and can take a Goal. The number of verbs that can occur in this battery is very limited. Following is a list of all those we have found so far: *huch* 'drink', *ngok* 'drink with container away from mouth', *'bôh* 'see', *hrŭk* 'put on clothes', *trŏ* 'put on shoes' *'bŏu* 'smell', *kăp* 'bite', *băt* 'know', *pŭ* 'carry on back'. *jing* 'become'. can also occur here though with semantic difficulties in some cases.

TRANSITIVE CAUSATIVE BATTERY

1. *Rŏk huch* $\langle S, V \rangle$ (Minimal)
   'Rok drinks'

2. *Rŏk huch (hĭ) kɔ sɯ* $\langle S_1, V, (h\breve{\iota}), S_1 \rangle$ (Subject Emphasis)
   'Rok drinks (particle) prep. he'
   Rok drank (it)

3. *Rŏk huch chɔphe* $\langle S, V, G \rangle$ (Transitive)
   Rok drinks coffee

4. *Chɔphe Rŏk huch* $\langle G, S, V \rangle$ (Goal Emphasis)
   'coffee Rok drinks'
   It's coffee that Rok drinks

5. *Chɔphe ('bât) Rŏk huch...* $\langle G, ('b\hat{a}t), S, V \rangle$ (Nominalization of Goal)
   'coffee (which) Rok drinks...'
   The coffee that Rok drank...

6. *Set pɔhuch* $\langle C, p\sigma\text{-}V \rangle$ (Minimal Causative)
   'Set makes-drink'

7. *Set pɔhuch kɔ Rŏk* $\langle C, p\sigma\text{-}V, k\sigma\ S \rangle$ (Min. Causative plus Subject)
   'Set makes-drink prep. Rok'
   Set gives a drink to Rok

7'. *Set toʼbŏu kŏ* ⟨C, toʼ-V, S⟩ (Minimal Causative)
'Set makes-smell dog'
Set causes the dog to smell (something)

8. *Set poʼhuch chophe* ⟨C, poʼ-V, G⟩ (Min. Causative plus Goal)
'Set makes-drink coffee'
Set gives a drink of coffee

9. *Set poʼhuch (hĭ) kơ sur* ⟨C_1, poʼ-V, (hĭ), kơ C_1⟩ (Causer Emphasis)
'Set makes-drink (particle) prep. he'
Set gave (him) a drink

10. *Set poʼhuch kơ Rŏk chophe* ⟨C, poʼ-V, kơ S, G⟩ (Full Causative)
'Set makes-drink prep. Rok coffee'
Set gives Rok a drink of coffee

10'. *Set toʼbŏu kŏ kơ sonăl* ⟨C, toʼ-V, S, kơ G⟩ (Full Causative)
'Set makes-smell dog prep. squirrel'
Set causes the dog to smell the squirrel

11. *Chophe Set poʼhuch kơ Rŏk* ⟨G, C, poʼ-V, kơ S⟩ (Goal Emphasis)
'coffee Set makes-drink prep. Rok'
It's coffee that Set gives to Rok to drink

12. *Chophe* ('băt) *Set pɔhuch kɔ Rŏk....* ⟨G, ('băt), C, pɔ-V, kɔ S⟩,   (Nominalization of Goal)
'coffee (that) Set makes – drink', prep. Rok ....
The coffee that Set gives Rok to drink...

13. *Rŏk* (*păng*) *Hrit huch dih-băl chophe*   ⟨S₁, (păng), S₂, V, dih-băl G⟩   (Possession Reciprocal)
'Rok (and) Hrit drink recip. coffee'
Rok and Hrit drink each other's coffee.

14. *Rŏk* (*păng*) *Set pɔhuch dih-băl*   ⟨CS₁, (păng), CS₂, pɔ-V, dih-băl⟩   (Min. Causative. Reciprocal)
'Rok (and) Set make-drink recip.'
Rok and Set give each other to drink

15. *Rŏk* (*păng*) *Set pɔhuch dih-băl chophe*   ⟨CS₁, (păng), CS₂, pɔ-V, dih-băl, G⟩   (Full Causative Reciprocal)
'Rok (and) Set make-drink recip. coffee'
Rok and Set give each other coffee to drink

16. *Rŏk* (*păng*) *Hrit 'bôh dih-băl*   ⟨S₁, (păng), S₂, V, dih-băl⟩   (Simple Reciprocal)
'Rok (and) Hrit see recip.'
Rok and Hrit saw each other

S (Subject) can be filled by a pronoun, noun, or noun phrase. The Subject in this battery is that which is subject of the verb root and that which is caused to perform the action of the verb root in the causative forms (cf. Tr. 10).

C (Causer) can be filled by a pronoun, noun, or noun phrase. In general its fillers refer to persons as do the fillers of S, except for a few verbs like *'bŏu* 'smell', *kăp* 'bite' where the fillers of S are animals and therefore not usually able to fill the C spot.

S_1, S_2 in 13 are filled by persons but in 16 fillers of S_1, S_2 can also refer to animals.

CS_1, CS_2 (Causer-Subject) indicates that the filler of the spot is acting both as Causer and Subject in the clause because of reciprocal action. CS can be filled by a pronoun, noun, or noun phrase. Fillers refer to persons.

C_1, C_2 with *kăp* and *'bŏu* in 14 and 15 refer only to persons.

G (Goal) can be filled by a pronoun, noun, or noun phrase. In general its fillers are not interchangeable with S and C, since they refer to inanimate things. With *pŭ* 'carry on back' G may refer to persons.

5. The Intransitive Noncausative Battery (INC).

The Intransitive Noncausative Battery is characterized by verbs that cannot take the passive or causative prefixes but can take the reciprocal prefix or *dih-băl*. Also these verbs do not take a Goal but do take a Referent. Distinctive to this battery is lack of passive or causative transformations and of Goal but presence of reciprocal transformations (6, 6', 7) and Referent (3-5, 7).

INTRANSITIVE NONCAUSATIVE BATTERY

1. *Rŏk hil*
   'Rok angry'
   ⟨A, V⟩   (Minimal)

2. *Rŏk hil (hĭ) kɔ sɯ*
   'Rok angry (particle) prep. he'
   Rok was angry
   ⟨A₁, V, (hĭ), kɔ A₁⟩   (Actor Emphasis)

3. *Rŏk hil kɔ gre*
   'Rok angry prep. vehicle'
   Rok is angry at the vehicle
   ⟨A, V, kɔ Rf⟩   (Minimal plus Referent)

4. *gre Rŏk hil*
   'vehicle Rok angry'
   It's the vehicle that Rok is angry at
   ⟨Rf, A, V⟩   (Referent Emphasis)

5. *gre ('bât) Rŏk hil ...*
   'vehicle (that) Rok angry...'
   The vehicle that Rok is angry...
   ⟨Rf. ('bât), A, V⟩   (Nominalization of Referent)

6. *Rŏk (păng) Set tɔhil (dih-băl)*
   'Rok (and) Set recip-angry (recip.)'
   Rok and Set are angry at each other
   ⟨A₁, (păng), A₂ tɔ-V (dih-băl)⟩   (Simple Reciprocal with 1-syllable root)

6. Rŏk (păng) Set monat dih-băl
'Rok (and) Set pity recip.'
Rok and Set pity each other

$\langle$A$_1$, (păng), A$_2$, V, (Simple Reciprocal with 2-syllable verb root)
dih-băl$\rangle$

7. Rŏk (păng) Set tohil dih-băl gre
'Rok (and) Set recip.-angry recip. vehicle'
Rok and Set are angry at each other's vehicle

$\langle$A$_1$, (păng), A$_2$, to-V, dih-băl, Rf$\rangle$ (Possession Reciprocal)

Possession Reciprocals are not common in Bahnar. 7 is grammatically possible though rare. More common would be a Possession Reciprocal with the Referent filled by a possessable noun referring to a person such as *akăn* 'wife', *kon* 'child'. Some verbs in this battery do not take inanimate objects for Referents.

V (Verb) is filled by one-syllable verbs that cannot take the passive or causative prefix or Goal but can take the reciprocal prefix, and by all two-syllable verb roots that can occur with *dih-băl* but cannot take a Goal. Verbs in this battery take a Referent. Examples of verbs that occur in this battery are: *mơnat* 'pity', *hiĕk* 'laugh', *bơnê* 'thank', *hơlĕnh* 'tell a lie', *chu* 'obey'.

A (Actor) can be filled by a pronoun, noun, or noun phrase.

Rf (Referent) can be filled by a pronoun, noun, or noun phrase. In general fillers of both Actor and Referent are persons and therefore the fillers of A and Rf are mostly interchangeable except for animals or inanimate objects which cannot fill A. All fillers of A can fill Rf.

Fillers of A_1, A_2 usually refer to persons though in a few cases may refer to animals.

6. The Transitive Noncausative Battery (TNC).

The Transitive Noncausative Battery is characterized by verbs that cannot take the passive or causative prefix but can take the reciprocal prefix or *dih-băl* and can take a Goal. Distinctive to this battery is lack of causative or passive transformations but presence of reciprocal transformations (6, 7, 7', 8) and Goal (3-6) or Goal plus Referent (10-13).

TRANSITIVE NONCAUSATIVE BATTERY

1. *Rŏk tón*
   'Rok hit (it) '
   $\langle A, V \rangle$ (Minimal)

2. *Rŏk tón (hĭ) kơ sɪ*
   'Rok hit (particle) prep. he '
   Rok hit (it)
   $\langle A_1, V, (hĭ), kơ\ A_1 \rangle$ (Actor Emphasis)

3. *Rŏk tón kŏ*
   'Rok hit dog '
   $\langle A, V, G \rangle$ (Transitive)

4. *kŏ Rŏk tón*
   'dog Rok hit '
   It was the dog that Rok hit
   $\langle G, A, V \rangle$ (Goal Emphasis)

5. *kŏ ('bât) Rŏk tón.. :*
   'dog (that) Rok hit ... '
   The dog that Rok hit ...
   $\langle G, ('bât), A, V \rangle$ (Nominalization of Goal)

6. *Rŏk (păng) Set totón dih-băl kŏ*
   'Rok (and) Set recip - hit recip. dog '
   Rok and Set hit each other's dog
   $\langle A_1, (păng), A_2, tơ\text{-}V, dih\text{-}băl, G \rangle$ (Possession Reciprocal)

7.   Rŏk (păng) Set totŏn (dih-băl) $\langle A_1, (păng), A_2, to\text{-}V, (dih\text{-}băl)\rangle$ (Simple Reciprocal with 1-syllable root)
'Rok (and) Set recip.-hit (recip)'
Rok and Set hit each other

7'.   Rŏk (păng) Set koleng dih-băl $\langle A_1, (păng), A_2, V, dih\text{-}băl\rangle$ (Simple Reciprocal with 2-syllable root)
'Rok (and) Set look-at (recip)'
Rok and Set look at each other

8.   Rŏk totŏn păng Set $\langle A_1, to\text{-}V, păng, A_2\rangle$ (Reciprocal with one Actor after Verb)
'Rok recip-hit with Set'
Rok and Set hit each other

9.   Rŏk ăn ko Hrit $\langle A, V, ko\ Rf\rangle$.   (Minimal plus Referent)
'Rok give prep. Hrit'
Rok gave (it) to Hrit

10.   Rŏk ăn ko Hrit kŏ $\langle A, V, ko\ Rf, G\rangle$ (Transitive plus Referent)
'Rok give prep. Hrit dog'
Rok gave Hrit a dog

11.   Rŏk ăn kŏ ko Hrit $\langle A, V, G, Rf\rangle$ (Less frequent form of 10)
'Rok give dog prep. Hrit'
Rok gave Hrit a dog

(Goal Emphasis)

$\langle$G, A, V, kɔ Rf$\rangle$

12. *kŏ Rŏk ăn kɔ Hrit*
'dog Rok give prep Hrit'
It's a dog that Rok gave Hrit

(Nominalization of Goal)

$\langle$G, ('băt), A, V, kɔ Rf$\rangle$

13. *kŏ ('băt) Rŏk ăn kɔ Hrit...*
'dog (that) Rok give prep. Hrit...'
The dog that Rok gave to Hrit...

Not all verbs that are able to occur in 1-6 are able to occur in 7, 7', and 8. Only verbs in which the action can be performed upon another actor can occur in 7 and 7'. 8 has an even more restricted list of fillers than 7 and 7'. Examples of those that can occur in 8 are: *klâm* 'throw at', *bio* 'to box', *glâm* ' knock down '. Examples of those that cannot are: *kɔ·dah* 'kick', *hiot* 'pull', *sĭt* 'sew'.

Some verbs occurring in 1-6 can take a Referent and therefore also occur in 9-13. Of these verbs there are some that also occur in 7 or 7'. Examples of verbs that occur in 9-13 are: *tĕch* 'sell', *ală* ' entrust to,' *gɔ·ih* 'send'.

V (Verb) is filled by one-syllable verbs that cannot take the passive or causative prefix but can take the reciprocal prefix and can take a Goal, and by all two-syllable verb roots that can occur with *dih-băl* and can take a Goal. Examples of these verbs are : *sa* 'eat,' *năng* 'look at', *kɔ·leng* 'look at' *'bet* 'stab', *teh* 'hit,' *hɔ·met* ' prepare '.

A (Actor) can be filled by a pronoun, noun, or noun phrase.

G (Goal) can be filled by a pronoun, noun, noun phrase or clauses which are quotations.

Rf (Referent) can be filled by a pronoun, noun or noun phrase. Referent in this battery is similar to indirect object in English. In general fillers of A and Rf are the same though not all fillers of Rf can fill A. Their fillers are usually persons. Fillers of G are often inanimate objects which cannot fill A or Rf, though with words like *tôn* fillers of G are often persons.

Fillers of A_1, A_2 in 6 refer to persons while fillers of A_1, A_2 in 7, 7', and 8 may also refer to animals.

7. The Minimal Noncausative Battery (MNC). The Minimal Noncausative Battery is characterized by having verbs that take neither the passive, causative nor reciprocal prefix nor occur with *dih-băl*. Distinctive to this battery is the absence of passive, causative and reciprocal transformations and the absence of Referent.

Only certain verbs can occur in 2 and 3. Verbs that take only inanimate Actors do not occur in 2. Examples of verbs that occur in 3 are: *hơgĕi* 'clever', *hơtăng* 'thin', *hơdrăl* 'sober'. Examples of those that do not are: *hrŭl* 'absent', *kơdŏu* 'run', *năm* 'go'.

Some verbs occurring in this battery are also able to take a Goal.

'dĕi does not occur in 7, *trŏ* can occur in 4, 5 and 6.

Other examples of verbs that occur in transformations 4-7 are : *'blep* 'correct, exact', *pơwao* 'make oneself understand' (pơwao cannot occur in 5).

V (Verb) is filled by verbs that take neither the passive, causative nor reciprocal prefix nor occur with *dih-băl*. Examples of verbs that occur in this battery are : *yak* 'walk', *glơi* 'swim', *brŏk* 'go home', *hơtăng* 'thin', *hơ'bâl* 'thick.'

A (Actor) can be filled by a pronoun, noun, or noun phrase.

G (Goal) can be filled by a pronoun, noun, or noun phrase. Fillers of Goal refer to animate and inanimate objects. Some verbs take animate Actors, others take inanimate Actors while still others take both.

MINIMAL NONCAUSATIVE BATTERY

1. $\langle A, V \rangle$ (Basic)

   Rŏk hơ'nhuih
   'Rok wet'
   Rok is wet

2. $\langle A_1, V, (h\breve{\imath}), A \rangle$ (Actor Emphasis)

   Rŏk hơ'nhuih (hĭ) kơ sư
   'Rok wet (particle) prep. hẹ'
   Rok is wet

3. $\langle V, s\text{ư}/h\breve{a}p \rangle$ (Nominalization of Verb)

   hơ'nhuih sư ...
   'wet its' The wet spot...'

4. $\langle A, V, G \rangle$ (Transitive)

   Rŏk 'dĕi kŏ
   'Rok has dog'

5. $\langle V, G \rangle$ (No Actor)

   'dĕi kŏ
   'have dog'
   There is a dog (over there)

6. $\langle G, A, V \rangle$ (Goal Emphasis)

   kŏ Rŏk 'dĕi
   'dog Rok has'
   It's a dog that Rok has

7. $\langle G, ('b\breve{a}t), A, V \rangle$ (Nominalization of Goal)

   kŏ ('băt) Rŏk trŏ ...
   'dog (that) Rok exact...'
   The dog that Rok won ...

8. The jĕi Battery (J). The *jĕi* Battery has only one filler of its V spot, the verb *jĕi* ' win ', This verb is different from all others we have found since the Subject always occurs after *jĕi* and never before.

S (Subject) can be filled by a pronoun, noun, or noun phrase. Fillers of S, S_1, and S_2 in general refer to persons but in some cases refer to animals.

9. The Equative Battery. The Equative Battery is characterized by Subject and Complement in an equational type relation with the nonobligatory verb *jĭ* acting as equator, or with the phrase *ưh ko̵ sĭ ko̵* showing that S and Cp are not equal to each other.

S (Subject) can be filled by a pronoun, noun, or noun phrase.

Cp (Complement) can be filled by a pronoun, noun, or noun phrase. When the fillers of S and Cp have the same entity then either one of them may occur first : *ĭnh jĭ Rŏk, Rŏk jĭ ĭnh*, both meaning '*I am Rok*'. However when one item is more specific than another it occurs in S and the more general item occurs in Cp: *ĭnh jĭ bo̵ngai* '*I am person*'.

In general if a pronoun fills the Complement spot and the Subject is filled by a noun, then *jĭ* is obligatory in order to distinguish the Equative clause from the possession phrase: *Rŏk ĭnh* 'Rok my', *My Rok, Rŏk jĭ ĭnh* 'Rok is I' *I am Rok.*

JĚI BATTERY $\langle V, S \rangle$

1. (Basic)   jěi Rŏk
'win Rok'
Rok won

2. (Reciprocal) $\langle S_1, (păng), S_2, pɔ\text{-}V, dih\text{-}băl \rangle$
Rŏk (păng) Set pɔ jěi dih-băl
'Rok (and) Set make-win recip.'
Rok and Set try to win over each other

EQUATIVE BATTERY

1. (Minimal) $\langle S, Cp \rangle$
ĭnh Rŏk
'I Rok'
I am Rok

2. (Full) $\langle S, jĭ, Cp \rangle$
ĭnh jĭ Rŏk
'I am Rok'
I am Rok

3. (Negative) $\langle S, uh kɔ sĭ kɔ, Cp \rangle$
ĭnh ɯh kɔ sĭ kɔ Rŏk
'I not connective am connective Rok'
I am not Rok

LOCATIVE BATTERY

⟨S; to L⟩ (Subject first)

⟨to L, S⟩ (Location first)

1. *Rŏk to yo*
   'Rok at where'
   Where's Rok?

2. *to yo Rŏk*
   'at where Rok'
   Where's Rok?

10. The Locative Battery. The Locative Battery is characterized by Subject plus Location without any verb.

S (Subject) can be filled by a pronoun, noun, or noun phrase.

L (Location) can be filled by a pronoun, noun, noun phrase, or locative such as *ŏu* 'here'.

S has a wide range of fillers while L only has fillers that refer to locations. However personal pronouns may fill L when they refer to locations.

to- 'at, to, in' is one of the constants marking the location phrase. Other such constants include *'băt* 'place', *kiâ* 'place', *'dâng* 'from'.

11. Battery Multipliers. Other forms can be constructed from the clauses in the verbal batteries (the first seven batteries) by the addition of other constants. Instead of including these forms in the paradigms and thus increasing greatly the total number of forms, it would seem better to consider these forms as a multiplication of the basic paradigm. [7]

The following constants (which we shall call multipliers) indicating questions, negatives, and time of action of the verb are added immediately before the verb : *hăm* 'question marker', *tam* 'yet ?', *urh* 'negative' plus connective particle *ko*, *tam-mă* 'not yet', *nĕ* 'negative imperative' plus or minus connective particle *ko*, *nĕ tam* 'don't yet', *oĕι* 'indicating that an action is still being performed', *gô* 'indicating that an action will be performed', *sang* 'indicating that an action has been performed already', *ho-loh* 'indicating that an action is performed immediately', *'năo* 'indicating that an action has just been

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7 Cf. Thomas op. cit.

performed', *'nao wă* 'indicating that an action is just about to be performed', *jơ* a clitic 'indicating that an action has been performed already'.

Following are the restrictions of occurrence of these multipliers with the forms in the paradigms:

None of the multipliers can occur in the Nominalization of Verb forms. In general the particle *hĭ* does not occur with these multipliers.

hăm and *tam* cannot be added to the second Passive State form (Potential Passive Battery Tr. 10) nor to Minimal Plus Causer (IC Tr. 2).

gô and *oĕi* cannot be added to the two Passive States (PP Tr. 9, 10).

'nao cannot be added to the second Passive State (PP Tr. 10).

'nao wă cannot be added to the second Passive State (PP Tr. 10), Transitive of the Minimal Noncausative Battery (MNC Tr. 4) and the No Actor form of the same battery (MNC Tr. 5).

nĕ kơ and *nĕ tam* cannot be added to any of the Nominalizations, the Passive clause (PP Tr. 6), the two Passive States (PP Tr. 9, 10), the minimal Intransitive Causatives (IC Tr. 1, 2) when the verbs are of an adjectival type, Transitive (MNC Tr. 4) and No Actor (MNC Tr. 5) of the Minimal Noncausative Battery, No Subject form of the Intransitive Causative Battery (C Tr. 13) all Subject Minimal, Causer, and Actor Emphases, and the Basic form of the *Jĕi* Battery (J Tr. 1). When *nĕ kơ* and *nĕ tam* occur with these forms the Actors or Subjects change to second person.

holoh cannot be added to Topic Emphasis (PP Tr. 4), the second Passive State (PP Tr. 10), the No Subject forms (IC Tr.

13, MNC Tr. 5), forms of the Minimal Noncausative Battery
that have verbs of an adjectival type, minimal forms of the In-
transitive Causative Battery that have verbs of an adjectival type
(IC Tr. 1, 2), and the Transitive of the Minimal Noncausative
Battery (MNC Tr. 4).

Following are examples of occurrences of multipliers with
the forms in the paradigms:

Set hăm gâ jâng Rŏk   (PP 'Tr. 3)
'Set ?marker break leg Rok'
Did Set break Rok's leg ?

jâng Rŏk hăm toʼgâ   (PP Tr. 6)
'leg Rok ?marker passive-broke'
Did Rok's leg break ?

Set hăm poʼhuʼ gre   (IC Tr. 4)
'Set ?marker make-out-of-order vehicle'
Did Set put the vehicle out of order ?

Set hăm poʼhuch koʼ Rŏk choʼphe   (TC Tr. 10)
'Set ? marker make-drink prep. Rok coffee'
Did Set give Rok a drink of coffee ?

Rŏk (păng) Set hăm toʼtôn (dih-băl)   (TNC Tr. 7)
'Rok (and) Set ?marker recip.-hit (recip.)'
Are Rok and Set hitting each other ?

Reduplication 'indicating consecutive action,' occurs on
verbs.[8] The following forms in the paradigms cannot take
the reduplication: the Passive clause (PP Tr. 6'), the two
Passive States (PP Tr. 9, 10), Reciprocal with one Actor after

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8 For a full discussion of this and other reduplicative forms see Elizabeth
Banker, 'Bahnar reduplication' in this same volume.

the verb (TNC Tr. 8), the No Actor form of the Minimal Noncausative Battery (MNC Tr. 5), and the following Emphasis forms: IC Tr. 5, 10, TNC Tr. 2, INC Tr. 7, MNC Tr. 2.

Following are examples of ·occurrence of reduplication with the forms in the paradigms :

Rŏk hŏhuch chŏphe ('moi̯ na sư năm) (TC Tr. 3)
Rok drank coffee (first then he went)

Rŏk pŏhư pŏhư (na sư năm) (IC Tr. 3)
Rok make-out-of-order make-out-of-order **(then he went)**
Rok put it out of order first (then he went).