66-1471

LOFLIN, Marvin Dee, 1935-

A TRANSFORMATIONAL GRAMMAR OF SIMPLE SENTENCES IN CUZCO QUECHUA.

Indiana University, Ph.D., 1965
Language and Literature, linguistics

University Microfilms, Inc., Ann Arbor, Michigan

A TRANSFORMATIONAL GRAMMAR OF SIMPLE SENTENCES IN CUZCO QUECHUA

by

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Submitted to
the faculty of the Graduate School
in partial fulfillment of the requirements for the degree,
Doctor of Philosophy,
in the Department of Linguistics
Indiana University
September
1965

Accepted by the faculty of the Graduate School, Indiana University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Date: 17 July 1965

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ACKNOWLEDGEMENTS

I wish to thank Professor Andreas Koutsoudas, chairman of my doctoral committee, for his effort on my behalf; not only has he been a source of inspiration as a scholar and teacher but he has also been a friend.

I also wish to thank the other members of my committee, Albert Valdman, Fred W. Householder, and C. F. Voegelin, for their help during my period of study and research.

Particularly, I am grateful for the financial assistance accorded me under an NDEA Title VI fellowship. Without this aid I would have been considerably delayed in my graduate work.

A TRANSFORMATIONAL GRAMMAR OF SIMPLE SENTENCES
IN CUZCO QUECHUA

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REFERENCE LIST OF SYMBOLS

Acf -- Action focus

Adj -- Adjective

Adj_a -- Abstract adjective

Adj_c -- Concrete adjective

Afn -- Noun affix

Aux -- Auxiliary

Cd -- Complement dummy

Comp -- Complement

Cond -- Conditional/Subjunctive

ču -- Yes-no question marker

D -- Noun and adjective suffix

Det -- Determiner

F -- Predicate adjective

Fexcl -- First person exclusive

Fi -- First person

Fincl -- First person inclusive

Fir -- First person singular

Fut -- Future

H -- String of verb suffixes

Hab -- Habituative

Id -- Intensifier dummy

Ima -- Inanimate interrogative marker

Imaymana -- Manner interrogative marker

Imp -- Imperative

Ins -- Intensifier

ka -- 'to be'

kiki -- Self morpheme

Man -- Manner adverb

Manaču -- Negative morpheme

manta -- Direction morpheme (meaning 'from')

may -- Location interrogative marker

Mn -- Manner adverb (subclass)

Mood -- Mood

MV -- Main verb

N -- Noun

Na -- Abstract noun

Name -- Proper names (nouns)

Nan -- Animate nouns

Narr -- Narrative

Nc -- Concrete noun

Ncnt -- Count noun

Neg -- Negative

Nin -- Inanimate nouns

Nm -- Mass noun

Nom -- Nominal phrase

Nom_X -- Noun phrase

NP -- Noun phrase (subclass)

Nu -- Number

Obl -- Obligative

PA -- Possessor marker

Pas -- Passive

Past -- Past

Per -- Person

pi -- Location morpheme (meaning 'in')

pi_X -- Animate interrogative marker

Pl -- Plural

Pos -- Positive

Pr -- Predicate

Pred -- Predicate (subclass)

Pres -- Present

Prev -- Preverb

Prog -- Progressive

Pron -- Pronoun

$Pron_a$ -- Pronoun (subclass)

$Pron_b$ -- Pronoun (subclass) for impersonal verbs

Pvb -- Preverb (subclass)

Q -- Question

R -- Special cue symbol

Rel -- Relativization node

Rel_D -- Phrasal suffixes

Rel_{D1} -- Class of suffixes used in predicates

Rel_{D2} -- Class of suffixes used in predicates

Rel_L -- Location suffix

Rel_R -- Relational suffix

Rl_d -- Relative dummy

S -- Sentence

Se -- Second person

Sg -- Singular

sqa -- Passive marker

T -- Tense

ta -- Object, direction or adverbializing morpheme

Ta -- Time adverb

Ta_1 -- Time adverb occurring with any tense

Ta_2 -- Time adverb which occurs with past tense only

Td -- Time dummy

Th -- Third person

Tim -- Time adverb

TM -- Topic marker

V -- Verbs (subclass)

Vac -- Subclass of copulative verbs which do not take Nom.

VAL -- Validator

Vap -- Subclass of copulative verbs taking Nom.

Vb -- Verb

Vb_{TR} -- Transitive verbs

Vb_{tra} -- Transitive verbs which do not take indirect objects

Vb_{trb} -- Transitive verbs which take indirect objects

Vb_{tr} -- Transitive verbs taking indirect objects

Vb_{tr_1} -- To transitive verbs taking indirect objects

Vb_{tr_2} -- From transitive verbs taking indirect objects

Vcop -- Copulative verbs

Via -- Impersonal intransitive verbs

Vib -- Subject-taking intransitive verbs

Vin -- Intransitive verbs (subclass)

Vin_A -- Verbs of motion

Vin_a -- To-intransitive verbs of motion

Vin_b -- From-intransitive verbs of motion

Vint -- Intransitive verbs

Vip -- Impersonal transitive verbs

VP -- Verb Phrase

Vp -- Appearance verbs

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VTR_x -- Transitive verbs with obligatory object

VTR_y -- Transitive verbs with deletable object

WAN -- Conjunction

x -- Non-passive relative clause marker

xayk'ax -- Time interrogative marker

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CHAPTER I

1.1 Introduction. The goal of this work is to provide a transformational grammar characterizing simple sentences in Cuzco Quechua. This grammar has two parts--a phrase structure (PS) component and a transformational component. The phrase structure component is a set of rules which operate on strings of symbols and which when applied result in derivations and their formal representations, phrase-markers, (P-markers). The output of the PS component is a finite set of P-markers (1) having morphemes as terminal elements, and (2) describing constituency relations of these morphemes.[1]

Transformational rules, on the other hand, operate on the output (i.e., the P-markers) of the PS component, deriving thereby new P-markers. Transformational rules may operate on a single P-marker or on two P-markers, such that the result of the operations performed by a single rule is a transform. A transformation which has as its domain only one P-marker is called a singulary transformation, and one which operates on more than one P-marker is called a generalized transformation.

[1]Since my intention is to indicate the limits of the present work and not to review transformational theory, the reader is referred to works by Noam Chomsky, Andreas Koutsoudas, Paul Postal and others (See Bibliography) for a more detailed account of the constraints on these rules and for other details related to transformational theory.

Thus, one can see that both components produce P-markers: there are those produced by the PS component which are called basic or underlying P-markers, and those produced by the transformational component which are called derived P-markers.

It should be noticed that since higher order constituents are postulated to simplify the transformational component of the grammar, it is to be expected that with a more exhaustive exploration of singulary and generalized transformations some changes will be necessary in the PS component presented here.

1.2 Sources. My sources for the language analysis have been primarily an informant[2] and secondarily two unpublished dissertations (describing Huanuco Quechua[3] and Cochabamba Quechua[4]) and a few miscellaneous articles. There have been many attempts to describe Quechua. Sola cites a reference giving 1560 as the date of the earliest known Quechua grammar.

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[2]My informant, Mrs. Olga Villagarcia de Coronado, was born and reared in the village of Lamay in the Province of Kalka in the Department of Cuzco, Peru.

[3]Sola (1958).

[4]Lastra (1963).

[5]Sola (1958), p. 5.

The author has not had access to sources earlier than 1944. Relatively recent studies have dealt with either phonology[6] or morphology[7] and have therefore proved of little value in this study.

In 1963, a mimeographed edition of Ayacucho Quechua was published by the Quechua Language Materials Project of Cornell University. The materials were designed to be used in language training courses, and were also of little use in the present study. Although both of the unpublished dissertations referred to above are cast in a model different from that of transformational grammar they included materials helpful in the author's research.

1.3 Interesting Observations and Conclusions. Several interesting observations and conclusions may be noted. First, it has been assumed in this grammar that rules are the result of justifiably postulated grammatical relationships. Thus, in some instances, one transformational rule might have accounted for the data; nevertheless, two or more rules were postulated. (See Question transformations T-57 and T-58 and Reflexive transformations T-51 and 52.) When this is the case it is supposed that two or more rules make claims about grammatical relationships which are not made if the same data is accounted for by one rule.

Second, a symbol (See R in GT-46) was introduced

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[6]Garro (1944).

[7]Yokoyama (1951).

into the grammar to simplify the rules in subsequent transformations. (See T-54, 55 and 56.) Except for simplicity, i.e., the reduced number of symbols required to specify rule domain, this symbol is not otherwise justified in the grammar.

Third, dummy symbols are introduced in the phrase structure to provide a node in generalized transformations. The embedded sentences always assume the structure of the dummies they replace. For another way to specify place of attachment and specification of structure in generalized transformations see Fillmore, 1963.

And fourth, it was found that all embedded transitive sentences (where the nominal element of the matrix sentence--see footnote 14--was the same as the object of the verb of the transitive constituent sentence) had to be passive. If, as presented in this grammar, the passive node is introduced in the PS component, then in the relative embedding rule (@T-46) a constraint must be added which assures that no transitive sentence of the type already outlined will be embedded until passivized. This is to make the claim that unpassivized transitive sentences having the properly defined nominal elements are not relativized.

It can be argued on the grounds of generality and simplicity that it would be preferable to handle this kind of relativization in another way. One could claim that all sentences are relativized (a more general claim than the

one which excludes certain types of transitive sentences) and then those relativized sentences which must be passive could be so rewritten. The problem may be handled this way only if the passive is introduced optionally in the transformational component. However, to argue for introducing the passive in the transformational component is to argue against the claim of Katz and Postal (1964) who say that the passive node should be included in the PS component on the grounds of simplicity and the need to satisfy constraints which the addition of a semantic component makes upon a grammar.

CHAPTER II

2.1 Introduction. Underlying structure or deep phrase structure is presented in this chapter. The format for discussing the PS component is the following: (a) the PS rule is given, accompanied by an explanation of symbols that appear for the first time; (b) then follows a discussion of the rule; and (c) where pertinent there are grammatical and ungrammatical examples of utterances involving the classes postulated in the rule. Occasionally discussion follows the examples.

The examples themselves are numbered. When grammatical they give three kinds of information: the first line is a Quechua sentence, phonemically represented, with words set off by double cross boundaries and morphemes within words set off by plus signs (See example (1) below.); the second line is partially an English gloss and partially elements of Quechua structure which are identified in the grammar (See the second line of (1) below.); and the third line is an English gloss.[8] When the examples are ungrammatical the second of the three lines is excluded. Both grammatical and ungrammatical examples may be accompanied by explanatory statements in parentheses.

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[8]The reader is reminded that the examples are not to be considered part of the grammar; hence it is not to be expected that there will always be any one-to-one correspondence between elements delimited by boundary symbols in the examples and constructs in the grammar. The examples are given merely to indicate forms of the language upon which the abstract formal structure is based.

2.2 PS-Rules.

#S#S#...#S#

PS-1 S ⟶ (Q) Nom + VP (Nom) (Tim)

Q = Question
Nom = Nominal Phrase
VP = Verb Phrase
Tim = Time Adverb

Question (Q) is included in this rule in order potentially to derive interrogatives[9] from any sentence generated by the grammar. The obligatory nominal phrase (Nom) and verb phrase (VP) are used in transformations wherein either (but not both at the same time) may be deleted. The remaining classes in PS-1 are given sentence level constituency because of their permutability. That is, they exhibit no mutual dependency relations in permutations with other classes of PS-1. The potential mobility of these classes is illustrated in the following three examples: the time adverb (Tim), qaynunčay 'yesterday', is first given at the end of the utterance, then permuted to the beginning of the utterance and finally permuted to the position following the subject, qhari 'man'.

(1) # qhari+ qa # warmi+ ta+ n # xasut'i+ra+ n #
man-TM woman-ta-VAL whip-Past-3rd Pers Sg

[9]Katz and Postal (1964), pp. 78-119.

(1) The man whipped the woman

qaynunčay #

yesterday. (Time adverb in utterance final position.)

(2) # qaynunčay # qhari + qa # warmi + ta + n # xasut'i + ra + n #

(Same as above except the time adverb is in utterance initial position.)

(3) # qhari+ qa # qaynunčay # warmi + ta+ n # xasut'i+ ra+ n #

(Same as (1) above except the time adverb follows the subject.)

PS-2 VP ⟶ (Prev) (Nom) MV + Aux

Prev = Preverb
MV = Main Verb
Aux = Auxiliary

Preverbs (Prev) include negatives and form a class apart from the main verb (MV) and auxiliary (Aux) classes because they are only optionally an expansion of verb phrases (VP). (See rules PS-41 and 42 for additional discussion of preverbs.) However, both a verb and an auxiliary are obligatory in strings generated by the PS component.

The auxiliary (Aux) is postulated as separate from the main verb (MV) because it is obligatorily deleted in relative clause embeddings (For discussion see GT-46.) and it provides the node of attachment in subject and object agreement rules. (See T-61.) Nom written here before MV is discussed more thoroughly later. (See PS-25.)

PS-3 MV $\longrightarrow \left\{ \begin{matrix} \text{Pr} + \text{ka} \\ \text{Vb} \end{matrix} \right\}$

Pr = Predicate
ka = ka, 'to be'
Vb = Verb

Pr + ka is separated from Vb because of the use made of ka in transformations, e.g., ka can be optionally deleted in stative, equational and topic-comment types of sentences. Other verbs cannot be deleted.

(4) # pay + qa # kusisqa + n # ka + ša + n #

he - TM happy - VAL be-Pres Hab-3rd Pers Sg.

He is happy. (Be-verb ka included.)

(5) # pay + qa # kusisqa + n #

he - TM happy - VAL

He happy. (Verb ka excluded.)

But not:

(6)*[10] # pay + qa # warmi + ta + n #

He the woman. (Transitive verb deleted, following a noun with object marker.)

PS-4 Vb $\longrightarrow \left\{ \begin{matrix} \text{Pr} + \text{Vcop} \\ \text{V} \quad (\text{H}) \end{matrix} \right\}$

Vcop = Copulative verbs
V = Verbs (subclass of Vb; Cf. PS-3.)
H = String of verb suffixes

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[10] An asterisk at the beginning of a sentence indicates ungrammaticality.

Vcop verbs cannot (1) be passivized, which distinguishes them from transitive verbs, cannot (2) stand without a predicate, which distinguishes them from intransitive verbs, and cannot (3) take a predicate which does not have a D constituent, which distinguishes them from ka 'to be'.

The class (H), not completely explored here, represents a string of suffixes that are postulated with verbs. These suffixes may have a variety of translations. For example, paya in mixupayašani may be glossed as 'incessantly'; ykača in mixuykačašani glossed as 'incessantly contrary to wisdom' so that the two glosses are, 'I am eating incessantly', and 'Contrary to wisdom, I eat incessantly' (I can't help myself.).

The relationship these suffixes (and others behaving similarly) bear to syntax is a potentially interesting one. In all probability certain manner adverbs will be found to be mutually exclusive with these suffixes whereupon the two (i.e., certain adverbs and the suffixes) may be classed together.

(7) # pay+ qa # ñuqa+ man # unqusqa+ man+ mi # rixč'a+ wa+ n#

he - TM me - man sick-D-VAL seems-me-3rd Pers Sg

He seems sick to me. (Vcop rixč'a 'seem' with obligatory D /man/ in predicate.)

But not:

(8)* # pay + qa # runa # rixč'a + wa + n #

He seems the person to me. (Noun without D in predicate with Vcop.)

(9)* # pay + qa # rixč'a + sqa # ka + ša + n #

He is seemed. (A passivized Vcop.)

(10)* # pay + qa # rixč'a + wa + n #

He seems to me. (Vcop without predicate.)

PS-5 Vcop ⟶ { Vs / Vp }

Vs = Sense verbs
Vp = Appearance verbs

Two subclasses of Vcop are postulated. The one, Vp, has two subclasses which take the same predicate (i.e., they have the same rewrite of D), while the other, Vs, takes a manner adverb (Man) as a predicate.

(11) # waka + qa # allin + ta + n # asna + n#

cow - TM good - D - VAL smell-3rd Pers Sg

The cow smells good. (Vs with manner adverb, allinta.)

(12) # See (9) above for Vcop with a predicate.

But not:

(13)* # waka + qa # allin + man + mi # asna + n #

The cow smells good to. (Vp predicate with Vs verb.)

PS-6 V ⟶ { Vint / VbTR (Pas) } (Man)

Vint = Intransitive verbs
VbTR = Transitive verbs
Pas = Passive
Man = Manner adverb

To account for a class of verbs which cannot take an object, V is subclassified into Vint, intransitive verbs, and VbTR, transitive verbs.

(14) # warmi + qa # asi + ku + ša + n #

woman-TM laugh-Acf-Pres Prog-3rd Pers Sg

The woman is laughing. (Intransitive verb, asi 'laugh'.)

$$\text{PS-7} \quad \text{VbTR} \longrightarrow \left\{ \begin{matrix} \text{Comp} \\ \text{Nom} \end{matrix} \right\} \quad \text{VTR}$$

Comp = Complement
VTR = Transitive verbs

Transitive verbs are postulated with two different kinds of objects--(a) complements (Comp) and (b) nominal phrases (Nom)--because some transitive verbs may take an embedded sentence as an object and others may not. The class VTR, transitive verbs, is included because of its utility in subsequent transformations. That is, when the constituent sentence in a relative embedding is transitive it must be passivized. (See GT-46.) VTR is hypothesized here in the phrase structure to simplify and make maximally general the generalized transformation which embeds transitive sentences. If it were not for the utility of the symbol VTR, it would have been possible to include PS-8 in PS-7 splitting VbTR directly into VbTR_1 and VbTR_2.

$$\text{PS-8} \quad \text{VTR} \longrightarrow \left\{ \begin{matrix} \left\{ \begin{matrix} \text{VTR}_1 \\ \text{VTR}_2 \end{matrix} \right\} \\ \text{VTR}_2 \end{matrix} \right. \quad / \quad \text{Nom} + \underline{\quad} \left. \right\}$$

VTR_1 = Transitive verbs that take nominal phrases but not complements as objects

VTR_2 = Transitive verbs that take both nominal phrases and complements as objects

Since not all transitive verbs may co-occur with a complement it is necessary to postulate two further subclasses of transitive verbs: those that may not take complements, ($\underline{\text{VTR}_1}$), and those that may ($\underline{\text{VTR}_2}$).

(15) # ñuqa+ qa # pay+ pa # xamu+ sqa+ n + ta+ n # yača+ ni #

I - TM his-pa come-ing-his-D-VAL know-1st Pers Sg

I know that he comes; or, I know that he came. ($\underline{\text{VTR}_2}$ with complement.)

But not:

(16)* # ñuqa+ qa # pay+ pa # xamu+ sqa+ n + ta+ n # taka+ ni #

I hit that he comes. ($\underline{\text{VTR}_1}$ with complement.)

$$\text{PS-9} \quad \text{VTR}_1 \longrightarrow \left\{ \begin{matrix} \text{VTR}_x \\ \text{VTR}_y \end{matrix} \right\}$$

VTR_x = Transitive verbs with obligatory object

VTR_y = Transitive verbs with deletable object

In order to account for the fact that the objects of some transitive verbs may be optionally deleted it is necessary to further subclassify those transitive verbs which are not expanded with an optional complement, ($\underline{VTR_1}$).

(17) # pay + qa # warmi + ta + n # taka + n #

he - TM woman-D-VAL hit-Hab Pres-3rd Pers Sg

He hits the woman. ($\underline{VTR_x}$ with object.)

(18) # pay + qa # kaballu + kuna + ta + n # suwa + n #

he - TM horse-Pl-D-VAL steal-Hab Pres-3rd Pers Sg

He steals horses. ($\underline{VTR_x}$ with object.)

(19) # pay + qa # suwa + n #

he-TM steal-Hab Pres-3rd Pers Sg

He steals. ($\underline{VTR_x}$ without object.)

But not:

(20)* # pay + qa # taka + n #

He hits. ($\underline{VTR_y}$ without object.)

PS-10 $Vint \longrightarrow \left\{ \begin{array}{c} Vin \\ Nom + Vin_A \end{array} \right\}$

Vin = Intransitive verbs
Vin_A = Verbs of motion

Intransitive verbs are subdivided into verbs of motion which co-occur with nominal phrases (Nom), and all other intransitives.

(21) # warmi + qa # kusiku + ša + n #

woman-TM happy-Pres Prog-3rd Pers Sg

The woman is happy. (Vin with nominal phrase subject.)

(22) # qhari + qa # qusqu + man # ri + ra + n #

man-TM Cuzco-to go-Past-3rd Pers Sg

The man went to Cuzco. (Intransitive verb of motion in constituency with Nom.)

But not:

(23) *# warmi + qa # qusqu + man # kusiku + ra + n #

The woman was happy to Cuzco. (Nom with Vin.)

PS-11 Vin $\longrightarrow$ { Via, Vib }

Via = Impersonal intransitive verbs
Vib = Subject-taking intransitive verbs

The class Via is postulated to account for a class of intransitive verbs that must not take a subject (i.e., they are impersonal). In order to avoid unnecessary complications with the agreement rules (T- 61), a subject is posited in the phrase structure (PS-31) for all the impersonal verbs and then deleted in the T-rules (T-92). Vib accounts for all other intransitive verbs.

(24) # arpha + ša + n #

twilight-Prog Pres-3rd Pers Sg

It's becoming twilight. (Intransitive verb Via that may not take a subject.)

(25) # warmi + qa # asiku + ša + n #

woman-TM laugh-Prog Pres-3rd Pers Sg

The woman is laughing. (A typical Vib intransitive verb.)

But not:

(26) *# p'unčaw + qa # arpha + ša + n #

The day is twilighting. (Impersonal verb with a subject.)

PS-12 VTRy ⟶ { Vip, Vrbt }

Vip = Impersonal transitive verbs
Vrbt = Transitive verbs taking subjects

One class of transitive verbs (Vip) requires an object but may not take a subject. All other transitive verbs (Vrbt) must take a subject.

(27) # yarqa + ša + wa + n #

hunger-Prog Pres-me-3rd Pers Sg

I am hungry. (Impersonal transitive verb, Vip.)

(28) # čay # t'anta + qa # yarqa + ša + wa + n #

that bread-TM hunger-Prog Pres-me-3rd Pers Sg

That bread makes me hungry.[11] (Subject with transitive verb.)

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[11] This verb is homonymous with the impersonal transitive verb of example (27).

But not:

(29) *# yarqa + ša + ni #

I hunger. (Subject with impersonal verb.)

PS-13 VinA $\longrightarrow$ $\left\{\begin{matrix}\text{Vin}_a\\ \text{Vin}_b\end{matrix}\right\}$

Vin_a = To-intransitive verbs of motion
Vin_b = From-intransitive verbs of motion

The intransitive verbs of motion are subclassified according to the obligatory rewrite of Rel_L (Cf. PS-25.) wherein Vin_a takes a relational roughly equivalent to to in English and Vin_b takes a relational translatable as from.

(30) # Lima + man + mi # čayamu + ra + ni #

Lima-to-VAL arrive-Past-1st Pers Sg

I came to Lima; or, I arrived in Lima. (A to-intransitive verb of motion.)

(31) # kwartu + manta + n # lluχsi + ra + ni #

room-from-VAL exit from-Past-1st Pers Sg

I exited from the room. (A from-intransitive verb of motion.)

But not:

(32) *# Lima + man + mi # lluχsi + ra + ni #

I exited from to Lima. (A from-intransitive verb of motion with a to rewrite of D.

PS-14 Vrbt $\longrightarrow$ $\left\{\begin{matrix}\text{Vbtra}\\ \text{Vbtrb}\end{matrix}\right\}$

$Vbtr_a$ = Transitive verbs which do not take indirect objects
$Vbtr_b$ = Transitive verbs which take indirect objects

Some transitive verbs may not take indirect objects. PS-14 separates those verbs that may (Vbtrb) from those that may not (Vbtra).

(33) # warmi+ qa # ðay # runa + ta+ n # k'ami + ra+ n #

woman - TM that person-D-VAL insult-Past-3rd Pers Sg

The woman insulted that person. (A transitive verb which may not take an indirect object.)

(34) # qhari + qa # kwentu + ta + n # alqu + man # willa + ra + n #

man - TM story-D-VAL dog-D relate-Past-3rd Pers Sg

The man told the story to the dog. (A transitive verb which may take an indirect object.)

PS-15 $Vb_{trb} \longrightarrow$ (Nom) Vb_{tr}

Vb_{tr} = Transitive verbs taking indirect objects

Since indirect objects need not occur with Vbtrb the above rule specifies Nom as optional.

PS-16 $Vb_{tr} \longrightarrow \left\{ \begin{matrix} Vb_{tr1} \\ Vb_{tr2} \end{matrix} \right\}$

Vb_{tr1} = To transitive verbs taking indirect objects.
Vb_{tr2} = From transitive verbs taking indirect objects.

Transitive verbs ($\underline{Vb_{tr}}$) which may take indirect objects are further subclassified to account for the fact that some ($\underline{Vb_{tr2}}$) never have as indirect objects nominal phrases (Nom) that expand into constituents having an element with the gloss, 'from'.

(35) # warmi + qa # alqu + ta + n # qhari + man # qu + ra + n #

woman-TM dog-D-VAL man-D give-Past-3rd Pers Sg

The woman gave the dog to the man. (Transitive verb with to indirect object.)

(36) # warmi + qa # alqu + ta + n # qhari + manta # časki + ra + n #

woman-TM dog-D-VAL man - D receive-Past-3rd Pers Sg

The woman received the dog from the man. (Transitive verb with from indirect object.)

But not:

(37)* # warmi + qa # alqu + ta + n # qhari + man # časki + ra + n

The woman received the dog to the man. (From transitive verb with to indirect object.)

PS-17 Vp ---> $\left\{ \begin{matrix} (\text{Nom})\ \text{Vap} \\ \text{Vac} \end{matrix} \right\}$

Vap = Subclass of copulative verbs taking Nom
Vac = Subclass of copulative verbs which do not take Nom

The copulative verb Vp rewrites as two classes, one with an optional Nom (Vap) (See PS-18 below.), and the other without the option.

Vac and Vap are hypothesized to account for the fact that the verb tuku 'become' (a member of the class Vac) may be modified by a manner adverb and Vap may not be. The optional Nom postulated in this rule (PS-17) preceding Vap accounts for what might be called the logical subject of appearance-type verbs, e.g., rixč'a 'seem'.

(38) See (9) above for an example of Vap.

(39) # č'aka + man + mi # tuku + ra + nki #
hoarse - D - VAL become-Past-2nd Pers Sg
You became hoarse.

PS-18 Pr ⟶ { Pred + VAL (Man) /___ Vac
Pred + VAL }

Pred = Predicate
VAL = Validator
Vac = Become verb

Validator (VAL) is postulated to account for a suffix which for the purposes of this grammar occurs in every utterance.[12] The label 'validator' has been adopted from other descriptions of Quechua dialects, notably from Sola's description.

In PS-5 Vs was introduced as a rewrite of Vcop and there it was mentioned that the predicate postulated before

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[12]Preliminary research indicates that the co-occurrence restrictions on this suffix are not well understood.

Vs was a manner adverb (PS-19). PS-18 specified that Pr has an optional manner adverb (Man)when Vcop is rewritten as Vac (i.e., the verb tuku 'become' may be modified by an adverb while other members of the class Vp may not be).

PS-19

$$\text{Pred} \longrightarrow \left\{ \begin{array}{l} \text{Man} \quad /\_\_\_\_\text{VAL} + \text{Vs} \\ \left\{ \begin{array}{l} \text{Nom} \\ \text{F} \end{array} \right\} /\_\_\_\_\text{VAL} \quad \left\{ \begin{array}{ll} \text{Vap} & \\ (\text{Man}) & \text{Vac} \end{array} \right\} \\ \text{Nom} \\ \text{Adj} \end{array} \right\}$$

F = Predicate Adjective
Adj = Adjective

Before appearance verbs (Vap) such as rixč'a 'seem' or the verb tuku 'become' (Vac) the predicate (Pred) is either a predicate adjective (F) or a predicate noun (Nom). Before other verbs the predicate (Pred) is expanded either as an adjective (Adj) or predicate noun (Nom). Thus Pred may dominate Adj without an intermediate node or through the intermediate node, F. The F node is necessary to obtain Adj in constituency with a suffix when Pred and Vp or Vac are ultimately suppended from the same node. Adjectives preceding Vac and Vap are always followed by a suffix (dominated in the rules by D).

(40) See (11) for an example of a Man rewrite of Pred. (Vs with manner adverb (Man)).

(41) See (39) for an example of an F rewrite of Pred. (Vap with predicate adjective F.)

(42) See (1) for an example of a Nom rewrite of Pred. (Pred is here the object of a transitive verb.)

But not:

(43)* # warmi + qa # č'aka + n # tuku + ra + n #

The woman became hoarse. (Adj before Vac where only F would produce a grammatical string.)

(44)* # wasi + qa # yuraχ + man + mi # ka + n #

The house is white. (F before ka 'to be' where Adj is needed to produce a grammatical string.)

PS-20 Man ---> { Adj + ta / ____ VAL + Vs ; Adj + ta ; Mn }

Mn = Subclass of manner adverbs

PS-21 F ---> Adj + D

D = Noun and adjective suffixes

Adjectives which occur in the predicate with Vap and Vac must take the relational suffix MAN (Cf. PS-25.).

PS-22 Nom ---> (Rel) Nom_X + D

Nom_X = Noun phrase element
Rel = Relative

Rel rewrites Rl_d (relative dummy) and is optionally rewritten with any Nom_x to allow for relative embeddings. (See GT-46.)

PS-23 Comp ---> Cd

Cd = Complement dummy

The rewrite of Comp gives the dummy symbol Cd. (For additional information on Cd see the discussion of Comp under PS-7.)

(45) See (15) for an example of an embedding which makes use of Cd.

(46) See (16) for an example of an ungrammatical embedding involving Cd.

PS-24 Rel ---> Rl_d

Rl_d = Relative dummy.

See GT-46 for a more extended discussion of the relative embedding and the use to which the relative dummy (Rl_d) is put. Also, see Fillmore (1963) for an alternate way of handling embeddings.

PS-25 D ---> {
TM /___ VP
Rel_R /___ MV
Rel_L /___ Vin_A
ta /___ { VTR_X / VTR / VTR_1 }
man /___ { Vap / (Man) Vcop / D + VAL + Nom_X ___ Vb_{trl} }
pi / Vp + Nom_X ___
manta / D + VAL + Nom_X ___ Vb_{tr2}
Rel_D
}

TM = Topic marker
Rel_R = Relational suffix
Rel_L = Location suffix
ta = Object or direction suffix
pi = Location suffix
Rel_D = Phrasal suffixes

This complex context-restricted rule is the result of the attempt to achieve the generalization that any element dominating D may be interrogativized.

In PS-25 there are eight contextually restricted rewrites of D. To begin with, the Nom before VP is postulated to account for subjects of sentences. In this grammar, the

topic marker (TM) rewrite of D is obligatory with every subject.

(47) # wawa + qa # waqa + ša + n #

child-TM cry-Prog Pres-3rd Pers Sg

The child is crying. (Topic marker (TM) with subject.)

But not:

(48)* # wawa # waqa + ša + n #

The child is crying. (Subject without topic marker.)

TM is deleted in questions (Q).

(49) # pi + n # waqa + ša - n #

who-VAL cry-Prog Pres-3rd Pers Sg

Who is crying?

But not:

(50)* # pi + qa # waqa + ša + n #

Who is crying? (With TM, qa.)

The nominal phrase Nom before the main verb (MV) is postulated to account for strings such as # ñuqa + paχ # 'for me', # ñuqa + χ # ranti + y + mi # "in my stead", and # ñuqa + rayku # "because of me". It is possible to account for phrases of this type in at least two ways. The course pursued here has been to postulate Nom in constituency with any class of verbs dominated by MV. Another way to

account for relational phrases would be through generalized transformations. In such an alternative the matrix sentence and the constituent sentence would be the same except that the CSent would be negative and the subjects would be different. For example, Matrix Sentence: # mana + n # pay + qa # čay + ta # ruwa + ra + n + ču # 'He did not do that.' Constituent Sentence: # ñuqa + qa # čay + ta + n # ruwa + ra + ni # 'I did that.' Derived Sentence: # ñuqa + qa # pay + pa # ranti + n + mi # čay + ta # ruwa + ra + ni # 'I did that in his stead.' The solution presented here, however, accounts for relational phrases through the hypothesis of a mutual dependency relation between such phrases (i.e., Nom before MV) and verbs. It is anticipated that the relationship described here will be accounted for by writing a morpheme paxpu (Rel_R) in the lexicon and then later in the T-rules pu (1) will be deleted and reattached to a particular subclass of verbs; and (2) will be deleted in all other environments.

(51) # pay + qa # čay + ta + n # ñuqa + pax # ruwa + pu + wa + ra + n #

he - TM that-D-VAL me - for do-pu-me-Past-3rd Pers Sg

He did that for me. (Relational phrase (Nom)--ñuqapax--plus pu attached to the verb ruwa 'do'.

But not:

(52)* # pay + qa # čay + ta + n # ñuqa + pax # ruwa + wa + ra + n #

He did that for me. (Same as (51) above but without pu.)

It ought to be noted that relationships between object person markers and relational phrases are not dealt with in detail here either. That is, object person markers may have

varied constituency with the verb depending on the presence of direct objects, indirect objects and nominal phrases before MV; given a set of well-defined environments, there seems to be a hierarchy of constituency relationships such that the object person marker may be a constituent of any one of these three classes.

The third rewrite of D accounts for the suffixes (Rel_L) following nominal phrases (Nom_X) in the position before intransitive verbs of motion (Vin_A).

The fourth rewrite of D accounts for the direct objects of transitive verbs. The fifth accounts for indirect objects (as does the seventh) and the suffix in predicates of Vap and Vcop.

The sixth rewrite accounts for locative phrases and the eighth accounts for the remaining uses of D.

An alternative to PS-25 might have postulated lower classes such as OBJ or Afl which could have displayed mutual dependency relations with the verbs or the Nom_X's. Had such an alternative been selected it would have been necessary to specify all these lower order classes (i.e., OBJ, Afl, etc.) in the interrogative transformation (T-57) and thus complicate this rule.

PS-26 Nom_X ---> NP + Afn

NP = Noun Phrase
Afn = Noun Affix

Nom_x is split to give the Afn constituent which is used in agreement rules (T-61, T-62).

(53) # qan + qa # asi + ku + ša + nki #

you-TM laugh-Acf-Prog Pres-2nd Pers Sg

You are laughing. (Agreement between subject and verb.)

PS-27 Rel_D ---> $\left\{ \begin{matrix} Rel_{D1} \\ Rel_{D2} \end{matrix} \right\}$

Rel_{D1} = Class of suffixes used in predicates
Rel_{D2} = Class of suffixes used in predicates

Rel_D gives all the remaining suffixes used in predicates with ka 'to be'. One of these suffixes (Rel_{D1}) serves as part of the input to a generalized transformation (GT-46). And Rel_{D2} accounts for all the remaining suffixes which may be constituents of Rel_D.

(54) # qhari + qa # alqu + yux + mi # ka + n #

man - TM dog-Rel_{D1}-VAL be-Hab Pres-3rd Pers Sg

The man has a dog. (Rel_{D1} in Pred.)

(55) # Juan + qa # Lima + manta + n # ka + n #

Juan - TM Lima-from-VAL Rel_{D2} be-Prog Pres-3rd Pers Sg

John is from Lima. (Rel_{D2} in Pred.)

(56) # Juan + qa # Rosa + wan + mi # ka + ša + n #

(56) Juan - TM Rosa-with-VAL be-Prog Pres-3rd Pers Sg

John is with Rosa. (Rel$_{D2}$ in Pred.)

PS-28 NP ---> { (Det) N / ____ Rel$_{D1}$; Pron ; Name ; (Det) N }

Det = Determiner
N = Noun
Pron = Pronoun
Name = Proper name

Since neither pronouns (Pron) nor proper names (Name) are possessed, it is necessary to exclude Pron and Name from constituency with Rel$_{D1}$, possession. In addition, determiners (Det) are mutually exclusive with Pron and Name.

(57) # ñuqa + qa # wasi + yuɣ + mi # ka + ni #

I - TM house-with-VAL be-Hab Pres-1st Pers Sg

I have a house. (Grammatical use of possession.)

(58) # ɤay # waka + qa # wañu + ra + n #

that cow - TM die-Past-3rd Pers Sg

That cow died. (Det preceding noun.)

(59) # pay + kuna + qa # wañu + ra + nku #

they - TM die-Past-3rd Pers Pl

They died. (Pron without Det.)

But not:

(60)* # ñuqa + qa # qan + ni + yuẋ + mi # ka + ni #

I have you. (Ungrammatical possession of Pron.)

(61)* # ñuqa + qa # Jorge + yuẋ + mi # ka + ni #

I have George. (Ungrammatical possession of proper name.)

(62)* # čay # qan + qa # wañu + ra + nki #

That you died. (Det modifying Pron.)

(63)* # čay # Pedro + qa # wañu + ra + n #

That Peter died. (Det modifying Name.)

PS-29 Tim ---> { Ta, Td }

Ta = Time adverb
Td = Time dummy

PS-30 Ta ---> { Ta_1, Ta_2 }

Ta_1 = Time Adverb occurring with any tense
Ta_2 = Time Adverb which occurs with past only

Tim is rewritten as Ta (time adverbs) and Td which is postulated to allow for adverbial time embeddings.

PS-31 Pron ---> $\left\{ \begin{matrix} \text{Pron}_b \\ \text{Pron}_a \end{matrix} \right\}$ / ___ $\left\{ \begin{matrix} \text{Vip} \\ \text{Via} \end{matrix} \right\}$

Pron_b = Pronoun for impersonal verbs
Pron_a = All other pronouns

See PS-38 for additional discussion of Pron_b. Pron_a accounts for all pronouns except the one needed for impersonal verbs. Pron_b is postulated to give Afn, the node required for subject and object agreement. Pron_b is deleted later. (See T-92 .)

PS-32 N ---> $\left\{ \begin{matrix} \text{Nc} \\ \text{Nc} \\ \text{Na} \end{matrix} \right\}$ / ___ TM + Nom + Pred $\left\{ \begin{matrix} \text{Vs} \\ (\text{Man})\ \text{Vac} \end{matrix} \right\}$

Nc = Concrete noun
Na = Abstract noun

Nouns (N) are obligatorily rewritten as concrete nouns, (Nc) before Vs or Vac, and as Nc or abstract nouns (Na) elsewhere.

(64) # warmi + qa # ǒ'aka + man + mi # tuku + ra + n #

woman - TM hoarse-MAN-VAL become-Past-3rd Pers Sg

The woman became hoarse.

(65) # qhari + x̣ # xuča + n + qa # mana + allin + mi # ka + ra + n #

man's sin-his-TM bad be-Past-3rd Pers Sg

The man's sin was bad.

But not:

(66)* # xuča + qa # č'aka + man + mi # tuku + ra + n #

The sin became hoarse.

PS-33 Adj ---> (Ins) $\left\{ \begin{array}{l} Adj_a \; / \left\{ \begin{array}{l} \_\_ta \; VAL \; Vs \\ Na \; Afn \; VAL \; \_\_\_\_ \end{array} \right\} \\ Adj_c \end{array} \right\}$

Ins = Intensifier
Adj_a = Abstract adjectives
Adj_c = Concrete adjectives

Adj postulated in the predicate rewrite rule (PS-19) is rewritten into two classes to account for adjectives (Adj_a) that typically modify abstract nouns and adjectives (Adj_c) that typically modify concrete nouns. Adjective modifiers are also inserted through the relative embedding rule (GT-46).

(67) See (64) above for an example of an Adj_c (concrete adjective).

(68) See (65) above for an example of an abstract noun (Na) modified by an abstract adjective.

But not:

(69)* # See (66) above for an example of an abstract noun (Na)with a concrete adjective (Adj_a).

PS-34 Ins ---> Id

Id = Intensifier dummy

Ins provides for embeddings involving adjective intensifiers which will lead to the specification of comparatives. All the dummies (Rl_d, C_d, etc.) including the intensifier dummy (Id) of PS-34 are a device for incorporating the power of infinite recursion into the grammar. All the transformational rules which utilize this power are not elaborated upon in this grammar. Nevertheless, the dummy device is here included to be made use of in further analysis.

PS-35 Nc ---> { Ncnt / Nm }

Ncnt = Count nouns
Nm = Mass nouns

In order to account for a class of concrete nouns which do not take the plural Nc is rewritten into mass nouns (Nm) and count nouns (Ncnt).

(70) # unu + qa # baldi + pi + n # ka + ša + n #

water-TM bucket-in-VAL be-Prog Pres-3rd Pers Sg

The water is in the bucket. (Nm in singular.)

(71) # mansana + kuna + qa # baldi + pi + n # ka + ša + nku #

apples-plural-TM bucket-in-VAL be-Prog Pres-3rd Pers Sg

The apples are in the bucket. (Ncnt in plural.)

But not:

(72)* # unu + kuna + qa # baldi + pi + n # ka + ša + nku #

The waters are in the bucket. (Nm in plural.)

PS-36 Ncnt ---> { Nan / Nin }

Nan = Animate nouns
Nin = Inanimate nouns

Count nouns are further divided into animate (Nan) and inanimate (Nin) nouns.

(73) # wawa + qa # t'anta + ra + n # mixu + ra + n #

baby - TM bread - D - VAL eat-Past-3rd Pers Sg

The baby ate the bread. (Animate noun as subject.)

(74) # t'anta + qa # wasi + pi + n # ka + ša + n #

bread - TM house - D - VAL be-Pres Prog-3rd Pers Sg

The bread is in the house. (Inanimate noun as subject.)

But not:

(75)* # t'anta + qa # t'anta + ta + n # mixu + ra + n #

The bread ate the bread. (Inanimate noun functioning where one would expect an animate noun.)

PS-37 Afn ---> Per + Nu

Per = Person
Nu = Number

PS-38 $$Nu \longrightarrow \left\{ \begin{array}{l} Sg \\ \left\{ \begin{array}{l} Sg \\ Pl \end{array} \right\} \end{array} \right. \Big/ \left\{ \begin{array}{l} Pron_b \\ Nm \end{array} \right\} \_\_\_\_ \Big\}$$

Sg = Singular
Pl = Plural

Number (Nu) must be rewritten Sg in the environment of $Pron_b$ and Nm. Otherwise Nu may be singular or plural. Thus it is possible to say:

(76) # arp^ha + ša + n #

twilight-Pres Prog-3rd Pers Sg

It is growing twilight.

(77) See (70) above for a mass noun (Nm) in the singular.

But not:

(78)* # arpʰa + ša + nku #

It is twilighting. (Impersonal verb in plural.)

PS-39 Per ---> { Th / { Name, N, Pron$_b$ } —— ; Fir, Se, Th }

Fir = First person
Se = Second person
Th = Third person

Person rewritten before impersonal verbs, names and nouns all must be third person (Th).

(79) # Jorge + qa # wasi + pi + n # ka + ša + n #

George-TM house-D-VAL be-Pres Prog-3rd Pers Sg

George is in the house. (Third person singular verb with name as subject.)

(80) # qhari + qa # wasi + pi + n # ka + ša + n #

man - TM house-D-VAL be-Pres Prog-3rd Pers Sg

The man is in the house. (Third person singular verb with noun as subject.)

But not:

(81)* # Jorge + qa # wasi + pi + n # ka + ša + ni#

George is in the house. (First person singular with name as subject.)

PS-40 Fir ---> $\left\{ \left\{ \begin{matrix} \text{Fincl} \\ \text{Fexcl} \end{matrix} \right\} \quad / \_\_\_\_ \text{Pl} \right\}$
Fi

Fincl = First person inclusive
Fexcl = First person exclusive
Fi = First person singular

First person plural must be either inclusive (Fincl) or exclusive (Fexcl).

PS-41 Prev ---> (manaču) (Pvb)
Choose at least one.

PS-42 Pvb ---> $\left\{ \begin{matrix} \text{Pos} \\ \text{Neg} \end{matrix} \right\}$

Pos = Positive
Neg = Negative

See the discussion of PS-1.

Some words make an utterance negative or positive. These words are here subsumed under the class postulated as preverbs. For example, in addition to the most typical form of negative manaču 'not' one may use other words to form negative utterances.

PS-43 Aux ---> (Acf) (Mood) T

T = Tense

Tense (T) is obligatory with every verb. Acf, action focus, emphasizes that the action or state of being has its focus in the subject.

PS-44 T ---> { Fut, Pres, Past, Narr }

Fut = Future tense
Pres = Present tense
Past = Past tense
Narr = Narrative tense

The morphophonemic rules (T-78 through T-85) deal with the rewrites of the morphemes in these two rules (PS-44, 45) and also with extensive co-occurrence and mutual dependency relations exhibited by the classes T and Mood.

PS-45 Mood ---> { Prog, Obl, Hab, Imp, Cond }

Prog = Progressive
Obl = Obligative
Hab = Habituative
Imp = Imperative
Cond = Conditional/Subjunctive

CHAPTER III

3.1 Introduction. This chapter completes the presentation of the PS component of the grammar. It will be remembered that the basic syntactic classes and their relations were specified in Chapter II; the lexicon will be specified in this chapter.[13]

3.2 Lexicon. The lexicon is presented alphabetically. The symbol which is expanded is to the left of an equal (=) sign and the lexical items being specified are to the right of the equal sign. Each item is followed by an English gloss.

Acf = ku

Adj_a = allin 'good'

Adj_c = allin 'good', ana 'spotted', anqas 'blue-green', antallu 'copper' (color), api 'squashed, rotten, damp', aqusapa 'sandy', čiri 'cold', č'aka 'hoarse', kusisqa 'happy', laqha 'dark', paya 'old', qhilla 'dirty', qilla 'lazy', sumax 'good, pretty', unqusqa 'sick', xatun 'big', xuč'uy 'small'.

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[13]The lexicon is not exhaustive; and anomalous sentences may be generated. For a discussion of anomalous sentences see Katz and Postal (1964), pp. 12-27.

Det = kay 'this', čay 'that', xaqay 'that yonder'.

Mn = allillamanta 'slowly', aspisillata 'only a little bit', asasllata 'only a little bit'.

Nan = akačix 'one who causes someone to excrete', alqu 'dog', amini 'nurse', amaru 'snake', amiga 'friend (girl)', amigu 'friend (boy)', animal 'animal', anayllu 'ant', apa 'older one among brothers', apači 'robber, thief', apu 'god', apulli 'chief', apusunqu 'an arrogant one', asnu 'stupid one', atux 'fox', aya 'corpse', maxt'a 'male youth', ghari 'man', runa 'person, human', sipas 'woman', waka 'cow', warmi 'woman', wayna 'man'.

Narr = sqa

Neg = A class not explored

Na = xuča 'sin', ami 'boredom'.

Nin = ačača 'toy', aka 'excrement', akana 'the place where one excretes', aku 'chew of coca', allačina 'potatoes ready for harvest', allana 'tubers ready for harvest', allana 'food for potato harvest', alličačina 'something which needs to be put in proper place', allpha 'land, dirt, field', almursu 'breakfast', alqa 'spot', amulli 'liquid

for gargling', ana 'spot', anaku 'shawl', ankalli 'rebellion','rebel', anta 'copper', añña 'sweets', 'candy', aqupampa 'sandfield', auto 'car', ayawantu 'corpse litter', ayča 'meat', ayllu 'commune', axa, akha 'corn beer', eskuela 'school', kamisa 'shirt', kanča 'yard', kwartu 'room', kwentu 'story', Lima 'Lima', pullira 'skirt', punku 'door', qulqi 'money', qusqu 'Cuzco', sara 'corn', siki 'bottom', t'uru 'mud', wasi 'house'.

Nm = unu 'water', tant'a 'bread', xayk'u 'flour'.

Obl = na

Past = ra

Pos = A class not explored.

Prog = ša

Rel_{D1} = yux

Rel_{D2} = wan 'with', ntin 'with', manta 'from.

Rel_{R} = rayku 'because', rantin 'instead of', paxpu 'for'.

Ta_{1} = antes, antesta 'before', čawpi p'unčaw 'middle of the day, noon', sapa p'unčaw 'every day', qayllampi 'at first, in the beginning', xayk'axllapas 'sometime'.

Ta_2 = qaynunčay 'yesterday'.

TM = qa

Vac = tuku 'become'.

Vap = rixč'a 'seem', rikhuri 'look'.

Via_1 = arp^ha 'become twilight'.

Via_2 = rup^ha 'be hot'.

Vib = ačala 'dress up with finery', achi 'sneeze', aka 'excrete', akačа 'excrete', akulli 'chew coca', alanku 'freeze', alayri 'be exposed, visible', allinya 'become better, improve', almursu 'eat breakfast', alqaya 'become spotted', alquya 'become dog-like', ami 'be bored', amulli 'gargle', anča 'boast, brag, exaggerate', ančaya 'have one's health grow worse', ančaya 'be spoiled', ankalli 'rebel', anta 'work with copper', antaya 'become copper colored', asi 'laugh', llakiku 'feel sorry', mača 'get drunk', puñu 'sleep', p'inqaku 'feel shame', thani 'get well', upalla 'be quiet', waqa 'cry'.

Vin_a = čaya 'arrive', ri 'go', puri 'go, xayku 'come in'.

Vin_b = lluxsi 'exit from', ri 'go', puri 'go', anchu 'go away from'.

Vip = yarqa 'hunger', čiriči 'make cold'.

Vrbt = acha 'shake with anger', ači 'bewitch', akača 'cause to become excrement, clean off', alla 'dig out', allači 'cause to dig out, harvest', alliča 'fix or cause to become good or arranged', alličači 'command that something be arranged, cause that something be fixed', alqa 'make spots', alqača 'cause to become spotted', amača 'defend', allinča 'help', allinya 'cause to improve', amiči 'cause boredom', ananča 'thank', antača 'cover with copper', anqu 'cheer up', kusiči 'cause to be happy', k'ami 'insult', layqa 'bewitch', maqa 'hit', taka 'hit', tima 'speak', tupa 'meet', xasut'i 'punish, whip', yanapa 'help'.

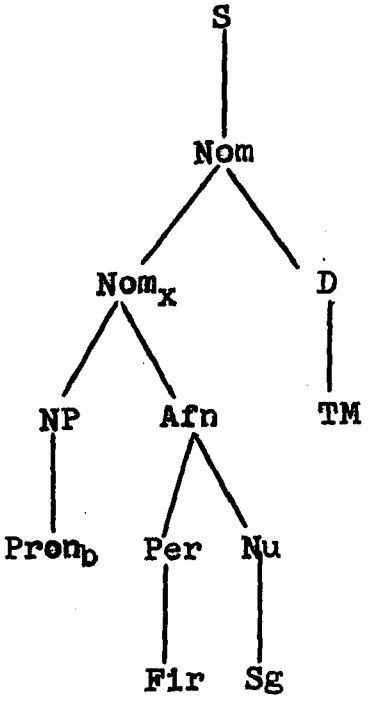
VTR_x = aku(lli) 'chew coca', mixu 'eat', suwa 'steal', tuma 'drink, eat breakfast'.

Vs = asna 'smell'.

Vtr_1 = anya 'advise', eskribi 'write', kuntista 'answer', mañu 'loan', ni 'say', qu 'give', rima 'speak', willa 'tell', xaywa 'hand over'.

Vtr_2 = alla 'dig out', časki 'receive', c'usti manuku 'beg', muna 'want', phunu 'be angry', ranti 'buy', suwa 'steal', xap'i 'take'.

3.2 Illustrative Trees.



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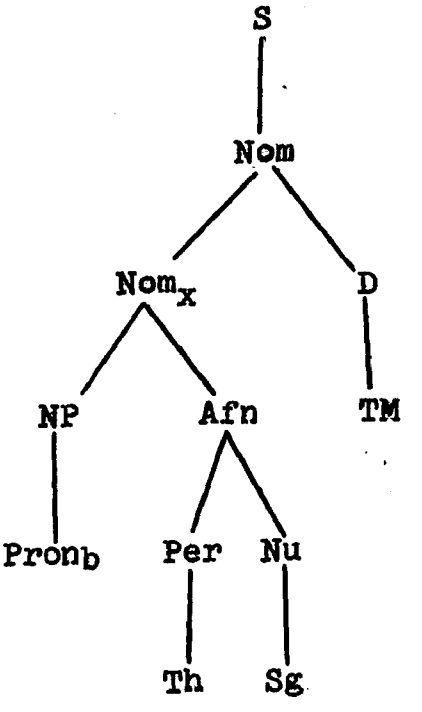

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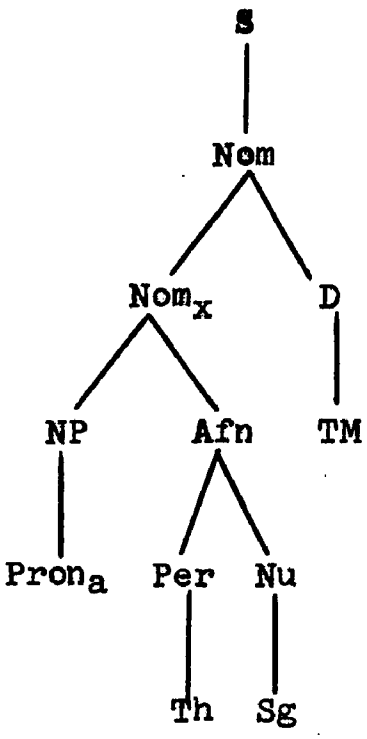
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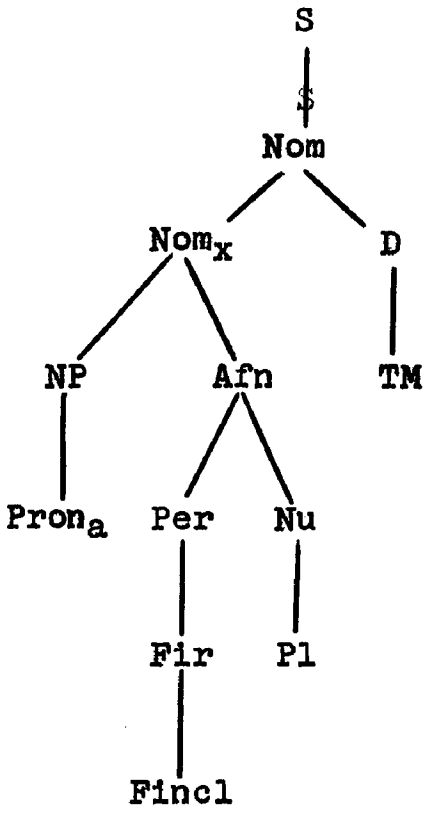
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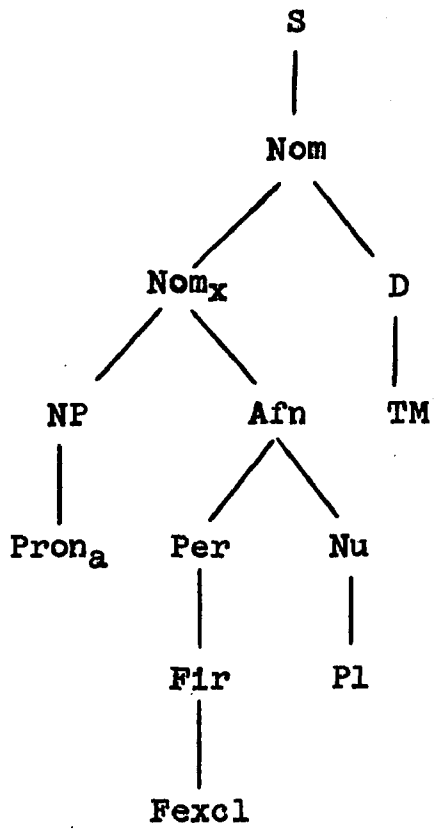
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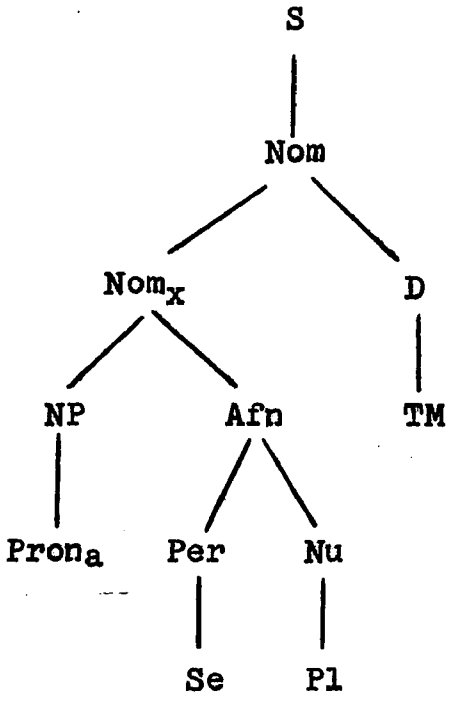
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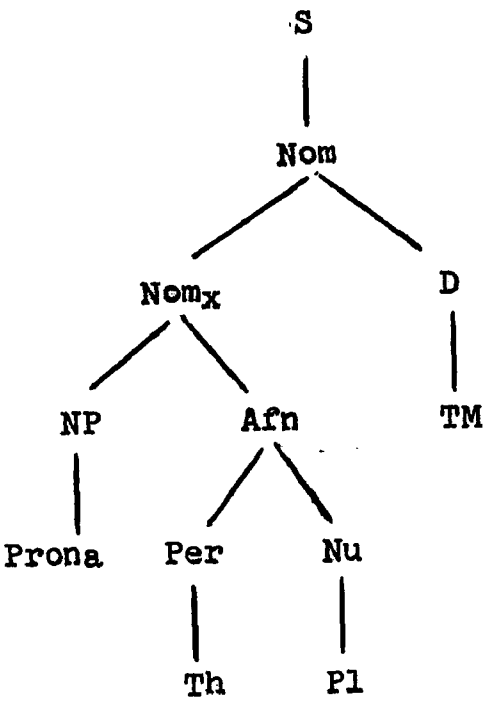
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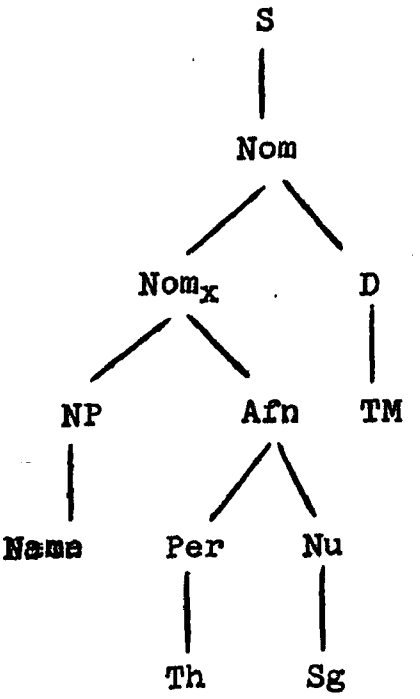
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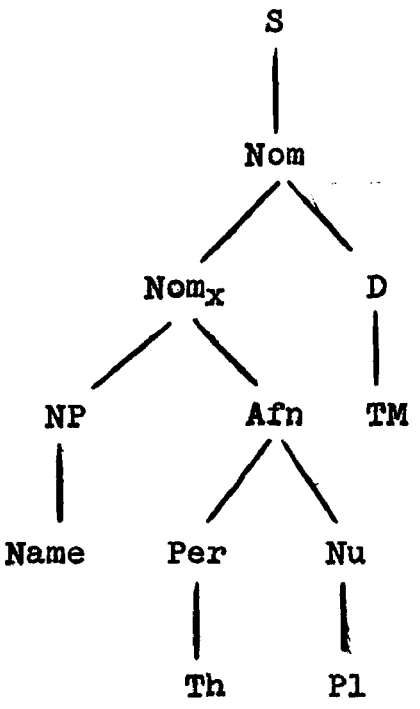
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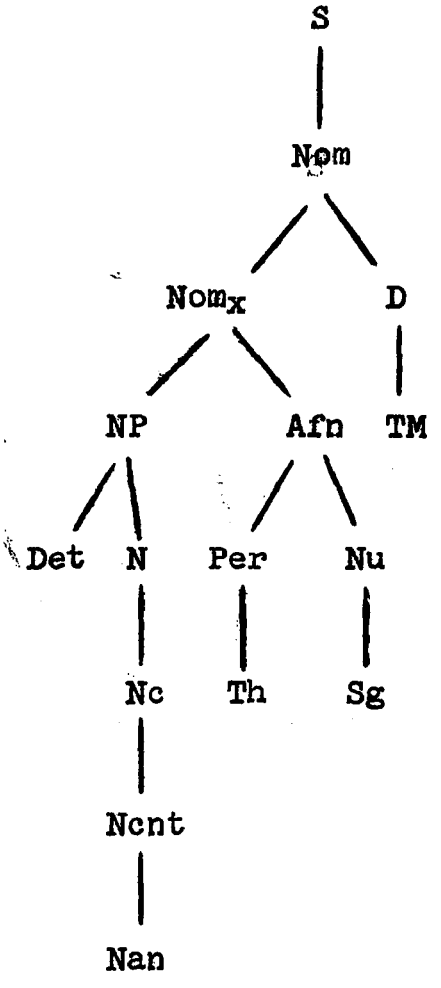
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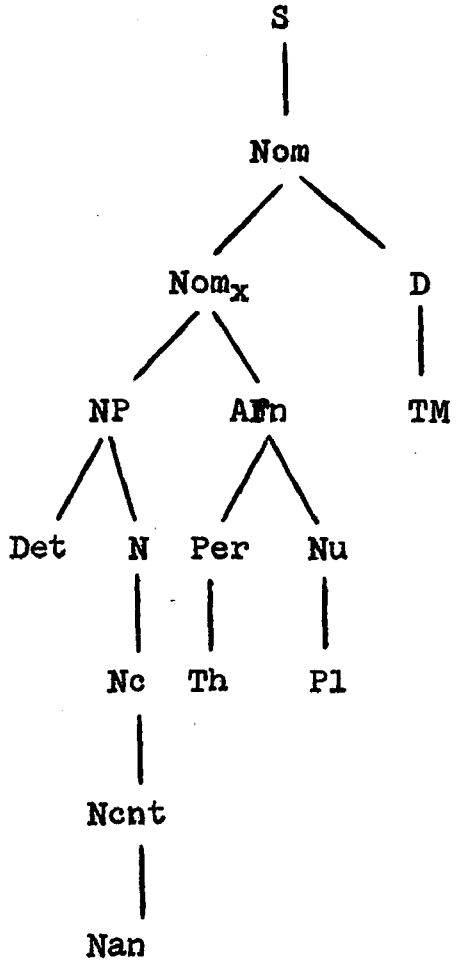
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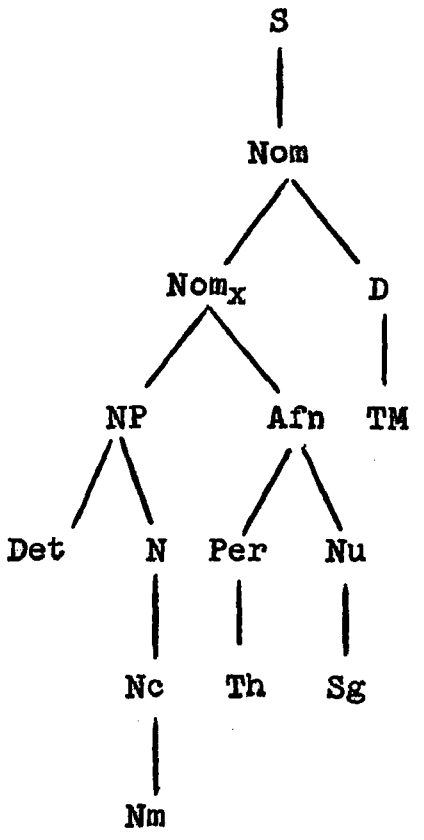
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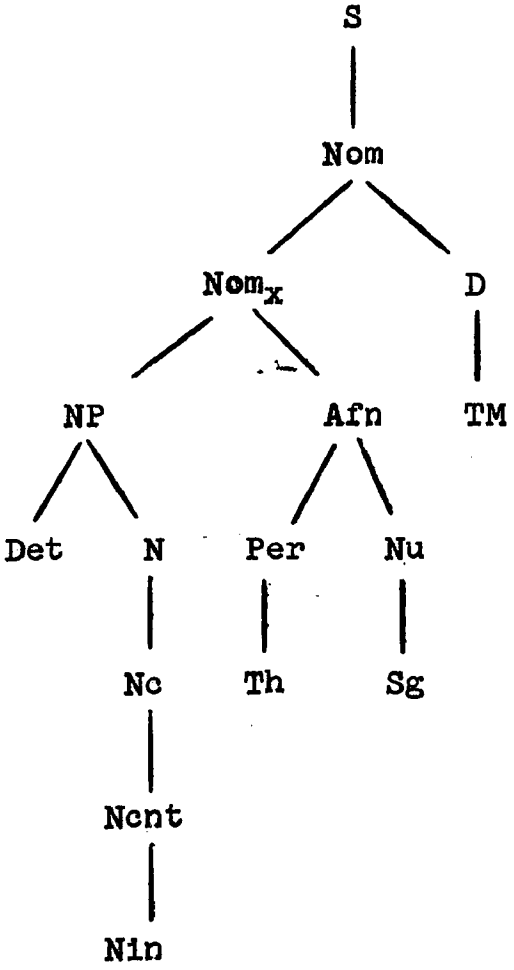
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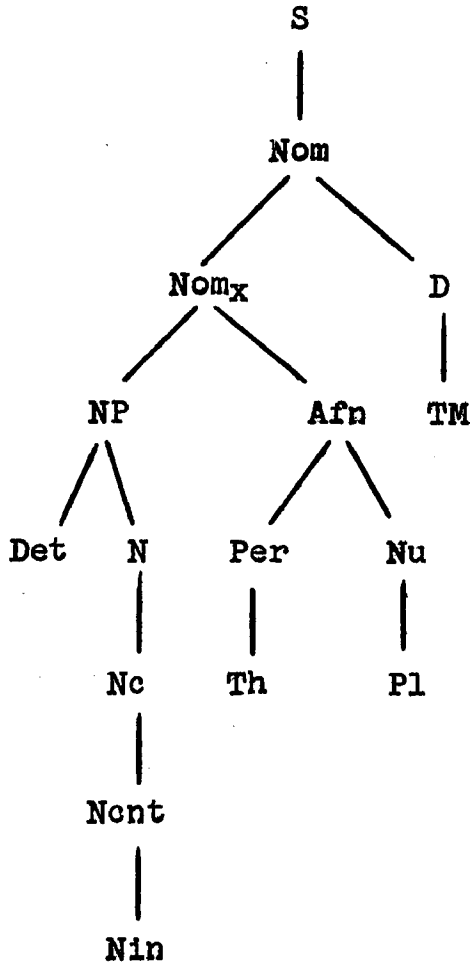
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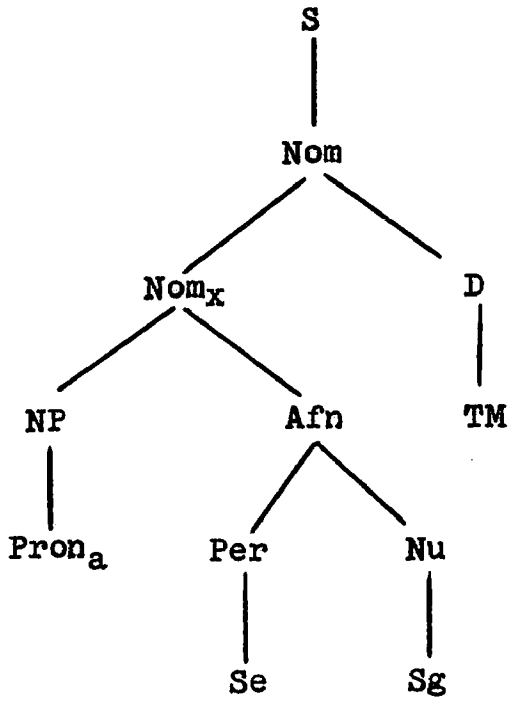

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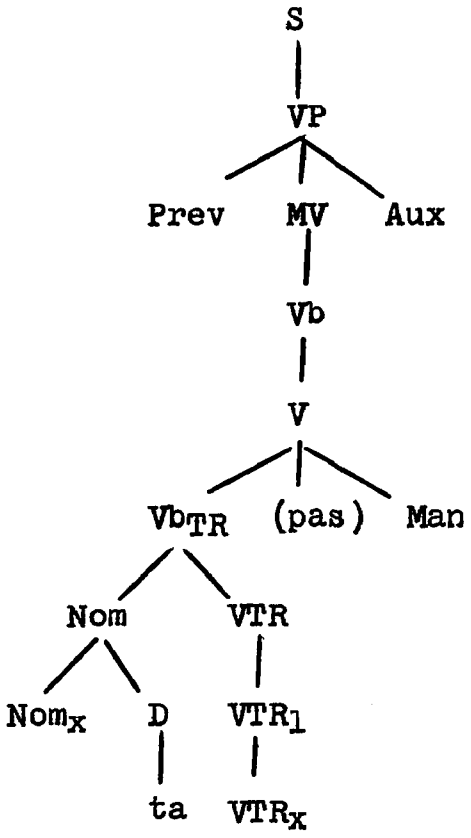
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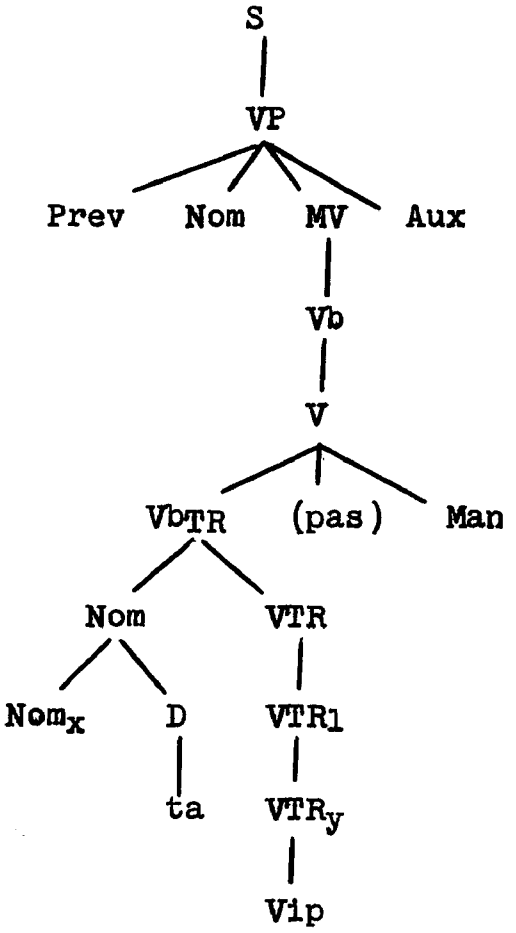
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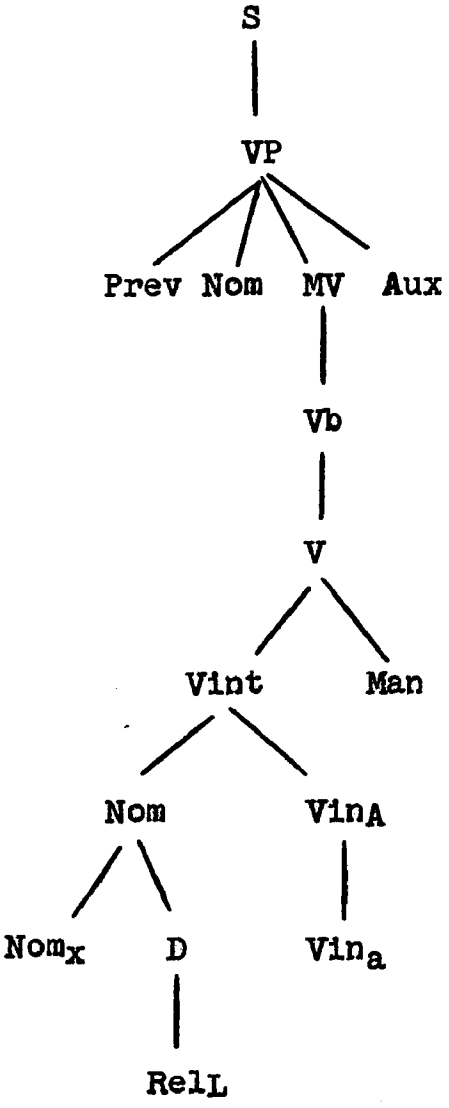
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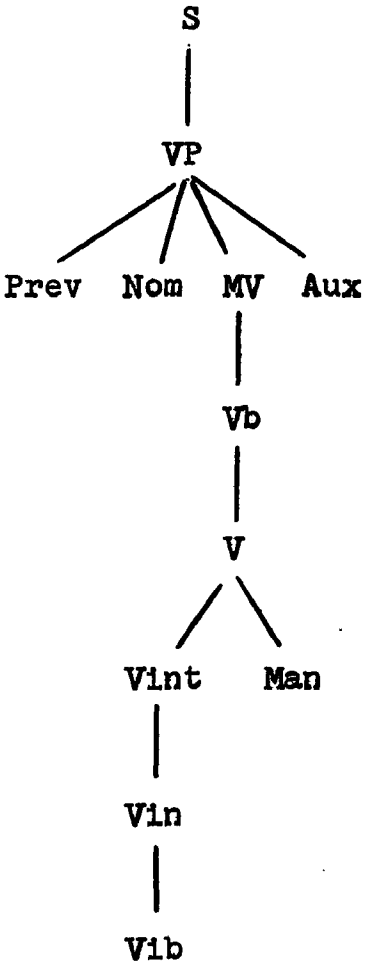
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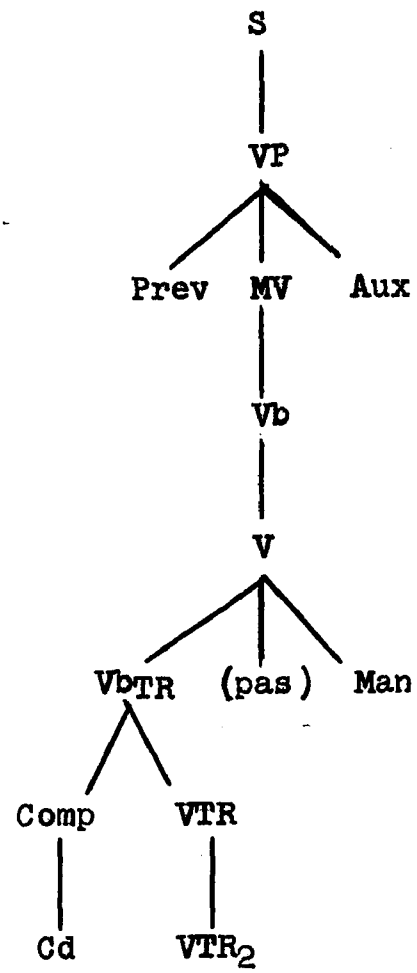
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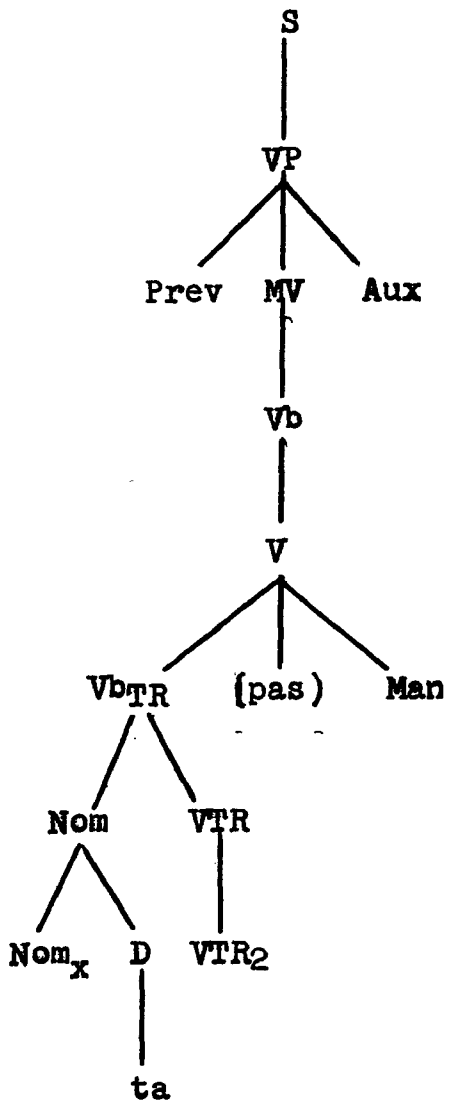
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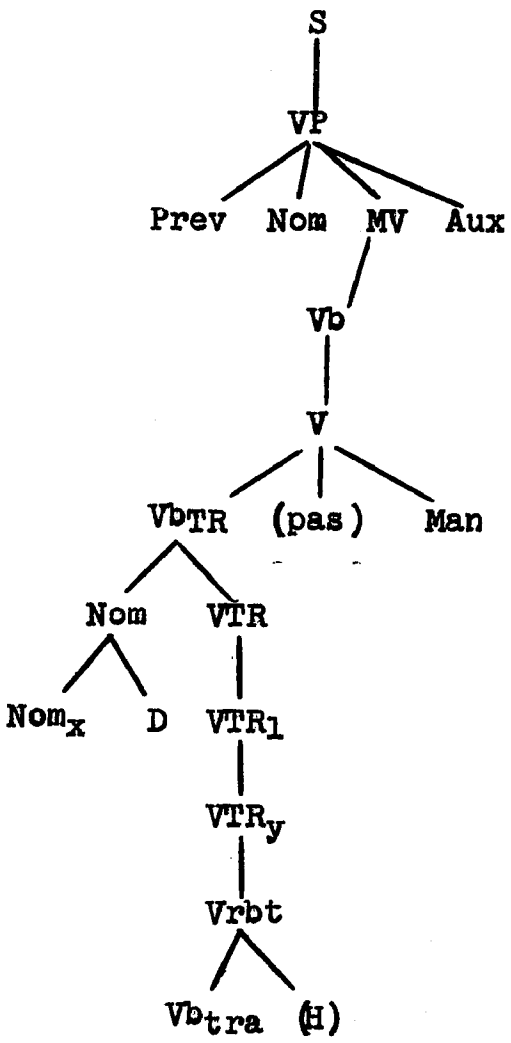
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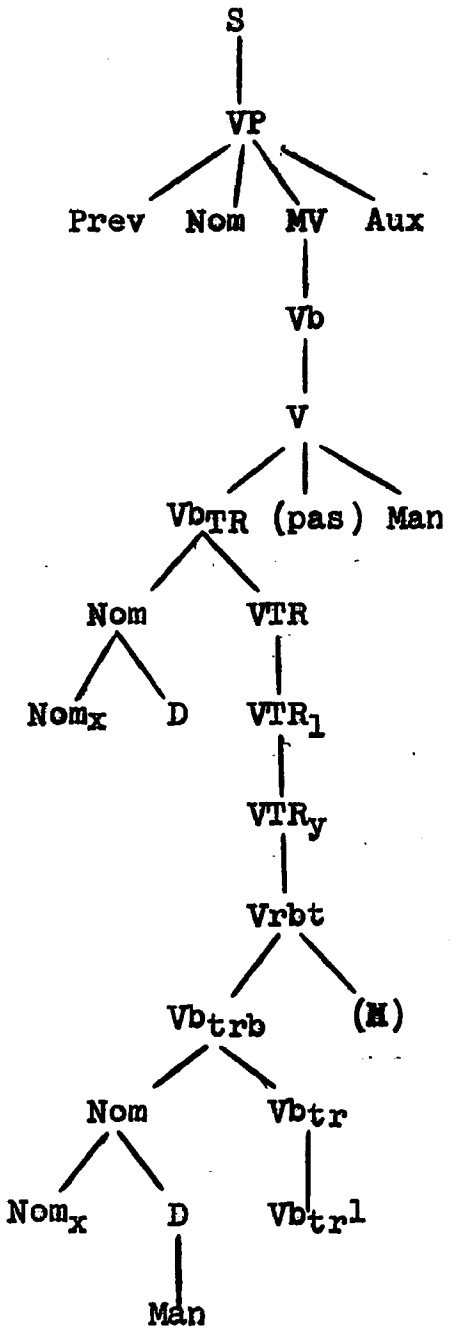
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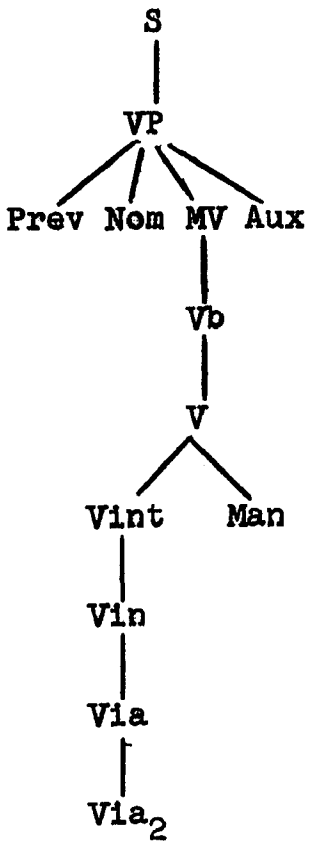
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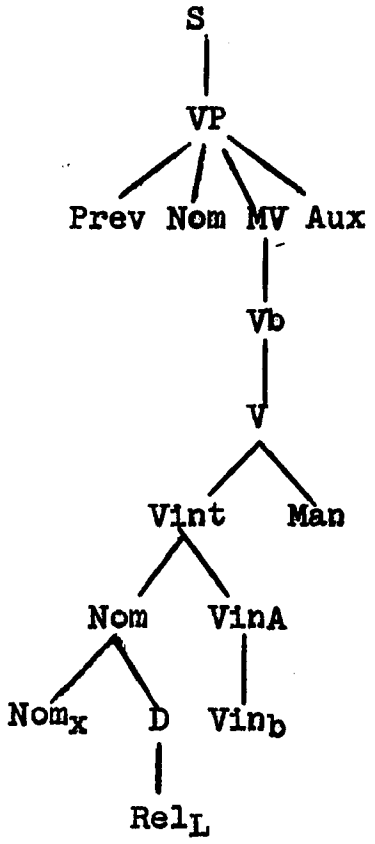
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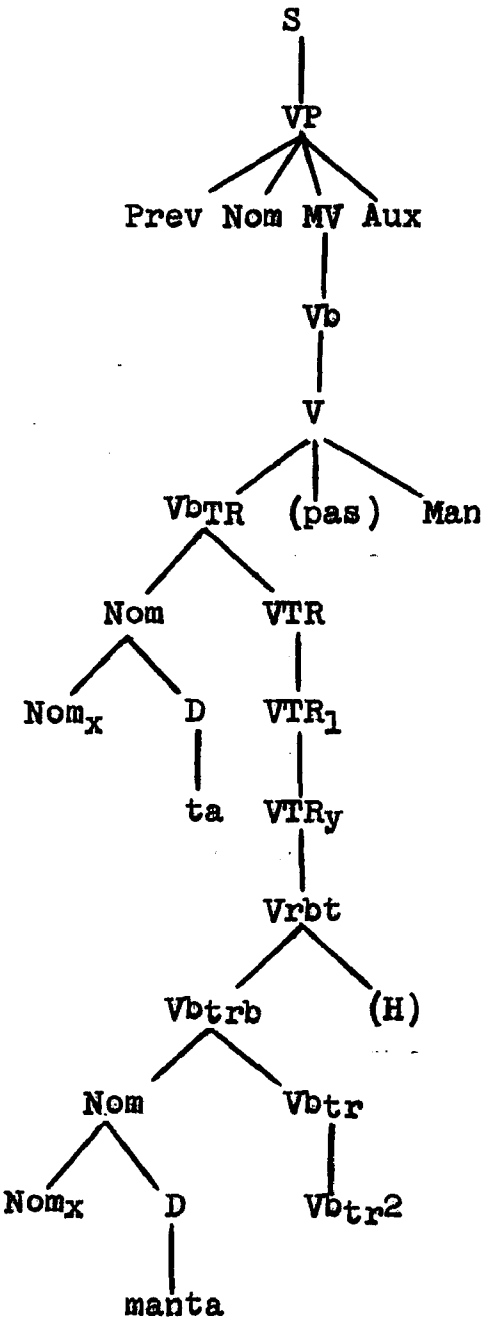
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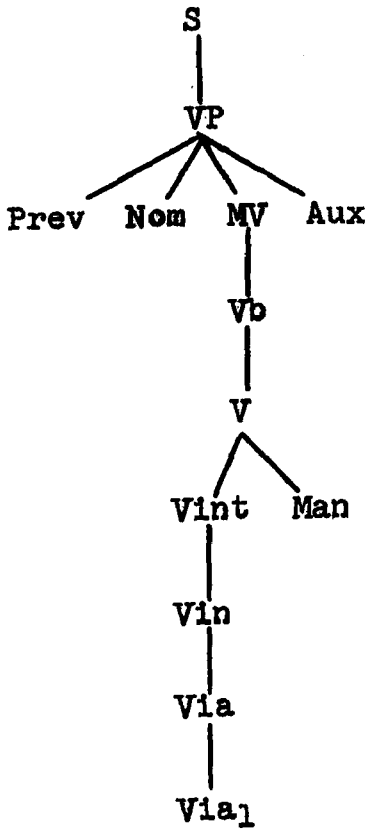
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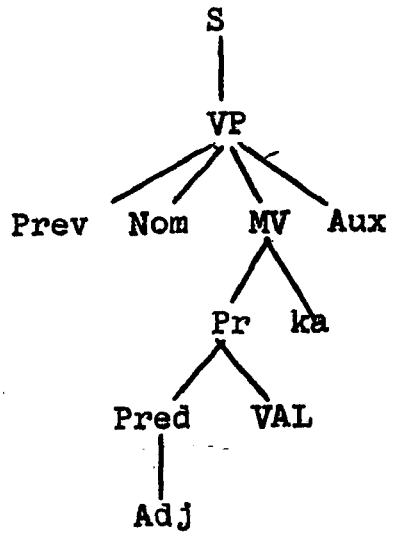
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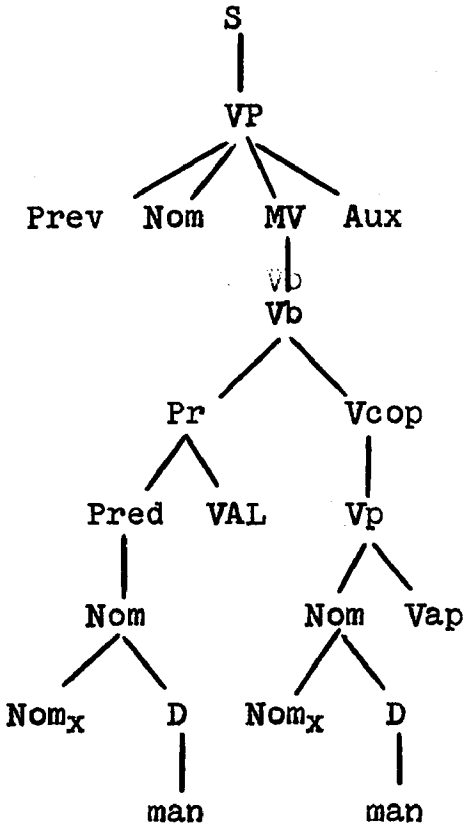
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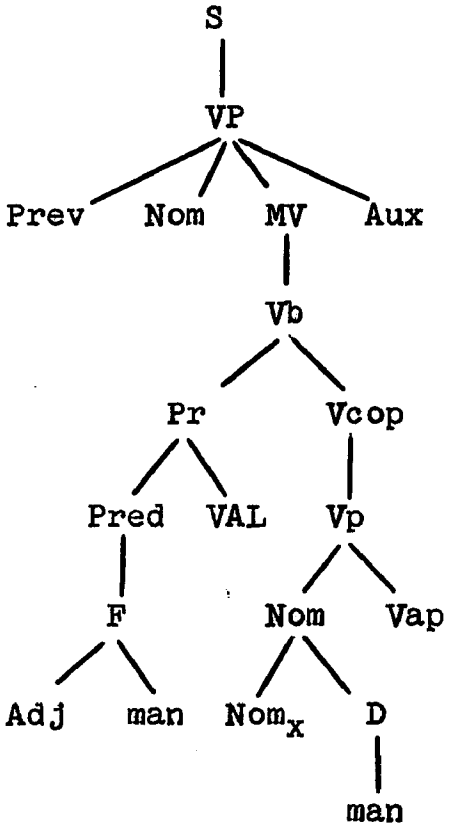
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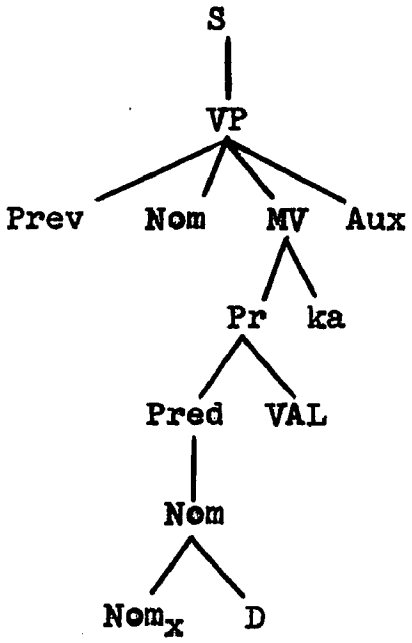
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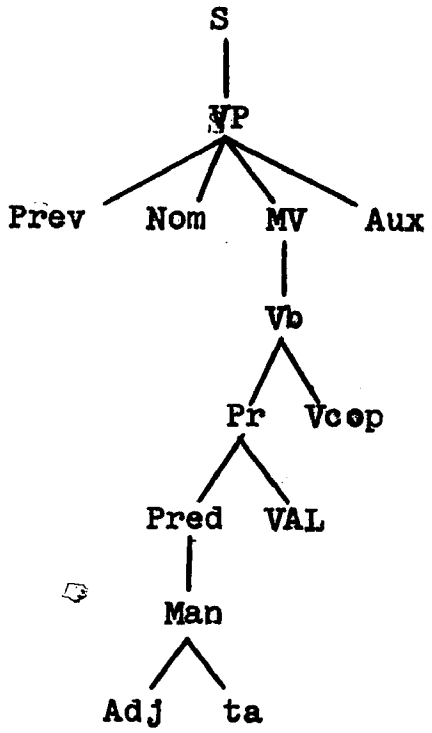
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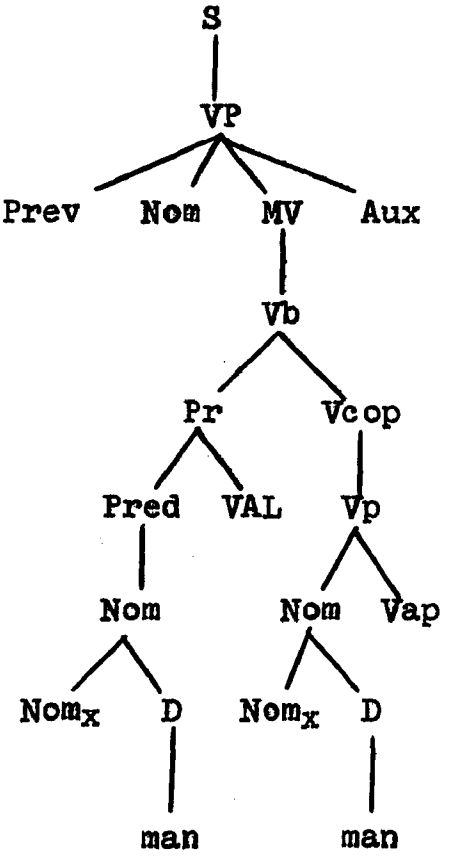
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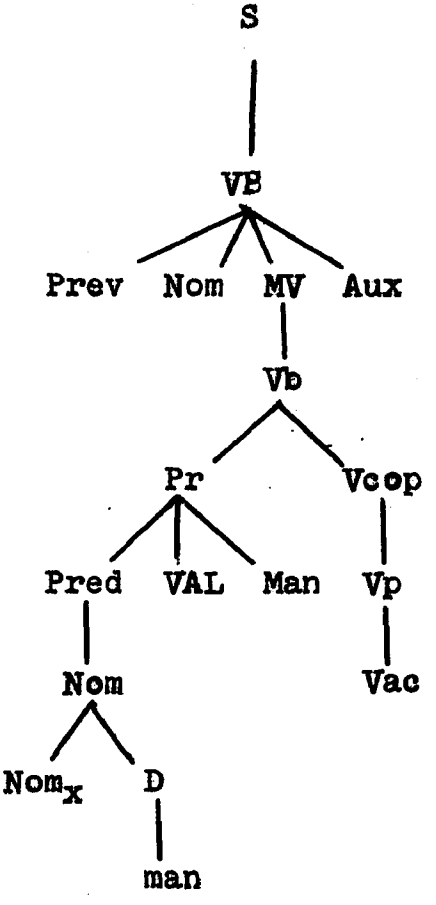
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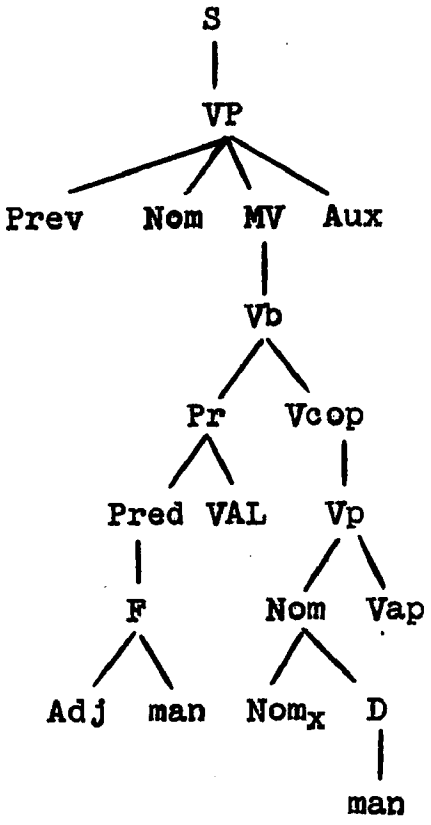
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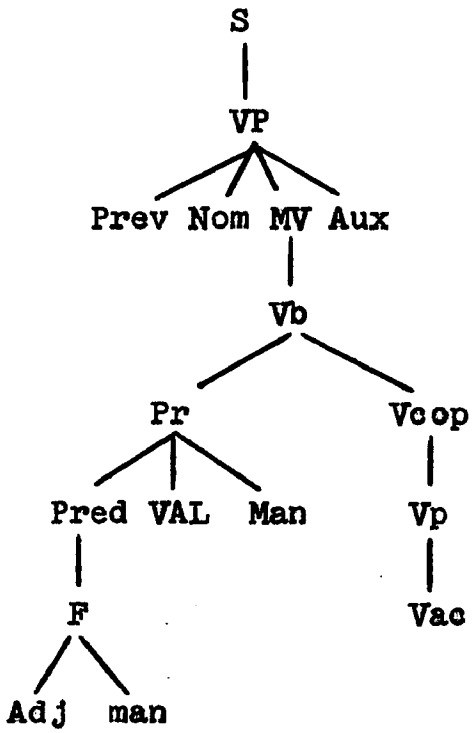
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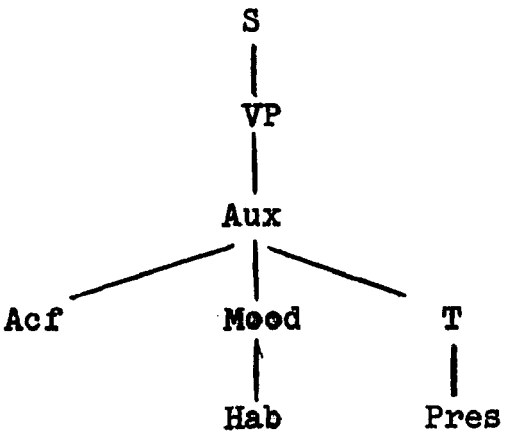
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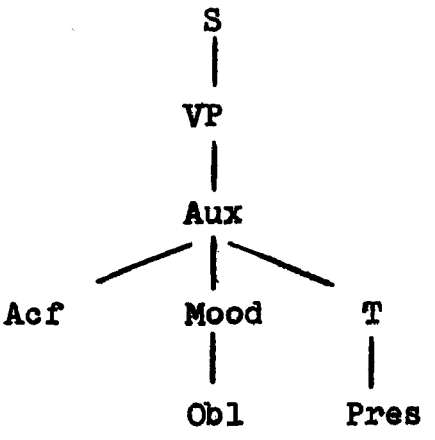
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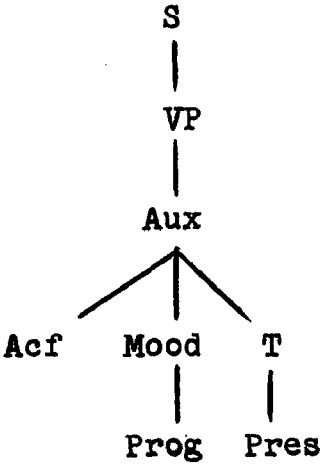
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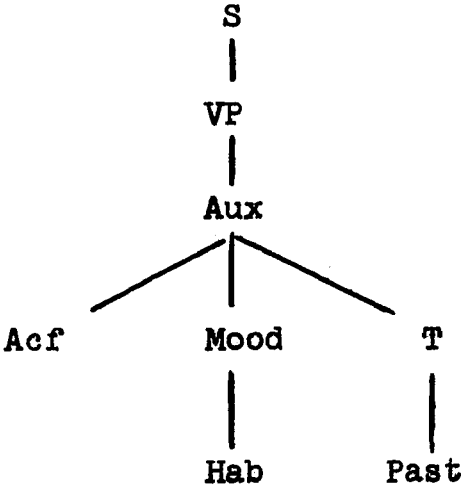
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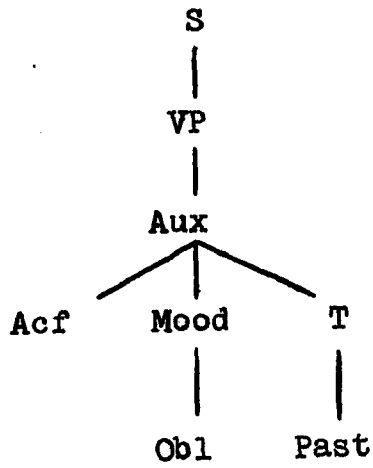
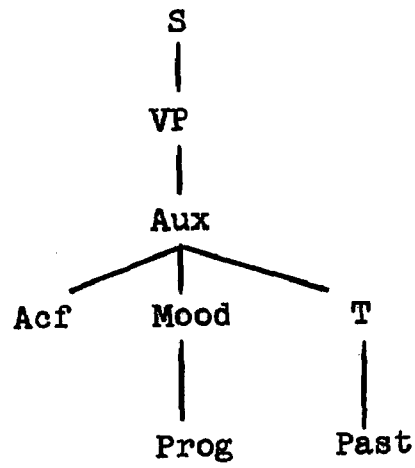
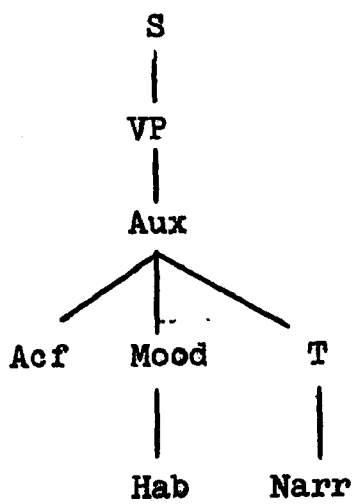
(C-4)


S
VP
Aux
Acf
Mood
T
Obl
Past

(C-5)


S
VP
Aux
Acf
Mood
T
Prog
Past

(C-6)


S
VP
Aux
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T
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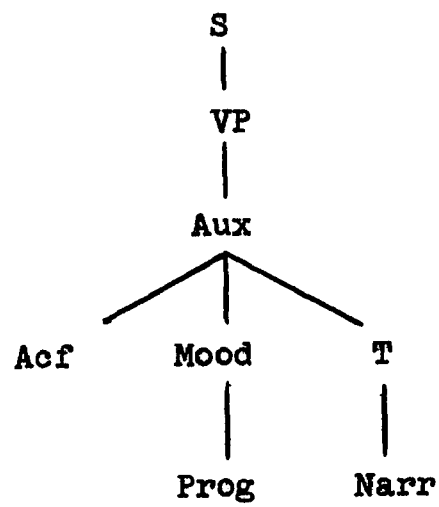
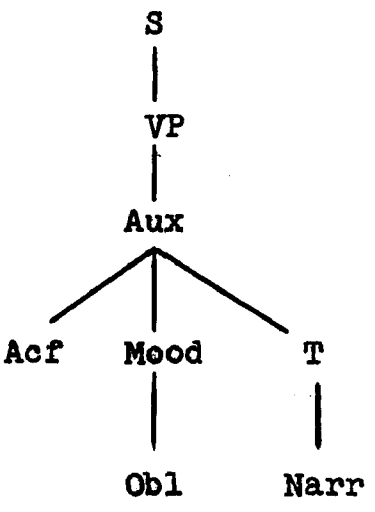
Narr

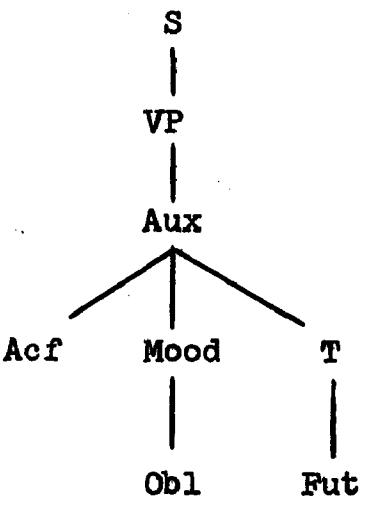
(C-7)


S
VP
Aux
Acf
Mood
T
Prog
Narr

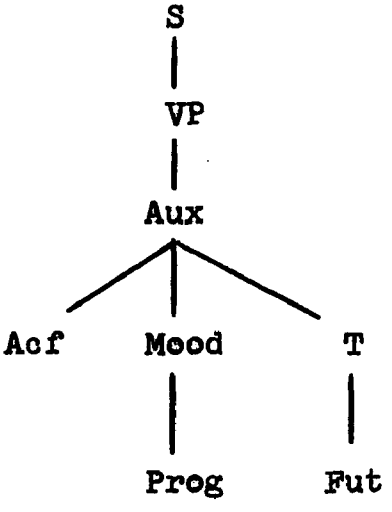
(C-8)



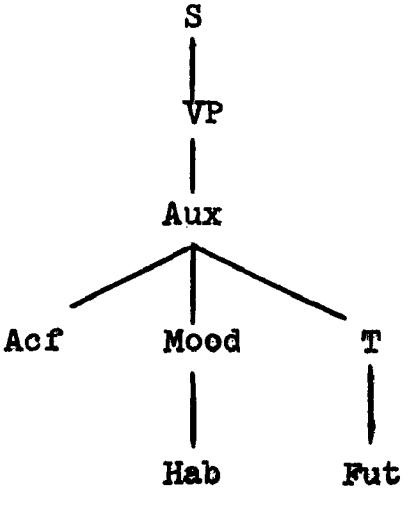
(C-9)



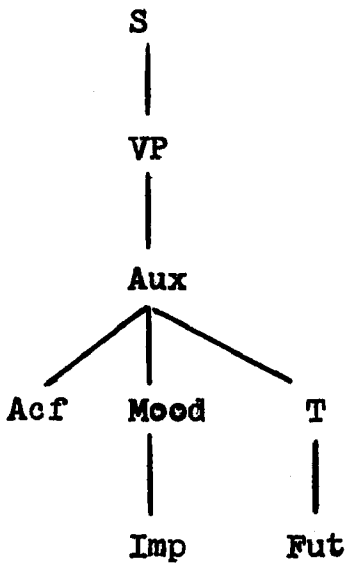
(C-10)



(C-11)



(C-12)



(C-13)

CHAPTER IV

4.1 Generalized Transformational Rules (GT-Rules) and Illustrative Trees. The two generalized transformational (GT) rules in this section (4.1) are illustrated with trees. The trees serve as diagrammatic representations of the structural change hypothesized in the rules. It will be noted that in the format of presentation the rule comes first; this is followed by a brief discussion; then come the diagrammatic trees; and, in the case of the relative embedding rule, examples having the format used for PS-rules precede the trees.

GT-46 Relative Clause Embedding.

MSent:[14] $X - Rl_d - Nom_X - Y$

CSent: $Z - Nom_X' - W$ $\Longrightarrow$

DSent: $X - Z + Nom_X' + R - W - Nom_X - Y$

Where: $Nom_X = Nom_X'$

X, Z = any or no string

Y, W = any string

And where the CSent must contain Pas if the MSent is

$NP + Afn + TM - Nom_X + R + ta - Y - Vb_{TR} - Z$

Y = any string

---

[14] MSent represents matrix sentence which is the sentence into which the CSent (constituent sentence) is embedded, and DSent is the derived sentence which is the sentence resulting from the application of the transformation.

Any $\underline{Nom_X}$ may take a relative clause embedding; notice that this generalization applies not only to nouns but also to pronouns and proper names. Any CSent, which is transitive and whose object $\underline{Nom_X}$ is the $\underline{Nom_X'}$ of the relative clause embedding rule, is always passive. The class R which is hypothesized in the derived sentence of this rule serves as the structural cue for subsequent transformations. Specifically, it is this symbol which tags the embedded transitive sentence as having an embedded history and provides the input cue to T-54. The output of this embedding rule serves as the obligatory input to four T-rules. First, T-50 passivizes transitive sentences of the type already described; T-56 deletes ka + X; T-69 permutes the relative clause to after $\underline{Nom_X}$ when $\underline{Nom_X}$ dominates Pron or Name.[15] T-55 provides the rewrite of all other relative embeddings.

(1) # ñuqa+ qa # t'anta +ta # mixuχ # wasi+ manta+ n #
lluχsi + ra+ ni #

I - TM bread - D eating one house-from-VAL
leave-Past-1st Pers Sg

I, the one who was eating bread, left the house. (Nominalization follows the pronoun functioning as subject.)

---

[15] In addition to order, phonological phenomena (i.e., junctures and pitches) also differentiate embedded sentences modifying nouns from those modifying pronouns and proper names.

(2) # Juan + qa # t'anta + ta # mixuχ # wasi + manta + n #

lluχsi+ra + n #

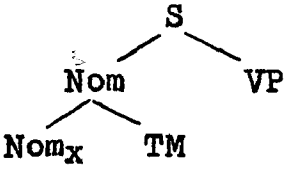
John-TM Same as (1) above

leave-Past-3rd Pers Sg

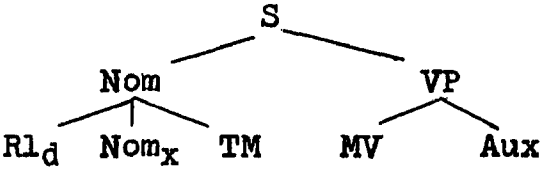
John, the one who was eating bread, left the house. (Nominalization follows the Name functioning as subject.)

GT-46 Illustrative Trees.

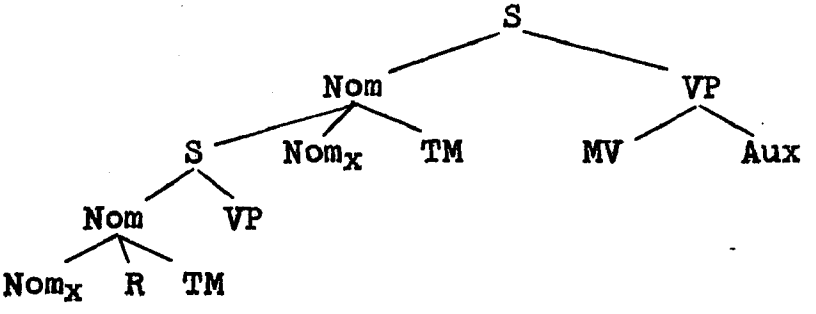
CSent:



MSent:



DSent:



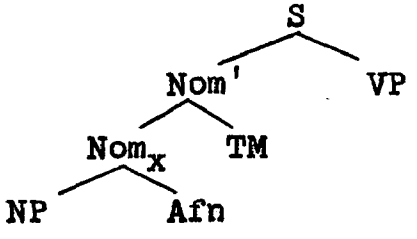
GT-47 Nom Conjoining.

MSent: X - Nom - W
CSent: X - Nom' - W
$\Longrightarrow$
DSent: X - Nom' + Nom + WAN + W

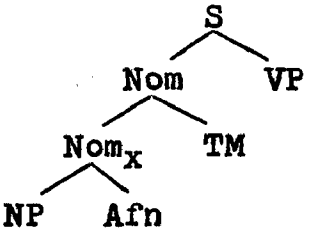
Where: X = any or no string
W = any string

This conjoining rule is limited in generality, (i.e., it applies only to Nom's and not to all conjoinable elements) because the co-occurrence restrictions on phrasal suffixes other than those for nominal phrases are not well understood.

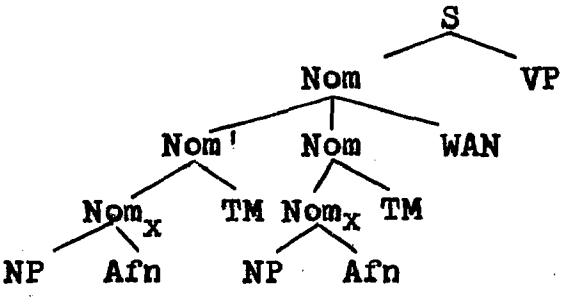
CSent:



MSent:



DSent:



4.2 Singulary Transformational Rules (T-Rules).

It will be noted in the following section that not all the rules are illustrated with trees. When included, the trees always follow the rule.

T-48 Possessor-Possessed.

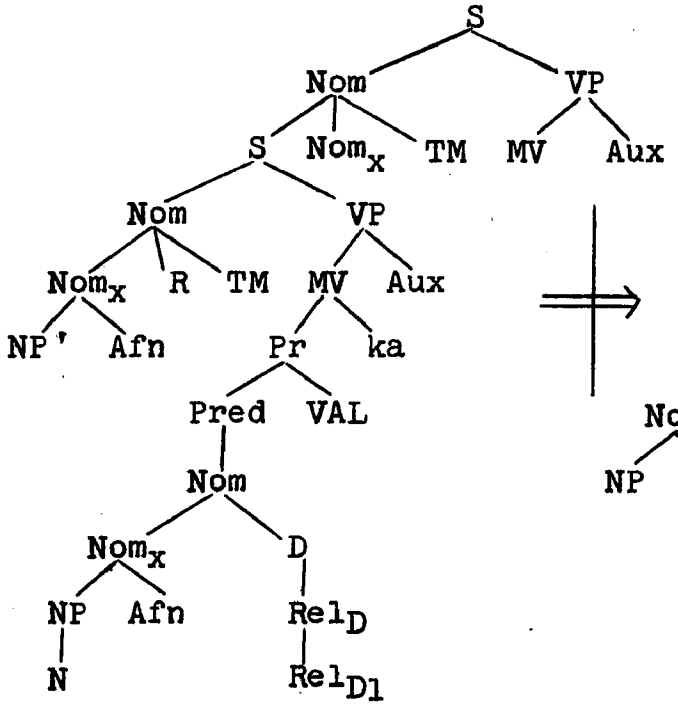
SD:[16] $X - NP + Afn + R + Y + Rel_{D1} + Z + Nom_X + W \Longrightarrow$

SC: $X - NP + Afn + PA - Nom_X + Afn + W$

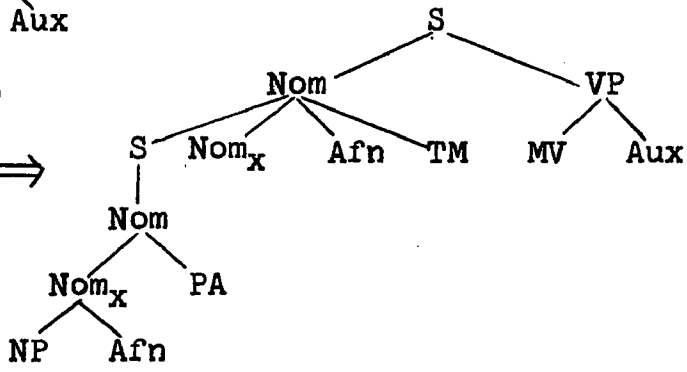
Where X = any or no string

Y, W = any string

SD:



SC:



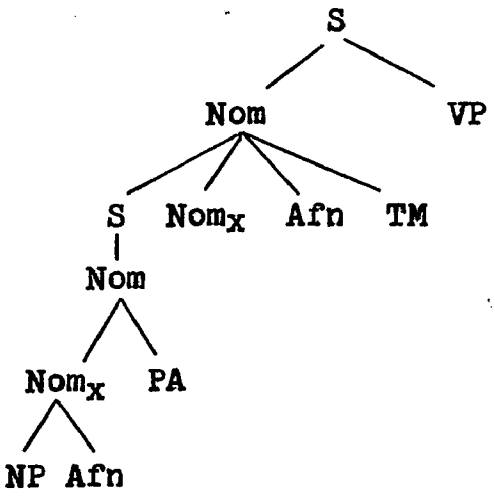
[16] Structural Description is indicated by the symbol SD: SC indicates Structural Change.

T-49 Deletion of Possessor. (See T-48.) (opt)

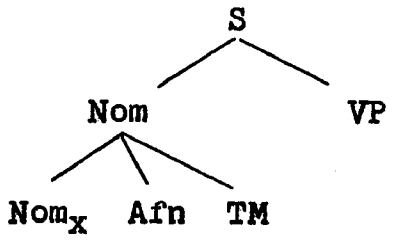
SD: X - NP + Afn + PA - Y $\Longrightarrow$

SC: X - Y

SD:



SC:

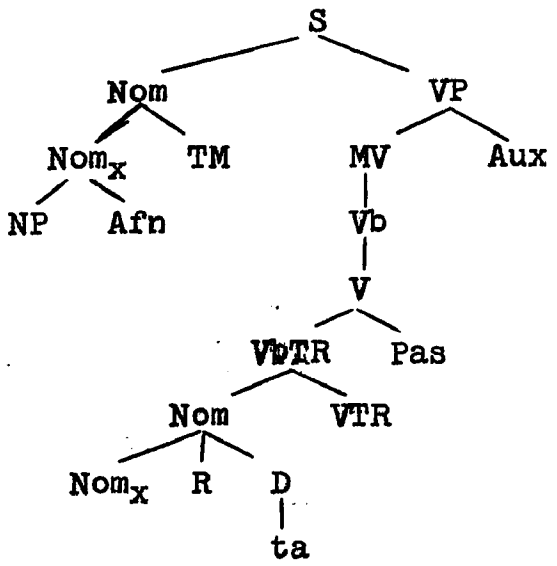


T-50 Passive. (obl)

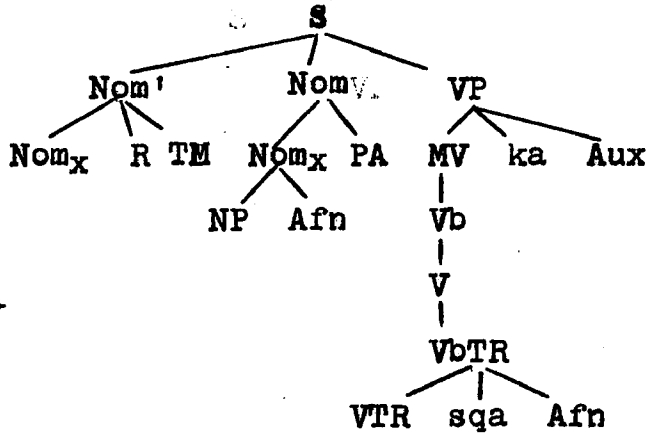
SD: NP + Afn + TM - Nom_X + (R) + ta - X - VTR+
Pas - Aux - Z ⟹

SC: Nom_X + (R) + TM - X - NP + Afn + PA - VTR+
sqa + Afn - ka + Aux - Z
X = any string
Z = any or no string

SD:



SC:



T-50 transforms a sentence such as # qhari + qa # warmi + ta + n # xasut'i + ra + n # 'The man punished the woman', into a sentence such as #warmi + qa # qhari + x # xasut'i + sqa + n # ka + ra+n # 'The woman was punished by the man'.

T-51 and T-52 Reflexive.

T-51

SD: NP + Afn - X - NP' + Afn' $\begin{bmatrix} ta \\ man \end{bmatrix}$ Y $\begin{bmatrix} VTR \\ Vac \end{bmatrix}$ - Z

$\Longrightarrow$

SC: NP + Afn - X - NP' + Afn' $\begin{bmatrix} ta \\ man \end{bmatrix}$ Y $\begin{bmatrix} VTR \\ Vac \end{bmatrix}$ ku - Z

T-52

SD: NP + Afn - X - NP' + Afn' $\begin{bmatrix} ta \\ man \end{bmatrix}$ Y $\begin{bmatrix} VTR \\ Vac \end{bmatrix}$ - ku - Z

$\Longrightarrow$

SC: NP + Afn - X - kiki + Afn' + Afn $\begin{bmatrix} ta \\ man \end{bmatrix}$ Y $\begin{bmatrix} VTR \\ Vac \end{bmatrix}$ - ku - Z

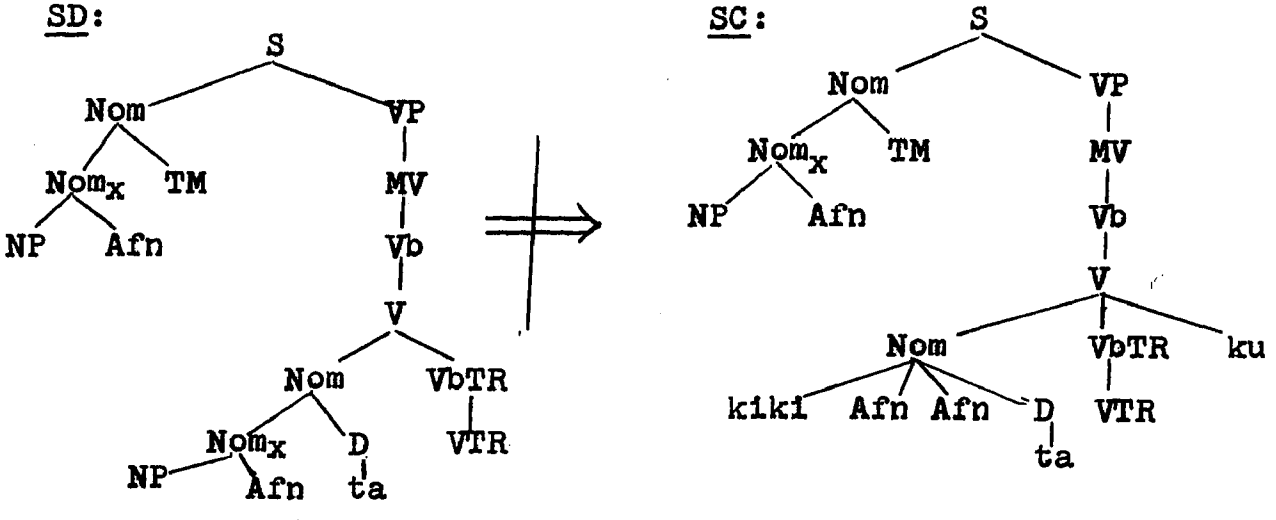
For both T-51 and T-52:

NP + Afn = NP' + Afn'

$Nom_x \neq$ Fincl + Pl

X = any or no string

Z, Y = any string

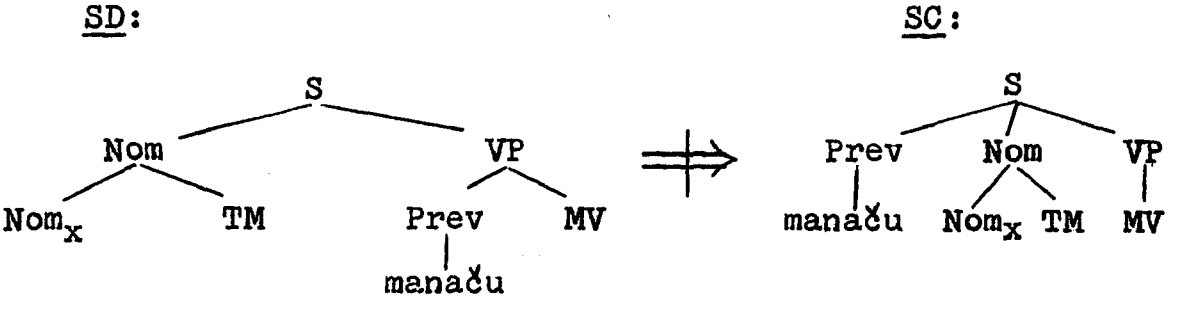


T-53 Negative Permutation. (obl)

SD: # X + manaču + Y ⟹

SC: # manaču + X + Y

X, Y = any or no string



This rule permutes the negative manaču from the VP to the beginning of the sentence. All negative statements in Quechua begin with the negative morpheme.

T-54 Deletion of Nom$_X$ in Passive Relative Clauses.

SD: X - Nom$_X$ + R + TM - Y - NP + Afn + PA - VbTR + sqa + Afn - Z ⟹

SC: X - Y - NP + Afn + PA - VbTR + sqa + Afn - Z

Where: X = any string

Y, Z = any or no string

T-55 Deletion of Nom_x in Non-Passive Relative Clauses.

SD: $X - Nom_x' + R + TM + Y - MV - Z \Longrightarrow$

SC: $X - Y - MV + \not{x} - Z$

Where: X, Y = any or no string

Z = any string and must contain MV

$Y \neq MV$

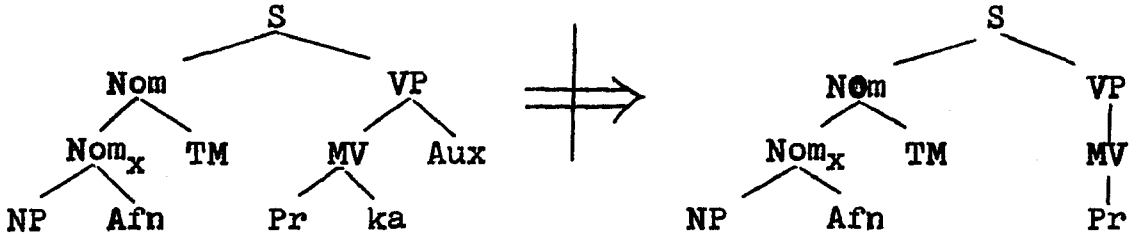
T-56 Verb Deletion in 'ka' Sentences. (See T-50) (opt)
~~But (obl) if history includes~~ R.

SD: $X - (R) + ka + Aux - Y \Longrightarrow$

SC: $X - Y$

X, Y = any string

SD: SC:



This rule transforms a sentence such as # qhari + qa # kusisqa + n # ka + ša + n # 'The man is happy', into a sentence such as # qhari + qa # kusisqa + n # 'The man happy'.

T-57 Permutation Where Q is Chosen. (obl)

SD: $Q + X \begin{bmatrix} \overline{Nom_X} & (D) & (VAL) \\ & Tim & \\ & Man & \end{bmatrix} Y \Longrightarrow$

SC: $Q \begin{bmatrix} \overline{Nom_X} & (D) & (VAL) \\ & Tim & \\ & Man & \end{bmatrix} X + Y$

Where: X = any string or no string

Y = any string

And where this rule is applied only once.

If Question (Q) is optionally chosen in the phrase structure, T-57 permutes the string(s) to be questioned to the initial position immediately following the symbol Q. This transform accounts for the fact that the interrogative element in Quechua is always at the beginning of the sentence.

T-58 Yes-No Question. (opt)

SD: $Q \begin{bmatrix} Nom_X & (D) & VAL \\ & Tim & \\ & Man & \end{bmatrix} Y \Longrightarrow$

SC: $\begin{bmatrix} Nom_X & (D) \\ Tim & \\ Man & \end{bmatrix}$ ŏu + Y

Where: X = any string or no string

Y = any string or no string

T-59 Deletion of Subject Nom_x from MSent in Non-passive Relative Embedding.

SD: $X - MV + \underset{\bullet}{x} - Nom_x + TM - VP \Longrightarrow$

SC: $X - MV + \underset{\bullet}{x} - TM - VP$

Where: X = any string

T-60 Deletion of Subject Nom_x from MSent in Passive Relative Embedding.

SD: $X - MV + sqa - Y - Nom - Z \Longrightarrow$

SC: $X - MV + sqa - Y - Z$

Where: X = any string

Y, Z = any or no string

$Y \neq Nom$

T-61 Object-Verb Agreement. (obl)

SD: X + Afn [ta / Man / Manta] Y (Acf) Mood - Z ⟹

SC: X + Afn [ta / Man / manta] Y - Afn (Acf) Mood - Z

Where: X ≠ Nom

Y,Z = any string

T-62 Subject-Verb Agreement. (obl)

SD: # NP + Afn - Y ∓ T ⟹

SC: # NP + Afn - Y - T + Afn

Where: Y ≠ W + MV + Z

T-63 Permutation of Man and Aux. (obl)

SD: X + Man + Aux + Y ⟹

SC: X + Aux + Man + Y

Where: X = any string

Y = any string

T-64 Adjustment of Negative. (obl)

SD: manaču + X + Aux - Y ⟹

SC: mana + X + Aux + cu + Y

Where X = any string

Y = any or no string

T-65 Topic Marker Deletion in Nom Conjoining. (obl)

SD: X - TM - Y-TM - Z ⟹

SC: X - TM - Y - Z

Where: X, Y, Z = any string

T-66 Deletion of Past in Environment of Ta_2. (opt)

SD: X - Past - Y - Ta_2 - Z ⟹

SC: X - Y - Ta_2 - Z

Where: X ≠ Mood

X, Y, Z = any string

T-67 Ranti Agreement. (obl)

SD: X - NP + Afn - ranti - Y ⟹

SC: X - NP + Afn + PA - ranti + Afn - Y

Where: Y = MV

NP = Nom

X = any string

T-68 Permutation of Det after Relative Embedding. (obl)

SD: X - ‡ - Det + N - Y ⟹

SC: Det - X - ‡ - N - Y

Where: X, Y = any string

T-69 Permutation of Pron and Name after Relative Embedding. (obl)

SD: $\# X - \underset{\cdot}{x} \begin{bmatrix} \text{Pron} \\ \text{Name} \end{bmatrix} Y \Longrightarrow$

SC: $\# \begin{bmatrix} \text{Pron} \\ \text{Name} \end{bmatrix} X - \underset{\cdot}{x} - Y$

Where: X, Y = any string

T-70 Deletion of Object before VTR_X. (opt)

SD: $X - Nom_X + ta + VAL + VTR_X - Y \Longrightarrow$

SC: $X - VTR_X - Y$

Where: X, Y = any string

VTR_X = Hab

T-71 Deletion of VAL.

SD: $X + WAN + VAL + Y \Longrightarrow$

SC: $X + WAN + Y$

Where: X, Y = any string

T-72 Conjunction Made Discontinuous.

SD: X + Nom + Nom + WAN + Y $\Longrightarrow$

SC: X + Nom + WAN + Nom + WAN + (pas) + Y

Where: X, Y = any string

T-73 Transposition of Afn. (obl)

Afn + T + Afn' $\Longrightarrow$ T + Afn + Afn'

In the following rules (T-74 to T-83) X, Y, Z equal any string.

T-74 Transposition of 'su' after 'xti'. (obl)

xti - X - su - Y $\Longrightarrow$ X - su + xti - Y

T-75 Transposition of wa. (obl)

$$\begin{bmatrix} \text{spa} \\ \text{na} \\ \text{ra} \\ \text{sqa} \\ \text{xti} \end{bmatrix} \text{ - X - wa - Y} \Longrightarrow \text{X - wa +} \begin{bmatrix} \text{spa} \\ \text{na} \\ \text{ra} \\ \text{sqa} \\ \text{xti} \end{bmatrix} \text{ - Y}$$

T-76 Acf Deletion. (obl)

$$X - kiki - Y - Acf - Z \Longrightarrow X - kiki - Y - Z$$

T-77 Change of Mood in Statement of Possession. (obl)

$$X - Rel_{Dl} - Prog + T - Y \Longrightarrow X - Rel_{Dl} - Hab + T - Y$$

T-78 Substitution of Pres in Environment of Moods.

$$Mood + T \Longrightarrow Mood + Pres$$

Where: Mood $\neq$ Imp

T $\neq$ Past or Present

T-79 Deletion of Pres in Environment of Prog and Obl.

$$\begin{bmatrix} Prog \\ Obl \end{bmatrix} \; Pres \Longrightarrow \begin{bmatrix} Prog \\ Obl \end{bmatrix}$$

T-80 Deletion of Hab and Pres in Same Environments.

$$Acf + Hab + Pres + Afn \Longrightarrow Acf + Afn$$

T-81 Deletion of Tense and Exclusion of First Person (Fi) in Environment of Imperative (Imp.)

$$T + Imp \Longrightarrow Imp$$

$$Imp + Per \Longrightarrow Imp \begin{Bmatrix} Se \\ Th \end{Bmatrix}$$

T-82 Transposition of Past and Addition of 'ka' in Environment of Hab or Obl.

$$X \begin{bmatrix} Hab \\ Obl \end{bmatrix} Past + Y + Z \Longrightarrow$$

$$X \begin{bmatrix} Hab \\ Obl \end{bmatrix} Y + ka + Past + Z$$

T-83 Realization of Hab in Environment of Past.

$$X - Hab - Y\text{-}Past - Z \Longrightarrow$$

$$X - \chi - Y - Past - Z$$

T-84 Permutation of Past and Addition of 'ka' in Environment of Cond.

$$X - Cond + Past - Y - Z \Longrightarrow X - Y\text{-}Cond + ka + Past - Z$$

Where: X, Z = any string

Y = Afn

T-85 Conditional Morphophonemics.

$$Afn + Cond \Longrightarrow Afn + man$$

man = phonemic realization of conditional

T-86 to T-89: Question Morphophonemics.

T-86 Question Morphophonemics.

$$\text{SD:} \quad Q \begin{bmatrix} \left\{ \begin{matrix} Nan \\ Pron_a \end{matrix} \right\} \; Per \; \begin{bmatrix} Sg \\ Pl \end{bmatrix} \\ Nin + Per \; \begin{bmatrix} Sg \\ Pl \end{bmatrix} \end{bmatrix} \Longrightarrow$$

$$\text{SC:} \quad \begin{bmatrix} pi + Th \; \begin{bmatrix} Sg \\ Pl \end{bmatrix} \\ ima + Th \; \begin{bmatrix} Sg \\ Pl \end{bmatrix} \end{bmatrix}$$

T-87 Location Questions.

SD: Q - X - pi $\Longrightarrow$

SC: may + pi

Where: X = Nom_X

T-88 Manner Interrogatives.

SD: Q + Man $\Longrightarrow$

SC: imaymana

T-89 Time Interrogatives.

SD: Q + Tim $\Longrightarrow$

SC: xayk'ax

4.3 Pronoun, Person Marker, and Phonological Morphophonemics.

T-90 to T-92: Pronoun Morphophonemics.

T-90

$$Pron_a \begin{bmatrix} Fi \\ Se \\ Th \end{bmatrix} Sg \Longrightarrow \begin{bmatrix} \tilde{n}uqa \\ qan \\ pay \end{bmatrix}$$

T-91

$$\text{Pron}_a \begin{bmatrix} \text{Fincl} \\ \text{Fexcl} \\ \text{Se} \\ \text{Th} \end{bmatrix} \text{Pl} \Longrightarrow \begin{bmatrix} \tilde{\text{n}}\text{uqa} & \begin{bmatrix} \text{nčis} \\ \text{yku} \end{bmatrix} \\ \begin{bmatrix} \text{qan} \\ \text{pay} \end{bmatrix} & \text{kuna} \end{bmatrix}$$

T-92 Deletion of Pron_b.

$$\text{Pron}_b \Longrightarrow \emptyset$$

T-93 to T-110: Person Marker Morphophonemics.

T-93

$$\begin{bmatrix} \text{N} \\ \text{Name} \end{bmatrix} \text{Th} + \text{Pl} \Longrightarrow \begin{bmatrix} \text{N} \\ \text{Name} \end{bmatrix} \text{kuna}$$

$$\begin{bmatrix} \text{N} \\ \text{Nom} \end{bmatrix} \text{Th} + \text{Sg} \Longrightarrow \begin{bmatrix} \text{N} \\ \text{Name} \end{bmatrix}$$

T-94

$$\begin{Bmatrix} \text{Nom}_x \\ \text{Obl} \end{Bmatrix} \text{Se} \begin{bmatrix} \text{Sg} \\ \text{Pl} \end{bmatrix} \Longrightarrow \begin{Bmatrix} \text{Nom}_x \\ \text{Obl} \end{Bmatrix} \begin{bmatrix} \text{yki} \\ \text{ykičis} \end{bmatrix}$$

T-95

$$\begin{bmatrix}\text{Past}\\ \text{Fut}\end{bmatrix} \quad \text{Fi} + \text{Sg} \quad \Longrightarrow \quad \begin{bmatrix}\text{Past}\\ \text{Fut}\end{bmatrix} \quad \begin{bmatrix}\text{ni}\\ \text{saẋ}\end{bmatrix}$$

T-96

$$\text{Se} + \text{Sg} + \text{Cond} \quad \Longrightarrow \quad \begin{bmatrix}\text{waẋ}\\ \text{ykiman}\end{bmatrix}$$

$$\text{Se} + \text{Pl} + \text{Cond} \quad \Longrightarrow \quad \begin{bmatrix}\text{waxčis}\\ \text{ykičisman}\end{bmatrix}$$

T-97

$$\text{Imp} \quad \begin{bmatrix}\text{Se}\\ \text{Th}\end{bmatrix} \quad \text{Sg} \quad \Longrightarrow \quad \begin{bmatrix}\text{y}\\ \text{čun}\end{bmatrix}$$

T-98

$$\text{Imp} \quad \begin{bmatrix}\text{Se}\\ \text{Th}\end{bmatrix} \quad \text{Pl} \quad \Longrightarrow \quad \begin{bmatrix}\text{yčis}\\ \text{čunku}\end{bmatrix}$$

T-99

$$\text{Fut} + \text{Th} \quad \begin{bmatrix}\text{Sg}\\ \text{Pl}\end{bmatrix} \quad \Longrightarrow \quad \begin{bmatrix}\text{nqa}\\ \text{nqaku}\end{bmatrix}$$

T-100

$$(\text{Afn}) \begin{bmatrix} \text{Fi} \\ \text{Se} \\ \text{Th} \end{bmatrix} \text{Sg} \Longrightarrow (\text{Afn}) \begin{bmatrix} \text{y} \\ \text{nki} \\ \text{n} \end{bmatrix}$$

T-101

$$(\text{Afn}) \begin{bmatrix} \text{Fincl} \\ \text{Fexcl} \\ \text{Se} \\ \text{Th} \end{bmatrix} \text{Pl} \Longrightarrow (\text{Afn}) \begin{bmatrix} \text{nčis} \\ \text{yku} \\ \text{nkičis} \\ \text{nku} \end{bmatrix}$$

T-102

$$\text{Acf} \begin{bmatrix} \text{nki} \\ \text{nkičis} \end{bmatrix} \text{y} \Longrightarrow \text{Acf} \begin{bmatrix} \text{yki} \\ \text{ykičis} \end{bmatrix}$$

T-103

$$\text{Acf} + \text{nki} \quad (\text{čis}) \quad \text{yku} \Longrightarrow \text{ykiku}$$

T-104

$$\text{Acf} + \text{y} \quad \begin{bmatrix} \text{nki} \\ \text{nkičis} \end{bmatrix} \Longrightarrow \begin{bmatrix} \text{wanki} \\ \text{wankičis} \end{bmatrix}$$

T-105

$$\text{Acf} + \text{yku} \quad \left\{ \begin{matrix} \text{nki} \\ \text{nkičis} \end{matrix} \right\} \Longrightarrow \text{wankiku}$$

T-106

$$\text{Acf} + \text{y} \quad \begin{bmatrix} \text{n} \\ \text{nku} \end{bmatrix} \Longrightarrow \begin{bmatrix} \text{wan} \\ \text{wanku} \end{bmatrix}$$

T-107

$$\text{nčis} \quad \left\{ \begin{matrix} \text{n} \\ \text{nku} \end{matrix} \right\} \Longrightarrow \text{wančis}$$

T-108

$$\text{nki} + \text{n} \Longrightarrow \text{sunki}$$

T-109

$$nki + nku \Longrightarrow sunkiku$$

T-110

$$nkičis \begin{Bmatrix} n \\ nku \end{Bmatrix} \Longrightarrow sunkičis$$

T-111 to T-114: Phonological Morphophonemics

T-111 Possessor.

$$Vw + PA \Longrightarrow Vw + x$$

T-112 VAL Morphophonemics.

$$\begin{bmatrix} Vw \\ \\ C \end{bmatrix} \quad VAL \Longrightarrow \begin{bmatrix} Vw \\ \\ C \end{bmatrix} \begin{bmatrix} n \\ \\ mi \end{bmatrix}$$

Where Vw = Vowel

C = Consonant

T-113 Direction Morpheme.

$$Rel_L \Longrightarrow \left\{ \begin{array}{ll} \left\{ \begin{array}{l} ta \\ man \end{array} \right\} & / \_\_\_ Vin_a \\ manta & \end{array} \right\}$$

T-114 2nd Person.

Ciyki $\Longrightarrow$ Ciki

C = any consonant

SELECTED BIBLIOGRAPHY

Bach, Emmon. An Introduction to Transformational Grammars. New York: Holt, Rinehart and Winston, Inc., 1964.

Chomsky, Noam. Syntactic Structures. The Hague: Mouton and Co., 1957.

_____. "A Transformational Approach to Syntax," Proceedings of the 3rd Texas Conference on Problems of Linguistic Analysis in English, pp. 124-158. Austin, Texas: University of Texas, 1962.

_____. "Current Issues in Linguistic Theory," The Structure of Language: Readings in the Philosophy of Language. J. A. Fodor and J. J. Katz, editors. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964.

Fillmore, C. J. "The Position of Embedding Transformations in a Grammar," Word, 19: 208-231, 1963.

Garro, L. J. Eugenio. "Kechuan Dialect of Callejon de Haylas," IJAL, 10: 139-143, 1944.

Katz, J. J. and J. A. Fodor. "The Structure of a Semantic Theory," Language, 39: 170-210, 1963.

Katz, J. J. and Paul M. Postal. An Integrated Theory of Linguistic Descriptions. Research Monograph No. 26. Cambridge, Mass.: M.I.T. Press, 1964.

Koutsoudas, Andreas. A Beginner's Manual for Writing Transformational Grammars. (Mimeo) Indiana University, 1964.

Lastra, Clementina Yolanda. Cochabamba Quechua Syntax. Unpublished Ph. D. Dissertation, Cornell University, 1963.

Lees, R. B. The Grammar of English Nominalizations. Supplement to IJAL, 26, 1960.

Postal, Paul. "Constituent Structure," IJAL, Publication 30 of Indiana University Research Center in Anthropology, Folklore and Linguistics. Bloomington, Indiana, 1964.

Sola, Donald Frederick. Huanuco Kechua: The Grammar of Words and Phrases. Unpublished Ph.D. Dissertation, Cornell University, 1958.

Yokoyama, Masako. "Outline of Kechua Structure, I. Morphology," Language, 27: 38-67, 1951.

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