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A Relational Grammar approach to Kera syntax

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A RELATIONAL GRAMMAR APPROACH TO KERA SYNTAX

Janet K. Camburn

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1 Introduction

Kera is an Afroasiatic language belonging to the Chadic family of languages. Greenberg (1963) mentions the **Tuburi** (Tupuri) language in his classification of Chadic languages. However, Tupuri belongs to the Adamawa family of Niger-Congo languages. Ebert (1975) points out that this misnomer is the result of a long-standing error, which itself was probably due to the fact that Tupuri and Kera are geographically next to each other. Ebert also points out that relatively little work has been done on the languages in this area, though there are very short word lists dating back to 1937 under the names of Tuburi-Kera and Tuburi-Fianga. And these lists are based on notes of a Count Adolf Friedrich de Mecklembourg. The only extensive work that has been done on

Kera is Ebert's work, comprising three books, one of texts (1975), a lexicon (1976), and a grammar (1979).

There are about 15,000 speakers of the Kera language. The center of the population is Kupor, in southwestern Chad near Fianga. This area is part of the Sahel and the terrain is savannah. Most of the Kera are agriculturalists, their main crops being red and yellow millet, though they also cultivate peanuts, groundnuts, and cola nuts. They keep some small livestock - chickens, guinea-fowl, and goats - for sacrifices and to celebrate special occasions like weddings, funerals, or visits.

This is a patrilineal society. The people keep cattle, which are used chiefly to pay the bride price. Both men and women work in the fields during the rainy season. Wives have the added responsibility of caring for children, preparing meals, and keeping the compound clean.

Education is gradually making an impact on the Kera people. Many children attend school for a few years at least, though the majority of the students are boys. The teaching is in French, the national language of Chad. Since most of the students come from families where only Kera is spoken, there are initial learning difficulties. However, there is a strong desire among the Kera for education. They are especially motivated to have books in their own language and to learn to read in Kera.

This thesis is based on field work done between June and December, 1982 and in September, 1983, under the direction of the Summer Institute of Linguistics. I was temporarily assigned to work with Marian Hungerford among the Kera. We lived in Kupor, staying in a compound which was no longer being used. During the first two months I did some language learning and work on the phonology to familiarize myself with the language. I then began to collect data for this research. My goal was to seek to understand the structure of Kera sentences, not merely to describe them. Having some understanding of the theory of relational grammar and the insights it offers, I chose to work within this framework. My language helpers were all Kera men who spoke French also. These included a school teacher, a pastor, an evangelist, agriculturalists, and several students. During this time I elicited over 1,000 sentences, most of which I verified with someone other than the person from whom they were originally elicited. In February, 1983, I entered these on computer and had them sorted according to various morphemes and phrase types. This served as the basis for this study.

2 Introduction to Relational Grammar

Relational grammar (RG) is a theory which has been developed over the past years by David Perlmutter, Paul Postal, David Johnson, and others. RG makes two claims which are unique to it and which distinguish it from other syntactic theories.

1. "The grammatical relations needed for individual grammars and for cross-linguistic generalizations cannot be defined in terms of other notions, but must be taken as primitive notions of syntactic theory." (Perlmutter 1983, pp. ix-x)

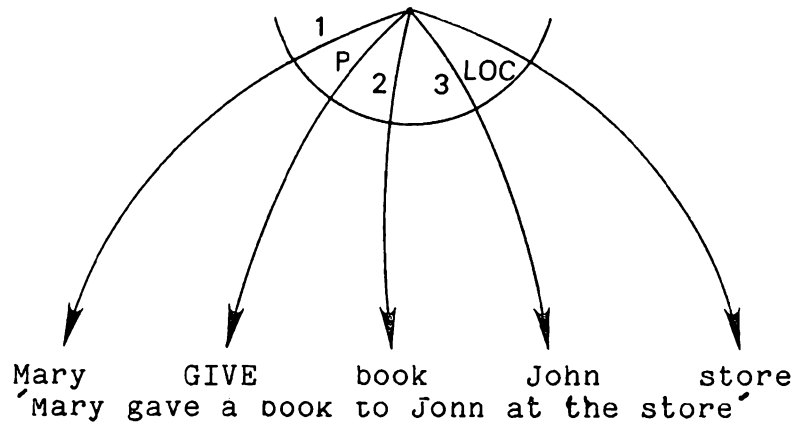
Three of these "primitive notions" are subject-of, direct object-of, and indirect object-of. They are relations which nominals may bear within a clause and are labelled 1, 2, and 3, respectively. These are called **term** relations. Some non-term relations (referred to as obliques) are benefactive (BEN), instrument (INSTR), location (LOC), direction (DIR), and goal (GOAL). Every basic clause also has a predicate (P), though this will not necessarily be a verb.

2. "It is necessary to posit distinct syntactic (i.e., nonsemantic, nonthematic) levels." (Perlmutter 1983, p. x)

Without distinct syntactic levels (called strata), it is not possible to fully account for the syntactic behavior of certain constructions in languages. This is most obvious in languages in which verb agreement rules must make reference to more than one level of relation (e.g. Allen and Frantz 1978). But many other facts can be shown to require multilevel descriptions.

Because distinct syntactic strata are posited, stratal diagrams are used to represent the different grammatical relations (GR's) that nominals bear in different strata.

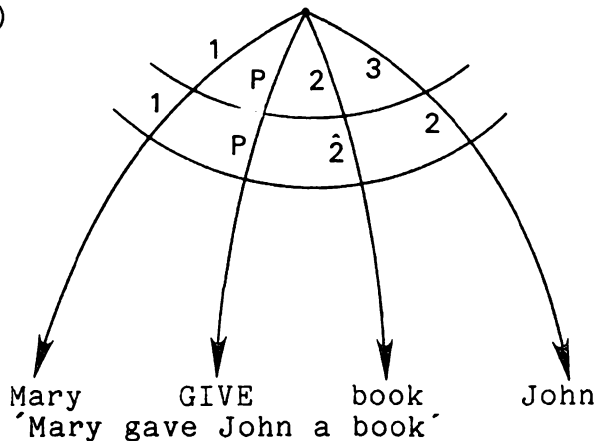
In stratal diagram (A'), **Mary** is said to head a 1-arc, **book** heads a 2-arc, and so on.



In this diagram, the initial relations are the final relations, so there is only one stratum or level, as indicated by the presence of only one curved horizontal line.

In (B') there is more than one stratum, since there is more than one level of grammatical relations.

(B')



John heads a 3-arc in the first stratum, but a 2-arc in the second stratum. **Book** heads an initial 2-arc, but its final relation is the chômeur (CHO) relation. This is according to the Chômeur Law. Perlmutter and Postal (1977) refer to it as the Chômeur Condition and state it informally as "if some nominal, N_a , bears a given term relation in a given stratum, S_i , and some other nominal, N_b , bears the same term relation in the following stratum, S_{i+1} , then N_a bears the Chômeur relation in S_{i+1} " (p. 408). In (B'), since **book** bears the term relation 2 in the first stratum and **John** bears it in the second stratum, **book** must bear the CHO relation in the second stratum. Another proposed universal, the Motivated Chômage Law, limits a nominal's demotion to chômeur to the circumstances described in the Chômeur Law. In the same article Perlmutter and Postal go on to say that "a nominal that bears the 1-relation in the last stratum before it bears the Chômeur relation can be called a '1-Chômeur', one

that bears the 2-relation in the last stratum before it assumes the Chômeur can be called a '2-Chômeur, and likewise for 3-Chômeurs" (p.408). In the stratal diagrams 1-Chômeurs will be marked ↑ and 2-Chômeurs as 2. The Stratal Uniqueness Law is a constraint against two nominals bearing the same term relation in the same stratum of a clause.

RG also posits a ranking system for the GR's: 1's rank higher than 2's, 2's higher than 3's, and 3's higher than obliques and chômeurs. When a nominal bears a higher ranked GR in a given stratum than it bore in the previous stratum, this is called an advancement. A retreat or demotion occurs when a nominal bears a lower ranked GR in the later stratum.

Frantz (1981) lists three ways that languages indicate GR's: 1) noun phrase marking, 2) verb marking, and 3) linear precedence. Noun phrase marking takes either the form of a case system or employs adpositions. Verb marking refers to the predicate agreeing with one or more of the nominals it governs. Linear precedence refers to word order. English, for example, uses all three ways of indicating GR's. In the sentence below, the preposition **to** indicates that **students** is a 3. The **-s** on **gives** indicates that the 1 in the clause is third person singular. Normal word order in English is determined by final GR's, as follows: 1 P 2 3, which is the ordering seen in (1) and (2).

- (1) Charlie passed the basketball to George.
 (2) The bard sang the ballad to Guinevere.

1 P 2 3

3 Kera syntax

3.1 Tone

The function of tone in Kera is, for the most part, grammatical. For example, **kəcəm** means 'thorns' regardless of which two possible tone patterns (high-low or high-mid) it carries. The lexical meaning is the same, the tone serving to indicate indefiniteness or definiteness.

In Kera, there are basically 3 tones: high, mid, and low. Glides also occur if a consonant morpheme carries a tone which is combined with the tone on the vowel just preceding it. Also, in cases of phonological rules which result in final vowel deletion, the tone from the deleted vowel remains and combines with the vowel of the preceding syllable, resulting in a glide if the two tones are different. In the word **ágày**, the first vowel is marked with a high tone and the second with a low tone.

The three most common uses of tone in Kera are: to distinguish between definite and indefinite on nouns which end in consonants or semi-vowels, as in (3); to differentiate between certain tenses/aspects of verbs, as in

(4); and to distinguish between two plural pronouns, as in (5).

(3) indefinite	definite	gloss
yáw	yáw	'pelican'
áǵàǵ	áǵāy	'hoe'
kécām	kécām	'thorns'
(4) ten á-bè-hàmé	'I was just eating' (past continuing into present)	
ten á-bè-hàmè	'I was going to eat' (but didn't)	
ten bè-hàmé	'I am eating'	
ten bè-hàmè	'I will eat'	
(5) áŋ	'we-inclusive'	
aŋ	'you-plural'	

In this paper only high and low tone will be marked. Mid tone will be unmarked except in cases of glides or where a morpheme made up of a consonant only carries a mid tone.

3.2 Kera verbs

Ebert (1979) gives a fairly complete description of the Kera verb system. Following her terminology, I will present forms of a stem to illustrate the main verb tenses. Ebert discusses verb classes and presents phonological rules which influence the final form the verb takes. These rules are operative in the example given, but will not be detailed here.

The verb I have chosen for this is **ham** 'eat', belonging to Ebert's class 2b verbs. (In the verb schemata [center column], the verb stem is abbreviated ST.)

(6) Present	ST + e	hàm-è
Progressive	bə + ST + e + á	bè-hàm-é
Future	ST + yaŋ	hàm-yaŋ
	bə + ST + yaŋ	bè-hàm-yaŋ
	bə + ST + e	bè-hàm-è
Past I	ST + ŋ	hàmà-ŋ
Past II	a + ST + ŋ	á-hàmà-ŋ
Past perf I	ST + ŋ + né	hàmà-ŋ-né
Past perf II	a + ST + ŋ + né	á-hàmà-ŋ-né
Optative I	ST + la	hàm-lá
Optative II	a + ST + la	á-hàm-là
Irrealis	a + sa + ST + e	á-sá-hàm-è

For statives, Kera has no overt verb in the present tense. I will refer to this as a zero copula which, as we will see, has an overt allomorph in all but simple present tense.

- (7) Pól Ø kímplí
Paul is tall
'Paul is tall'
- (8) Sárà Ø mar Jǒ
Sarah is wife John
'Sarah is John's wife'

The verb **ji**, literally 'do', (what Ebert [1979] refers to as a "helping verb"), is used in its conjugated forms to express various tenses of the stative, as in (9) and (10).

- (9) ten á-jà-là hèlgə
I OPT-do-OPT woman
'if I were a woman ...'
- (10) tam ásá-jì kúmná də sengá
you:m IRR-do chief of land
'you would be chief of the land'

The passive form of a verb is made up of of the auxiliary **bə-** plus reduplication of the verb stem, as in (11).² Passive verbs and statives are alike in that there is no overt tense marking in the present tense (12) and other tenses make use of the helping verb **ji** (13).

- (11) PASV: bə + ST + REDUP + e bə-hàm-hàm-è
FUT PASV: ji + FUT + PASV jì-yaŋ bə-hàm-hàm-è
OPT PASV: ji + OPT + PASV jà-là bə-hàm-hàm-è
- (12) gùgúr bə-ay-áyé á Máriań
rooster:DEF AUX-give-REDUP to Marian
'the rooster is given to Marian'
- (13) gùgúr jì-yaŋ bə-hàm-hàmè
rooster:DEF do-FUT AUX-eat-REDUP
'the rooster will be eaten'

3.3 Terms and term marking

Kera makes use of linear order, auxiliary verb agreement, and pronominal case to indicate grammatical relations (GRs). The normal word order in a clause having all three final term GRs is 1 P 2 3, as illustrated in (14):

- (14) ten áy hàrgá-ŋ á nawré-n
I give goat-DEF to sister-my
1 P 2 3

Final 1's have an immediate pre-verbal position. If present, the auxiliary prefix **bə-** in certain forms agrees in number and gender with the final 1. This depends not only on the verb tense, but also on the speaker. Two of the

forms where speakers most consistently affirm that there is agreement are the progressive and the passive. The form for these two is sometimes the same (see note 2): AUX-ST-REDUP. If there is agreement, the **bə-** is the masculine singular form, **də-** the feminine singular and **gə-** the plural (compare (15)-(17)).

(15) tam bə-gà-gè həlgə́-ŋ alúma
 you:m AUX:m-send-REDUP woman-DEF market
 'you(m) are sending the woman to the market'

(16) te də-gà-gè həlgə́-ŋ alúma
 you:f AUX:f-send-REDUP woman-DEF market
 'you(f) are sending the woman to the market'

(17) ár gə-gà-gè həlgə́-ŋ alúma
 we:excl AUX:pl-send-REDUP woman-DEF market
 'we are sending the woman to the market'

This can prove to be a useful test for final subjecthood. In other cases it will be useful to use pronoun replacement to test for final relations. The pronominal forms for subject are listed below:³

(18) I	ten
you:masculine	tam
you:feminine	te
he	o ~ wə
she	a
we:exclusive	áŋ
we:inclusive	ár
you:plural	aŋ
they	ye ~ yə

Final 2 nominals are characterized by their position immediately after the verb or verb stem, as in (19). One property of certain verb enclitics is that they come immediately after the final 2 and cliticize to it instead of to the verb stem. This characteristic will be referred to as 'tense cliticization' and will later be used to test for final 2-hood. These enclitics are **-á** (part of the progressive verb tense) which is glossed PROG in (19); **-né** (marking past perfect) as in (20); **-la** (optative) as in (21); and **-yaŋ** (future) as in (22). The tense enclitics attach to the last element of the noun phrase, and since modifiers follow the head in Kera NP's, these clitics are often seen attached to adjectives, as in (20).

(19) ten bə-hàm sǝ-ŋ-a
 I AUX-eat food-DEF-PROG
 'I am eating the food'

- (20) Pɔl ásá-ŋ kárán kámte gèbèrwá-né
 Paul see-PST goats big:pl white:pl:DEF-PERF
 'Paul had seen big white goats'
- (21) ten bèl míntí tam sebe hàrgá-ŋ-la
 I want that you:m fill goat-DEF-OPT
 'I want you to feed the goat'
- (22) Pól hám só-ŋ-yaŋ
 Paul eat food-DEF-FUT
 'Paul will eat the food'

The pronominals take two forms in Kera. Those that are separate words I will call strong pronouns and those that are cliticized to the verb I will call weak pronouns. The pronominal forms for 2's, with the exception of the first person plural forms, are weak and are cliticized to the verb stem. (See Ebert [1979] for rules governing this.) This will be referred to as direct object pronoun fusion and will also be used as a test for 2-hood.⁴ Listed below are examples taken from Ebert (1979, pp. 14-16) demonstrating this fusion.

(23)	gloss	d.o.suffix	sep-	'satisfy'	mirg-	'greet'
	me	-n	sepen		mirgin	
	you:m	-m	sepem		mirgim	
	you:f	-i	sipi		mirgi	
	him	-u	sípú		mírgú	
	her	-a/-ra	sépá		mírgé	
	you:pl	-ŋ	sepenŋ		mirgiŋ	
	them	-i	sípí		mírgí	

Since the first person plural pronouns do not fuse to the verb, tense enclitics will attach to them as to other nouns as final 2. Where the pronouns are fused with the verb, the tense enclitics attach to the verb with the fused pronouns, as in (24).

- (24) ten bəl-ù-yaŋ
 I want-3sgm,d.o.-FUT
 'I will want it'

For all the indirect object pronouns there are strong and weak forms. The preposition á marks the strong forms of final 3's and there can be no tense cliticization to such final 3's. The strong (unfused) pronominal forms for 3's are listed below:

- (25) to me á nənən
 to you:m á nənəm
 to you:f á nini
 to him á nunu

to her	á nənə
to us:excl	á áŋ
to us:incl	á áré
to you:pl	á nənəŋ
to them	á niini

Weak indirect object pronouns are fused to the verb in the same way that direct object pronouns are. Tense cliticization to verbs with fused indirect object pronouns is the same as for fused direct object pronouns. For verbs in Ebert's classes 1 and 2a, there will be tone differences between the verb forms which have fused direct object pronouns and those which have fused indirect object pronouns (see (26)). For verbs in class 2b, the forms are the same.

(26) d.o. pronoun		i.o. pronoun	
áy-ú	'give it(m)'	əy-u	'give to him'
áy-á	'give it(f)'	ay-a	'give to her'
áy-í	'give them'	əy-i	'give to them'

When both 2 and 3 pronouns are fused in the same verb, the indirect object pronoun takes precedence over the direct object pronoun in governing the gender/number distinctions. However, the forms clearly reflect that both 2 and 3 pronouns are involved. The suffix **-də** or **-d** registers that there are two fused pronouns. In the examples given below, the direct object pronoun can be either singular or plural.

(27) d.o.	i.o.	verb	gloss
3sg/pl	3sgm	əy-d-ù-yaŋ	'will give it/them to him'
3sg/pl	3sgf	ay-d-ə-yaŋ	'will give it/them to her'
3sg/pl	3pl	əy-yì-d-ì-yaŋ	'will give it/them to them'

3.4 Oblique markings

The obliques Instrument, Accompaniment, Comitative, and Manner, which Africanists often group together under the term Associative, are marked with **də**, which can generally be glossed as 'with' (see (28)-(31)).

- | | | | | |
|------|----------------------------------|------|-------------|---------------|
| (28) | ten hám só-ŋ | də | karməkásé-n | INSTRUMENT |
| | I eat food-DEF | with | fingers-my | |
| | 'I eat the food with my fingers' | | | |
| (29) | ten hám só-ŋ | də | késáw | ACCOMPANIMENT |
| | I eat food-DEF | with | sauce | |
| | 'I eat the food with sauce' | | | |
| (30) | ten hám só-ŋ | də | séé-n | COMITATIVE |
| | I eat food-DEF | with | brother-my | |
| | 'I eat the food with my brother' | | | |

- (31) ten hám sǒ-ŋ də wálé MANNER
 I eat food-DEF with joy
 'I eat the food with joy'

Location in either time or space is governed by the use of various body parts - **gidə** 'womb' meaning 'inside', **cər** 'head' meaning 'on top of', **gud** 'buttocks' meaning 'after', **sar** 'rib' meaning 'next to', **dər** 'eyes' meaning 'in' (as "in the soup"), etc. (see (32)-(34)). A final **-a** suffix is attached to the locative nominal; when the nominal ends in a vowel, a phonological rule operates to delete the suffix. When body parts function as prepositions, they always govern the locative case.

- (32) ten gè hàrgá-ŋ gídè hiúw-a
 I put goat-DEF womb pen-LOC
 'I put the goat inside the pen'
- (33) Pól wára apáya cár sésín-a kás wálgán
 Paul already high head chair-LOC hand fear
 'Paul was already high up on the chair, gripped by fear'
- (34) Pól jì walga gùd jòngré bà míntí tó
 Paul do fear buttocks work rel-pro that he
 jù-n-ù ablàw
 do-PST-it:m much
 'Paul is afraid after working that he worked too much'

The preposition **kə** is used to mark both the oblique Source and the Possessor of alienable objects, though in certain sentences there is ambiguity regarding which it indicates (see (35)-(37)).

- (35) yə gè kuli kə Pól
 they build house of Paul
 'they build Paul's house'
- (36) ten hàn sǒ-ŋ kə pūr
 I took food-DEF from(of) boy:DEF
 'I took the food from (of) the boy'
- (37) ten dò-ŋ tértí kə hàlgá-ŋ
 I seize-PST knife from(of) woman-DEF
 'I seized a knife from (of) the woman'

Benefactive is marked by the same preposition **á** that marks 3's. The weak pronominal BEN's have the same form as weak pronominal 3's and are fused to the verb in the same way.

- (38) pur cílí-ŋ g̀s̀ì á nənə
 boy weave-PST mat for her
 'a boy wove a mat for her'
- (39) t́ar h̀ərgá-ŋ á áŋ
 girl dance-PST for us:incl
 'a girl danced for us'
- (40) ten har-d-ə
 I take-d.o.-3sgfBEN
 'I take it for her'

Thus Ben's are formally indistinguishable from 3's with respect to certain criteria, and are probably final 3's. We will see later, however, that initial Ben's may be distinguished from initial 3's by a syntactic test (see section 4.4).

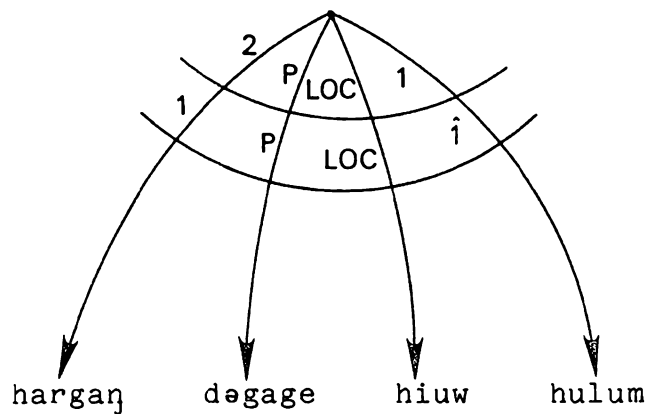
4 Advancements

4.1 Passive

Passive is defined as the 2 of a transitive stratum advancing to 1 (Perlmutter and Postal 1977). Here I will seek to show that Kera has clauses which qualify as Passive within the RG framework. I propose that (43) and (44) are cases of Passive in Kera; i.e., that 'goat(s)' is the initial 2 and final 1 in these sentences; compare (43) and (44) with their non-passive counterparts (41) and (42), respectively. A stratal diagram is given for (43).

- (41) h̀l̀úm g̀à-ŋ h̀ərgá-ŋ g̀ìd̀è hiúw-a
 man:DEF put:sg-PST goat-DEF womb pen-LOC
 'the man put the goat in the pen'
- (42) h̀l̀úm v̀à-ŋ ḱarán g̀ìd̀è hiúw-a
 man:DEF put:pl-PST goats:DEF womb pen-LOC
 'the man put the goats in the pen'
- (43) h̀ərgá-ŋ d̀ə-g̀à-g̀è g̀ìd̀è hiúw-a kás
 goat-DEF AUX:f-put:sg-REDUP womb pen-LOC hand
 h̀l̀úm-ā
 man-LOC
 'the goat was put in the pen by the man'
- (44) ḱarán g̀à-v̀à-v̀è g̀ìd̀è hiúw-a
 goats:DEF AUX:pl-put:pl-REDUP womb pen-LOC
 'the goats were put in the pen'

(43')

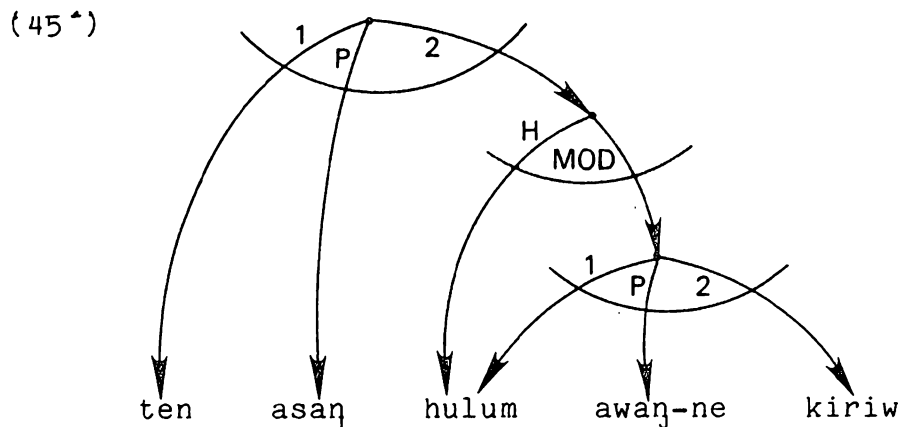


As discussed in section 3.2, the passive verb form is *bə* + ST + REDUP + *e*. There are several indications that (43) and (44) are cases of Passive. Looking first at evidence for the final relations, we see that **hargaŋ** in (43) is in the pre-verbal position normally occupied by a final 1 (and not in the immediate post-verbal position of a final 2). Second, this is a verb that requires auxiliary agreement with the final 1 (see section 3.3). The feminine form of the auxiliary agrees with **hargaŋ**, a feminine noun, in (43) and the plural form with **karaŋ**, a plural noun, in (44).

Other evidence for the final subjecthood of 'goat' is provided by the strategy for relative clause formation in Kera. Before presenting this argument, it is necessary to give a brief account of relative clauses in Kera.

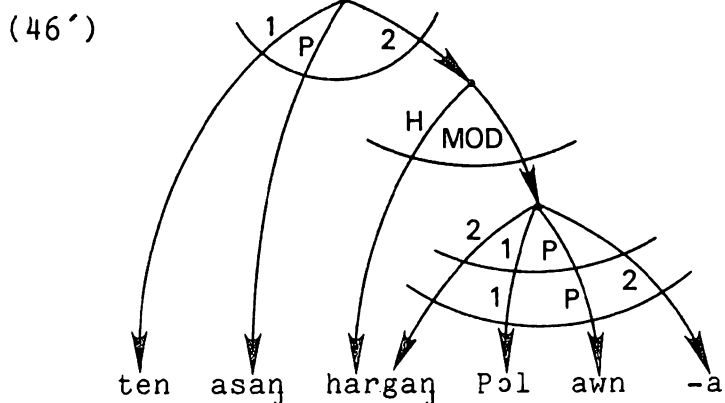
The relative clause in Kera is introduced by a relative clause marker plus the subordinate clause flag **minti** (glossed 'that'). The relative clause marker (RCM) agrees with the head noun in number and gender. The masculine form is *bə* the feminine form *də*, and the plural form *gə*. In relative clauses, the head noun bears two relations, one in the matrix clause and one in the modifying clause. As Frantz (1981) points out, languages deal with this by allowing either Status Quo or else Pro-replacement. Kera uses both strategies. In those cases where the head noun heads a final 1 arc in the relative clause the Status Quo strategy is used, so that the head noun is multiattached (see (45) and its corresponding stratal diagram).

- (45) 1-Rel
 ten ása-ŋ hùlúm bə míntí áwá-ŋ
 I see-PST man:DEF RCM:m that kill-PST
 kíríw-né
 leopard-PERF
 'I saw the man that had killed a leopard'



If the head noun bears any other relation in the modifying clause, a pronoun replacer "picks up" the multiple dependency in the modifier clause (see (46)-(49) and the stratal diagram for (46)).

- (46) 2-Rel
 ten ásá-ṅ hàrgá-ṅ dà míntí Pól
 I see-PST goat-DEF RCM:f that Paul
 áw-n-á
 kill-PST-3sgf.d.o.
 'I saw the goat that Paul killed'



- (47) 3-Rel
 ten ásá-ṅ hùlúm bà míntí Jo
 I see-PST man:DEF RCM:m that John
 əy-n-u hárgá-ṅ-né
 give-PST-3sgm.i.o. goat-DEF-PERF
 'I saw the man that John gave the goat to'
- (48) 3-Rel (initial BEN)
 tər də míntí pūr cil-n-ə
 girl RCM:f that boy:DEF weave-PST-3sgf.i.o
 gisí-ṅ túgú-ṅ
 mat-DEF come-PST
 'the girl for whom the boy wove the mat came'

- (49) LOC-Rel
 ten ásá-ŋ kábǎŋ gè míntí Pól
 I see-PST tree:DEF:coll RCM:pl that Paul
 áwá-ŋ kírw áǎŋ
 kill-PST leopard:DEF there
 'I saw the tree where Paul killed the panther'

Returning now to the discussion of passive, if 'goat' is a final 1 in the putative cases of passive, such as (43) and (44), then we expect that there will be no pronoun replacer in the corresponding relative clause with 'goat' as head. Sentence (50), which corresponds to (43), has a relative clause with no pronoun replacer, providing an argument that 'goat' heads a final 1 arc in the relative clause.

- (50) ten ásá-ŋ hàrgá-ŋ dè míntí dè-gà-gè
 I see-PST goat-DEF RCM:f that AUX:f-put:sg-REDUP
 gldè hiúw-a
 womb pen-LOC
 'I saw the goat that is put in the pen'

As evidence for the initial 2-hood of the final 1's in (43) and (44), there are certain verb stems like **ga** 'put' which agree with one of their dependents. As I will show in chapter 6, there is evidence that the correct statement of this constraint is that the verb stem displays number agreement with the initial 2. Comparing (41) and (42), which involve only one stratum of GR's, **ga** is the singular form agreeing with the singular 2 nominal and **va** is the plural form agreeing with a plural 2 nominal. In (43) and (44) the verb stems agree with the final 1, supporting its status as initial 2.

The initial 1 may or may not be specified. If it is specified in a passive clause, it is flagged as a 1-CHO by **kas** (literally 'hand').

In Kera, Passive is sanctioned but not necessary. It is employed most often when the initial 1 is unspecified. (Another option when the initial 1 is unspecified is to use the third person plural pronoun **ye** 'they' with the active voice.)⁶

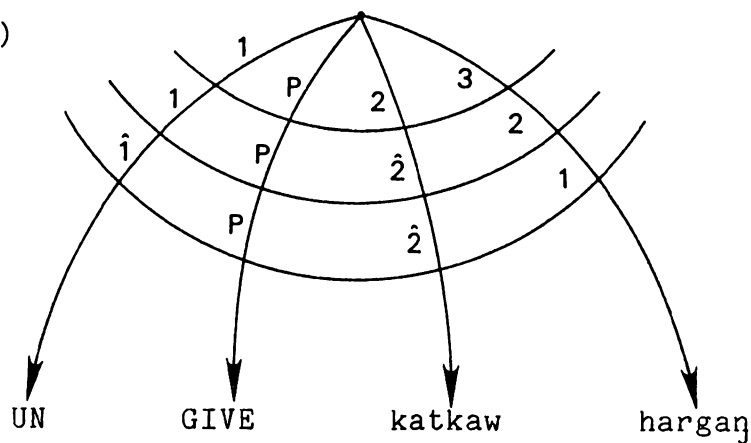
4.2 3 Advancement

We have seen that an initial 2 can be a final 1. It is also possible for an initial 3 to be a final 1. I will show that in these cases there are three strata, the initial 3 bearing an intermediate 2-relation and a final 1 relation. I will also show there is a constraint that if the initial 3 advances to 2, it must advance to 1. Consider the following sentences:

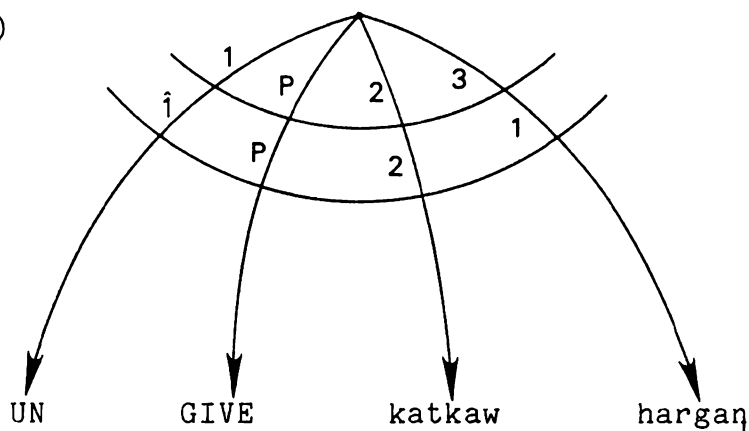
- (51) ten áy karkáw á hàrgá-ŋ
 I give grass to goat-DEF
 'I give grass to the goat'
- (52) *ten áy hàrgá-ŋ karkáw
 I give goat-DEF grass:DEF
 'I give the goat the grass'
- (53) hàrgá-ŋ dè-ay-áyé karkáw
 goat-DEF AUX:f-give-REDUP grass
 'the goat was given grass'

The initial and final relations are the same in (51), but in (53) the initial 3 is in the immediate pre-verbal position of a final 1 and the auxiliary agrees with it. (52) has the form we might expect if 3-2 alone were sanctioned. (The asterisk indicates that a sentence is ungrammatical.) I will compare two analyses of a sentence such as (53), one in which this is a case of 3-2-1 advancement (i.e., 3-2 advancement plus necessary advancement of the non-initial 2), and another in which (53) involves 3-1 advancement. (53'a) and (53'b) are the stratal diagrams for the two alternative analyses of (53), 3-2-1 and 3-1, respectively. (UN is the abbreviation used when the agent is unspecified.)

(53'a)



(53'b)



The 3-2-1 analysis and the 3-1 analysis make different predictions about the final status of the initial 2. In the 3-2-1 analysis, the initial 2, according to the Chômeur Law, is a final chômeur, while under the 3-1 analysis, the initial 2 is a final 2. While in (53) the initial 2 is in the immediate post-verbal position of a final 2, there is no reason to expect that this position would not be occupied by a 2-Cho in a clause without a final 2. (**katkaw** 'grass' is plural in Kera, so the pronoun in (55) is the plural form.) Now consider the following:

(54) ten bè-ay-áye katkâw á hârgá-ŋ
 I AUX:m-give-REDUP grass:DEF to goat-DEF
 'I am giving the grass to the goat'

(55) ten bè-əy-áy-á á hârgá-ŋ
 I AUX:m-give-REDUP-3pl.d.o. to goat-DEF
 'I am giving it (i.e., grass) to the goat'

In (55) (compare (54)), we see that **katkaw**, the initial and final 2, has been replaced by a direct object pronoun which is fused to the verb. So we might expect that **katkaw** in (53) could also be replaced by a pronoun if it were a final 2, i.e., if the initial 3 advanced directly to 1.

(56) *hârgá-ŋ dè-əy-áy-á
 goat-DEF AUX:f-give-REDUP-3pl.d.o.
 'the goat is given it(pl)'

(56) is ungrammatical with a fused direct object pronoun. The 3-2-1 analysis, in which the pronoun would be a 2-Cho rather than a final 2, gives us a basis to explain why this is so, whereas the 3-1 analysis provides no basis for the inability of the pronoun to fuse as a final 2 ought to. So stratal diagram (53'a), presented earlier, correctly represents sentence (53).

As just discussed, there is a constraint in Kera that in cases of 3-2, passive is obligatory. ((52) showed that 3-2 without 2-1 was ungrammatical.) The only possible exception to this constraint that I know of involves predicates of speaking where the initial 2 is a clause. Comparing (57) and (58), 3-2 is not sanctioned for such verbs when the initial 2 is a non-clausal nominal (58). However, (59) is a candidate for a 3-2 analysis where the initial 2 is a clause.

(57) ten wátá-ŋ kél á hùlùm
 I say-PST words to man
 'I said something to a man'

- (58) *ten wátá-ŋ hùlùm kél
 I say-PST man words
 'I said (told) him something'
- (59) ten wátá-ŋ kormo-n míntí ye jò'é káásáw
 I say-PST son-my that they sow millet:DEF
 nánánémó
 how
 'I told my son how they sow millet'

If we attempt to flag the addressee of the clause with the 3 flag **á**, putting it in the position of a final 3 following the complement, we find that it is interpreted as a Ben of the complement, as in (60). Nor is it grammatical to change the position of the putative initial 3 to precede the complement, still leaving the 3 flag **á** (see (61)).

- (60) ten wátá-ŋ míntí ye jò'é káásáw
 I say-PST that they sow millet:DEF
 nánánémó á kormó-n
 how to son-my
 'I told how they sow millet for my son'
 *'I told my son how they sow millet'
- (61) *ten wátá-ŋ á kormó-n míntí
 I say-PST to son-my that
 'I said to my son that

Comparing (59) and (62), we see that **kormon** is replaced with a fused direct object pronoun (note the high tone) and not an indirect object pronoun. Also **kormon** as a final 2 bears the tense enclitic **-yaŋ** in (63).

- (62) ten wédé-n-ú míntí ye jò'é káásáw
 I say-PST-3sgm.d.o. that they sow millet:DEF
 nánánémó
 how
 'I told him how they sow millet'
- (63) ten wáté kormó-n-yaŋ míntí
 I say son-my-FUT that
 'I will tell my son that

Assuming that **kormon** is an initial 3, we can account for all the above facts by saying that this is a case of necessary 3-2 where 2-1 is not necessary.

4.3 Ben-3 advancement

Looking back at the 3-2-1 analysis, we see that it can help us distinguish initial 3's from Ben's. Since Ben's and 3's are flagged by the same preposition **á** and have the same strong and weak pronominal forms (see section 3.4), it is

possible to theorize that a Ben-3 advancement is both sanctioned and necessary. If this is the case, then we might expect that the initial Ben can be a final 1. Comparing (64) and (65), we see that an initial Ben cannot be a final 1. Such a sentence is ungrammatical, so we either must add a constraint limiting 3-2 Advancement to initial 3's, or rule out Ben-3 Advancement. Either way Ben's must be distinguished from 3's in the language, despite their superficial similarities.

(64) ten vè katkáv gídè hiúw-a á hàrgá-ŋ
 I put:pl grass womb pen-LOC for goat-DEF
 'I put grass in the pen for the goat'

(65) *hàrgá-ŋ dè-gà-gè katkáv gídè hiúw-a
 goat-DEF AUX:f-put:sg-REDUP grass womb pen-LOC
 'the goat was put grass (for) in the pen'

4.4 Summary

In this section we have seen that passive is sanctioned but not necessary. We also looked at cases of 3 advancement. There is a constraint, however, that in cases of 3 advancement where the initial 2 is not a clause, the 3 must be the final 1. We argued for a 3-2-1 analysis over a 3-1 analysis in such cases. We also have shown that on the basis of these facts, one must differentiate initial 3's from initial Ben's.

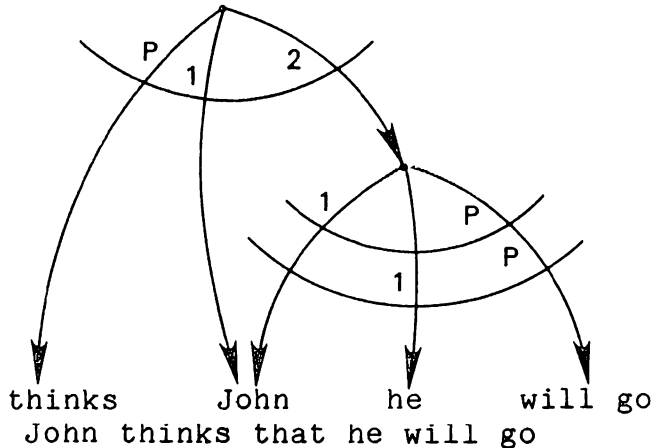
5 Multiple dependencies

As summarized by Frantz (1981), languages have essentially four ways of dealing with multiple dependencies when the upstairs 1 is the same as the downstairs 1. (In a multiple dependency, a given nominal is a dependent of more than one governor.) The four ways of dealing with such situations are classified by Frantz as Status Quo, Pro-Replacement, Equi-Erasure, and Equi-Subject Union (ESU). Status Quo is used when the head noun heads a final 1 arc in a relative clause, as we saw in section 4.1. The other three strategies will be discussed in this section.

5.1 Pro-Replacement

In cases of Pro-Replacement, the multiple dependency is dealt with by a pronoun. To give an example from English, instead of saying "John thinks that John will go", we say "John thinks that he will go." The initial 1 GR in the subordinate clause is erased by a pronoun which replaces it. The network looks like this:

(C')



We note that in the English sentence above, the pronoun **he** can refer either back to John or to someone else.⁷ The exact meaning of the sentence is unclear without the context. In Kera, though, there are two sets of third-person pronouns. One set is used if the noun being replaced is the same as the noun in the main clause, and the other is used elsewhere. This system is referred to in the literature as the logophoric system. It makes clear whether the person who is thinking, feeling or speaking is referring to himself or to someone else. In other words, there are two possible ways to say the equivalent English sentence above.

- (66)a. Jǒ dík míntí wə dé Mútà wə ≠ Jǒ
 b. Jǒ dík míntí tó dé Mútà tó = Jǒ
 John thinks that he go Fianga
 'John thinks that he is going to Fianga'

Both the pronouns **tó** and **wə** mean 'he', but the **tó** makes it clear that the reference is to the matrix subject. The equivalent logophoric pronoun for 'she' is **tá**, and for 'they' is **té**.

(67)	logophoric	non-logophoric
3sg.m.	tó	o ~ wə
3sg.f.	tá	a
3pl.	té	ye ~ yə

In the sentences given above, the GR of the noun being replaced is 1. In the following sentences we see that the same logophoric pronouns are used to replace nouns with other GR's also:

- (68)a. Pǒl dík míntí Jǒ wírk-ú-yaŋ
 b. Pǒl dík míntí Jǒ wérké-tó-yaŋ
 Paul think that John pay-him-FUT
 'Paul thinks that John will pay him'

- (69)a. J⁵ bèl míntí ten ay hàrgá-ŋ-lá á nunu
 b. J⁵ bèl míntí ten ay hárgá-ŋ-lá á tó
 John want that I give goat-DEF-OPT to him
 'John wants me to give the goat to him'

In (68) **tó** replaces a noun bearing a 2 GR and in (69) it replaces a noun bearing a 3 GR. The logophoric pronouns are invariable no matter what GR they bear, while regular pronouns vary depending on their GR (see section 3.3.). The regular pronouns **can** be used in cases of co-referentiality, but only if the context makes it very clear who is being referred to. That is, (66a) **could** mean that John thinks that he himself will be going to Fianga, but only if the conversation has been going on for awhile and the context makes that very clear. Otherwise the logophoric pronouns are the pronouns of preference in cases of co-referentiality.

Next we consider cases which involve more than two clauses, all with the same English translation: 'John said that he wants me to give the goat to him'.

- (70) J⁵ wátá-ŋ míntí ...
 John say-PST that ...
 a. .. tó_i bèl míntí ten ay hàrgá-ŋ-lá á nunu_{i,j}
 b. .. tó_i bèl míntí ten ay hàrgá-ŋ-lá á tó_i
 c. .. wə_{j,i} bèl míntí ten ay hàrgá-ŋ-lá á tó_i
 .. he_{j,i} want that I give goat-DEF-OPT to him
 (i ≠ j)
 'John said that he wants me to give the goat to him'

In (70a) the **tó** refers to John and the **nunu** most likely refers to someone other than John, though if the context so indicated, it could refer to John also. In (70b), the first **tó** refers back to John and the second **tó** refers back to the first **tó**, and therefore back to John also. In (70c) **wə** could refer either to someone else (most likely) or, if context made it clear, to John. The **tó** refers back to **wə**, whoever that may be. If **wə** does not refer to John, then the **tó** cannot be referring to John. A logophoric pronoun always refers back to the noun or pronoun in the clause immediately governing it, and if a logophoric pronoun is part of a coreference chain, as in (70b) and (70c), all pronouns in the chain must be logophoric.

5.2 Equi-Erasure and Equi-Subject Union

The other two strategies for dealing with multiple dependencies when the upstairs and downstairs clauses share a 1 are Equi-Erasure and Equi-Subject Union (ESU).

Equi-Erasure refers to the erasure of the downstairs 1 when the nominal bearing the 1-GR is also the upstairs 1. In Frantz' attempt to provide a heuristic for his students, he wrote: "In cases of 'erasure' of the ds [downstairs] 1 relation, the ds [downstairs] verb will exhibit no evidence

that it has a final subject. Thus there will be no agreement with a final subject, nor placement of a final subject in a position that is uniquely determined by its dependency on that verb." (Frantz 1981, pp. 51-52). Other initial dependents of the downstairs verb are also final dependents of it. Both the upstairs P and the downstairs P are live.

Unlike Equi-Erasure, ESU has only one final live verb, and therefore only one final clause. "ESU requires the same nominal to be both ds [downstairs] and us [upstairs] 1. In the resultant union, one verb is a P_e [predicate emeritus or dead verb] and a dependent of the other verb; the former dependents of the P_e are dependents of the live P in the union." (Frantz 1981, p. 45). Languages apparently differ with respect to whether the upstairs P or the downstairs P will be the live verb in ESU.

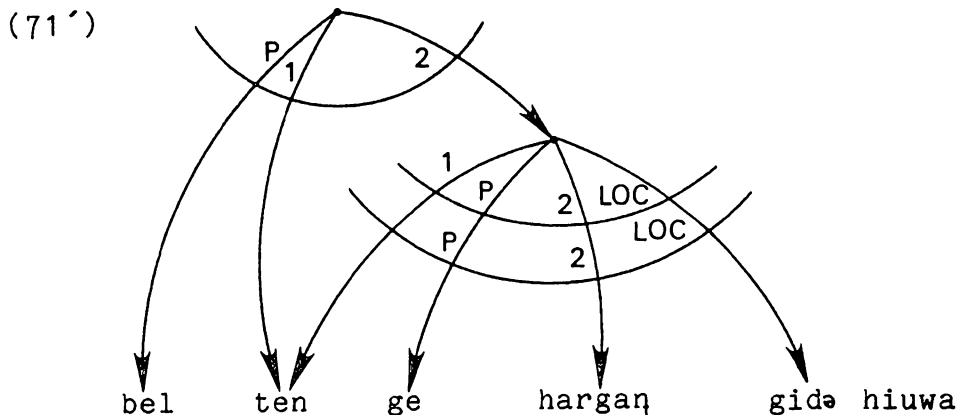
I propose that Kera uses both of these strategies and that sentences (71) and (72) are cases of Equi-Erasure, while (73) and (74) are cases of ESU. Compare the proposed stratal diagrams - (71') and (73') - for (71) which is Equi-Erasure and (73) which is ESU.

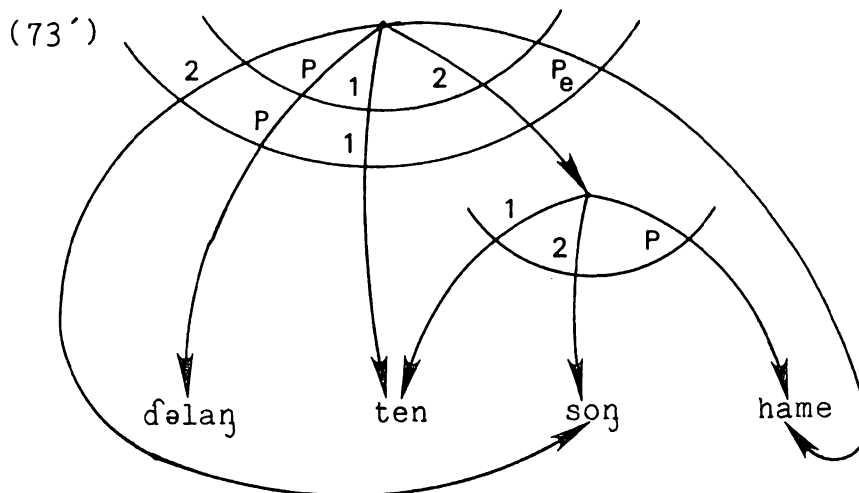
(71) ten bèl gè hàrgá-ŋ gídè hiúw-a
 I want put:sg goat-DEF womb pen-LOC
 'I want to put the goat in the pen'

(72) ten dǎlá-ŋ hám so
 I try-PST eat food
 'I tried to eat food'

(73) ten dǎlá-ŋ sǒ-ŋ hámé
 I start-PST food-DEF eat
 'I started to eat the food'

(74) ten á-téwá-ŋ-sǒ-ne wér hámé-ŋ
 I PERF-finish-PST-food:DEF-PERF completive eat-DEF
 'I had just finished eating the food'





5.3 Equi-Erasure

Looking at the first two sentences (71) and (72) as cases as Equi-Erasure, we observe first of all that the 1 of the downstairs clause is lexically absent. This is what we would expect in a case of Equi-Erasure (though the same holds true for (73) and (74)). If this were Pro-Replacement, both the upstairs 1 and the downstairs 1 would be lexically present (and we have seen that this is an acceptable option for certain verbs [section 5.1]). If this is Equi-Erasure, then we can say that the upstairs 1 erases the downstairs 1.

Second, looking at sentence (75), the downstairs verb exhibits no evidence that it has a final subject. The auxiliary *bə-* of the downstairs verb is invariable though the initial 1 is feminine gender.

- (75) *te dè-bàl-bèlè bə-gè hàrgá-ŋ*
 you:f AUX-want-REDUP AUX-put:sg goat-DEF
gìdè hiúw-a
 womb pen-LOC
 'you are wanting to put the goat in the pen'

As evidence that (71) and (72) are not cases of ESU, note that the initial downstairs 2's are in the linear position of final 2's of the downstairs predicate, immediately following it. If these nominals were not final downstairs 2's, but final dependents of the upstairs predicates, we would expect to be able to say sentences (76) and (77). In (76), I have put 'goat' (the initial downstairs 2 of (71)) immediately following the matrix verb. And in (77), I have substituted a fused pronoun for 'goat' on the matrix verb. In both cases, the result is ungrammatical.

- (76) **ten bèl hàrgá-ŋ gè gìdè hiúw-a*
 I want goat-DEF put:sg womb pen-LOC
 'I want the goat put in the pen'
- (77) **ten bèl-à gè gìdè hiúw-a*
 I want-3sgf.d.o. put:sg womb pen-LOC
 'I want it put in the pen'

Furthermore, if **hargan** 'goat' and **so** 'food' are final 2's of the downstairs predicate as the Equi-Erasure, but not the ESU analysis, predicts, we expect that their respective pronouns will be fused with the downstairs predicate. Sentences (78) and (79) confirm that such fusions are grammatical.

(78) ten bèl gâr-á gîdè hiúw-a
 I want put:sg-3sgf.d.o. womb pen-LOC
 'I want to put it in the pen'

(79) ten d'álá-ŋ hêm-ù
 I try-PST eat-3sgm.d.o.
 'I tried to eat it'

If the initial downstairs 2 is the final downstairs 2, so that the downstairs predicate has dependents in the final stratum, then the downstairs predicate is live.

Finally, not only is the downstairs predicate live, but so is the upstairs predicate. This is evidenced by the agreement of the progressive tense auxiliary with the final 1 in (75) and (80).

(80) ár gè-bàl-bèlè bè-gè hàrgá-ŋ
 we:excl AUX:pl-want-REDUP AUX-put:sg goat-DEF
 gîdè hiúw-a
 womb pen-LOC
 'we are wanting to put the goat in the pen'

In sum, sentences (71) and (72) are cases of Equi-Erasure since they meet the criteria for it: 1) the downstairs 1 GR is erased; 2) the downstairs predicate exhibits no evidence of a final subject; 3) the downstairs predicate retains its other dependents; and 4) both the downstairs and upstairs predicates are live. See the stratal diagram (71') for (71), which was given in section 5.2.

5.4 Equi-Subject Union

By contrast, (73) and (74) are cases of ESU, the most noticeable difference between these and the cases of Equi-Erasure being the linear position of the initial downstairs direct object. Though languages may differ as to which predicate will be live and which emeritus in ESU, in Kera we will see that it is the upstairs P which is live. I will show that the downstairs P is dead and that its dependents are final dependents of the live upstairs predicate.

First, the initial upstairs 1 is in the linear position of a final upstairs 1, which is expected if the upstairs P is live. Second, assuming that the upstairs P is live and that the downstairs P is emeritus, we expect that the initial dependents of the downstairs P will be final

dependents of the upstairs P. There are three indications that this is the case. First, the initial downstairs 2 is linearly in the immediate post-verbal position of an upstairs 2. Second, the suffix of the upstairs P cliticizes to it (see (74)), which occurs only in cases of final 2's. Third, if this is a final upstairs 2, we expect that the pronoun replacer will be fused to the upstairs predicate, and this is the case in (81).

(81) ten bə-dá1-ú hámé
 I AUX-start-3sgm.d.o. eat
 'I am starting to eat it'

If the downstairs P is emeritus, it will have no dependents, and there are no apparent final dependents of **hame** 'eat'. Also as a P_e, it is a dependent of the live predicate. It is interesting to note that as a dependent of the upstairs P, it can be nominalized, taking a definite marker, as in sentence (74). (It can apparently even function as an upstairs 2 in the absence of any other final 2, at least in regard to tense cliticization: in (82) the tense clitic **-a** is cliticized to the nominalized predicate emeritus. However, it is possible that this sentence has an entirely different analysis.)

(82) ten bə-dél-hámé-ŋ-a
 I AUX-start-eat-DEF-PROG
 'I am starting the eating'

We have shown that (73) and (74) are cases of ESU, since there is only one final live verb and the initial dependents of the downstairs P as well as the downstairs P itself are final dependents of the live upstairs predicate. See the stratal diagram given in section 5.2.

6 The proper formulation of the stem agreement rule

As mentioned earlier in section 4.1, there are certain verbs, the stem of which agrees with one of the term relations in number (singular/plural). I stated there that the verb stem agrees with the initial 2. In this section I will discuss the evidence for this analysis, particularly in relation to the Unaccusative Hypothesis.

Ebert (1979) presents a list of the verbs in question. She states that the stem agrees with the subject of an intransitive verb or with the direct object of a transitive verb (p.70). To put it in other words, it agrees with the absolutive (the 2 of a transitive or 1 of an intransitive verb). This list of verbs is presented below:⁹

(83) sg. stem	pl. stem	gloss
dàr-	tar-	'put up against, lay beside'
gàr-	kar-	'plant'
jàm-	cam-	'cut, sever'
bàrg-	parg-	'pull out'
gàa-	vaa-	'throw, cause, send, put'
jàa-	caa-	'break'
luu-	lup-	'climb up, climb down'
tuu-	tup-	'lay, lie down'
duu-	dup-	'scoop, ladle'
suu-	sup-	'educate, rear'
soo-	sop-	'blow out, puff up'
dòo-	top-	'trap'

Ebert does not consider, however, that there are distinct syntactic levels and that initial relations may not be final relations. So there are actually three competing hypotheses for the formulation of the verb stem agreement rule:

1. the verb stem agrees with the final absolutive
2. the verb stem agrees with the initial absolutive
3. the verb stem agrees with the initial 2

To test hypothesis 1, we require constructions with verbs of (83) in which the final absolutive is not the initial absolutive. The only construction I have studied which has the potential to serve as a test of hypothesis 1 involves the verb *gaa* 'cause'. We see in (84) and (85) that the upstairs verb 'cause' has its singular form despite the fact that the final upstairs 2 is plural. This is explained if the final 2 of this verb is an ascendeé, as I propose in section 7.1 (see arguments there that 'children' and 'us' are final upstairs 2's in these examples).¹⁰

(84) ár gà-ŋ kámár kəncé-ŋ
 we:excl cause:sg-PST children little:pl-DEF
 bà-hàgé
 AUX-cry
 'we made the little children cry'

(85) koŋ gà-ŋ aré bà-hàgé
 rain cause:sg-PST us:excl AUX-cry
 'the rain made us cry'

Before going on to hypotheses 2 and 3, I will first discuss the Unaccusative Hypothesis, since this will bear on the final choice between these two hypotheses.

Perlmutter and Postal (1984a) have proposed the Unaccusative Hypothesis, the most basic claim of which is that, "The initial stratum of some basic clauses is unaccusative" (p. 95). An unaccusative stratum is defined

as a stratum with a 2, but no 1. "The Unaccusative Hypothesis predicts that languages will have phenomena with respect to which nominals in some intransitive clauses will behave like subjects, while those in others will behave like direct objects" (p. 97).

Unaccusative Advancement (UA) refers to the advancement of a 2 in an unaccusative stratum to 1. It differs from the 2 to 1 advancement of Passive in that for Passive the advanced 2 is from a stratum which also has a 1, and so the advancement puts the 1 en chômage; UA does not create a chomeur, as there is no 1 in the preceding stratum.

According to Perlmutter and Postal (1984a), there are certain classes of predicates which determine unaccusative initial strata. These include the class of "predicates whose initial nuclear term is semantically a Patient" (p. 98). Some English verbs which are in this semantic class are: burn, drop, float, glide, flow, drip, sway, roll, boil, melt, bud, grow, die, open, break, and vanish, etc. It is suggested that predicates with equivalent meanings in other languages may exhibit syntactic behavior which points to analyses involving initial unaccusative strata.

Taking just a few of these predicates, I present below some sentences which are candidates for an Unaccusative Advancement analysis.

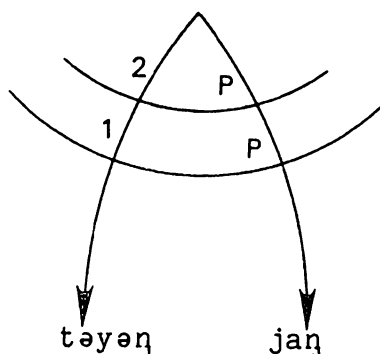
- (86) táyǎ-ŋ jà-ŋ
calabash-DEF break:sg-PST
'the calabash broke'
- (87) káyǎw cá-ŋ
calabashes:DEF break:pl-PST
'the calabashes broke'
- (88) saamá-ŋ jèmà-ŋ
cord:sg-DEF sever:sg-PST
'the cord separated (broke)'
- (89) saamá-ŋ cèmà-ŋ
cord:pl-DEF sever:pl-PST
'the cords separated (broke)'
- (90) ku kulí-ŋ bì-ŋ wára
mouth:sg hut-DEF open:sg-PST completive
'the door opened'
- (91) ku kulí-ŋ pí-ŋ wára
mouth:pl hut-DEF open:pl-PST completive
'the doors opened'
- (92) sǎ-ŋ bà-kí
food-DEF AUX-burn
'the food is burning'

(93) kǎn áyé
 water:DEF flow
 'the water flows'

(94) kór dè J̄ áyé
 blood of John flow
 'John bleeds'

Note that in (86)-(91) the verb stem agrees with the final 1. If these clauses are given a traditional monostratal analysis, one in which the initial relations are the final ones, we can accept hypothesis 2 (the verb stem agrees with the initial absolutive). However, if hypothesis 3 is true, then these sentences require a bistratal analysis in which there is no initial 1, and the final 1 is an initial 2. These would be cases of UA and the verb stem would agree with the initial 2. The diagram for (86) under the UA analysis is as in (86').

(86')



Any evidence which favors the initial 2 agreement rule (hypothesis 3) over an initial absolutive agreement version (hypothesis 2) would serve to support the initial unaccusative analysis for sentences such as (86)-(91). In section 7.3 I will present evidence that the patient nominal of sentences such as (86)-(94) is not an initial 1, assuming that the constraints proposed there on "tough" ascensions hold. Furthermore, the absolutive agreement version gives us no reason to expect that intransitive verbs with "agentive" subjects would not exhibit stem agreement; yet in every case found so far, the nominal governing stem agreement is never an agent.

Further support for the initial 2-hood of the patient nominal in (86)-(91) is seen in (95)-(100), the corresponding transitive clauses of (86)-(91).

(95) ten jà-ŋ táyá-ŋ
 I break:sg-PST calabash-DEF
 'I broke the calabash'

- (96) ten cá-ŋ káyáw
 I break:pl-PST calabashes:DEF
 'I broke the calabashes'
- (97) ten jèrà-ŋ saamá-ŋ
 I sever:sg-PST cord:sg-DEF
 'I severed the cord'
- (98) ten càrà-ŋ saamá-ŋ
 I sever:pl-PST cord:pl-DEF
 'I severed the cords'
- (99) ten bì-ŋ ku kulí-ŋ
 I open:sg-PST mouth:sg hut-DEF
 'I opened the door of the hut'
- (100) ten pí-ŋ ku kulí-ŋ
 I open:pl-pst mouth:pl hut-def
 'I opened the doors of the hut'

As Perlmutter (fide Frantz [personal conversation]) has pointed out for verbs like English **open**, this is elegantly accounted for by saying that such verbs require a 2 (the patient) in their initial stratum and additionally accept a 1 (the agent) in the initial stratum; only with both arguments are they transitive verbs.

Alternatively, sentences such as (95)-(100) might be taken to suggest that these verbs are essentially transitive, and thus that the clauses of (86)-(91) are transitive at the initial level, but with the initial 1 (the agent) unspecified. However, this would predict passive morphology (see sections 3.2 and 4.1), which is not present in (86)-(91).

6.1 Summary

While a good deal more evidence is required before the Unaccusative Advancement analysis for verbs such as those in (86)-(91) (and by extension, verbs such as those in (92)-(94) as well) can be considered well established, such facts as are available (stem agreement never with an agent; the "tough" ascension constraint [section 7.3]; the existence of corresponding transitives, as in (95)-(100); and the lack of passive morphology in (86)-(91)) favor the UA analysis over the other possibilities considered. And if we accept the UA analysis, then we must accept hypothesis 3 which states that the verb stem agrees with the initial 2.

Having tentatively ruled out hypothesis 1 (stem agrees with final absolutive) in causative clauses such as (84) and (85), and finding no evidence for stem agreement with initial absolutives which are initial 1's, we conclude that the correct form of the stem agreement rule is as follows:

If a verb stem has singular and plural variants, the choice of stem is determined by number of the initial 2.

7 Ascensions

Given constructions in which one clause (the downstairs clause) is a dependent of another clause (the upstairs clause), ascension rules allow a nominal dependent of the downstairs clause to bear a non-initial grammatical relation in the upstairs clause. This nominal is called an "ascendee".

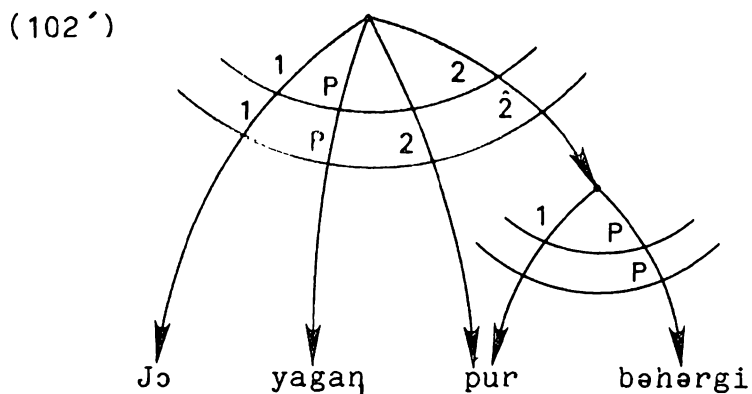
Perlmutter and Postal (1974) formulated two laws which operate in such cases, as reported in Perlmutter (1983). The Relational Succession Law states: "An ascendee assumes within the clause into which it ascends the grammatical relation of its host NP (the NP out of which it ascends)" (p.35). (In this statement of the law, which dates from RG's Transformational days, NP is equivalent to "nominal".) The Host Limitation Law states: "Only a term of a grammatical relation can be the host of an ascension" (p. 53).

We will see that Kera sanctions ascensions where the downstairs relation of the ascendee is either a 1 or a 2. In cases of 1 ascension, the host clause may be either 1 or 2. With 2 ascensions, the host is a 1. Ascensions where the host clause is a 1 will be called Tough Ascensions.

7.1 Ascensions out of 2-host

We will consider, first of all, ascension of a 1 with a host downstairs clause that bears a 2 relation to the upstairs clause. There are apparently at least two verbs in Kera which govern this - 'cause' and 'allow'. (In the causative construction *ge* 'put' is glossed 'cause'.) (102') is the proposed stratal diagram for (102) if this is an ascension.

- (101) a. hùlúm gà-ŋ púr bà-hèrgí
 man:DEF cause-PST boy:DEF AUX-dance
 'the man made the boy dance'
- b. Jo gà-ŋ púr bæ-áy táyé-ŋ-a
 John cause-PST boy:DEF AUX-give calabash-DEF-PROG
 á hèlgé-ŋ
 to woman-DEF
 'John made the boy give the calabash to the woman'
- (102) Jo yágá-ŋ púr bà-hèrgí
 John allow-PST boy AUX-dance
 'John let the boy dance'



The position of **pur** 'boy' in (101)-(102) is compatible with analyses in which this nominal is either a constituent of the downstairs clause (as final 1), in which case this is not an ascension; or it is a constituent of the upstairs clause. Concentrating on (102), if this is 1 ascension, we expect 'boy' to bear a 2 relation upstairs since the sentential complement which hosts it is a 2. I give three arguments that 'boy' is an upstairs 2.

If we replace **pur** with a pronoun, as in (103) and (104), we see that we have a direct object pronoun which is fused with the upstairs predicate. This is accounted for if **pur** is a final upstairs 2 in (101)-(102).

(103) hùlúm gè-n-ù bə-hərgí
 man:DEF cause-PST-3sgm,d,o. AUX-dance
 'the man made him dance'

(104) Jo yəgá-n-ú bə-hərgí
 John allow-PST-3sgm,d,o. AUX-dance
 'John let him dance'

If **pur** were a constituent of the downstairs clause, we would expect to get the subject pronoun **wə** 'he', but this is ungrammatical for (102):

(105) *hùlúm yəgá-ŋ wə bə-hərgí
 man:DEF allow-PST he AUX-dance
 'the man allowed him to dance'

Second, if we apply the test of tense cliticization (see section 3.3) using the future tense, the future clitic **-yaṅ** cliticizes to **pur**, as in (106) and (107), and not to the verb stem, as in (108), which is ungrammatical.

(106) hùlúm gè-púr-yaṅ bə-hərgí
 man:DEF put-boy-FUT AUX-dance
 'the man will make the boy dance'

(107) Jo yágá-púr-yaŋ bə̀-hə̀rgí
 John allow-boy-FUT AUX-dance
 'John will let the boy dance'

(108) *hùlúm gè-yaŋ púr bə̀-hə̀rgí
 man:DEF cause-FUT boy AUX-dance
 'the man will cause that the boy dance'

This is what we expect if the downstairs 1 is an ascende, bearing a final 2 relation to the upstairs predicate.

As a final argument, the ascension analysis predicts that the downstairs 1, as an upstairs 2, may advance to final upstairs 1, to give a passive. This is borne out in that (109) is grammatical:

(109) púr bə̀-gà-gè bə̀-hə̀rgí
 boy:DEF AUX-cause-REDUP AUX-dance
 'the boy was made to dance'

(110) shows that 1 ascension is not necessary with 'allow' (though it is with 'cause').

(110) Jo yágá-yaŋ míntí Pól de-la
 John allow-FUT that Paul go-OPT
 'John will let Paul go'

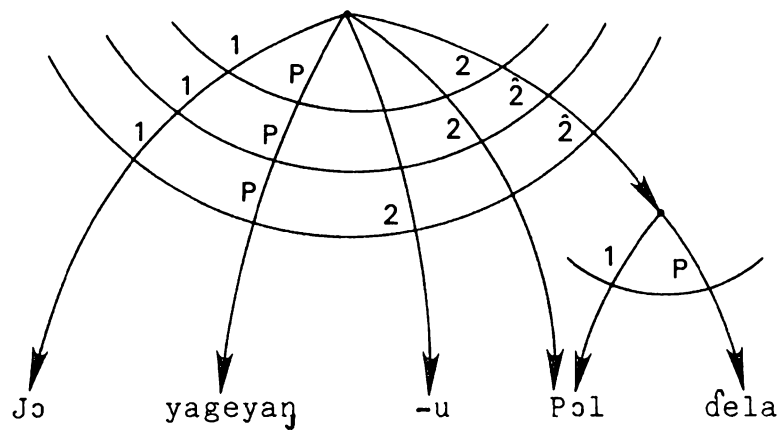
In the sentences presented thus far, the multiattachment of the ascende is resolved by erasure of the downstairs arc. But the verb **yage** allows Pro-replacement as an alternate means of resolving the multiattachment. Interestingly, the pronoun may replace the multiattached nominal in either the upstairs or the downstairs clause, as in (111) and (112).

(111) Jo yúg-ú-yaŋ míntí Pól de-la
 John allow-3sgm.d.o.-FUT that Paul go-OPT
 'John will let Paul go'
 (Lit: 'John will let him that Paul go')

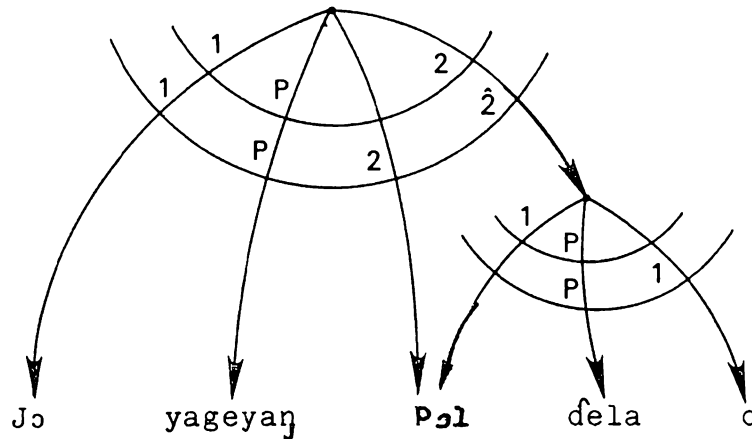
(112) Jo yágé-Pól-yaŋ míntí o de-la
 John allow-Paul-FUT that he go-OPT
 'John will let Paul go'
 (Lit: 'John will let Paul that he go')

Both (111) and (112) involve 1 ascension. In (111) the pronoun replacement is in the upstairs clause and the pronoun is fused to the verb. In (112) the pronoun replacement is in the downstairs clause. Below are stratal diagrams for these two examples.

(111')



(112')



We note, however, that 'cause' does not permit a corresponding sentence without 1 ascension.¹¹ Nor does it permit the type of pronoun replacement that we have with the verb **yage**. Under the 1 ascension analysis of clauses with 'cause', the final upstairs 2 is not the initial upstairs 2. If it **were** the initial 2 of 'cause', we would expect that the verb stem would agree with it, for as we have already seen in chapter 6, the verb stem agreement rule states that those verbs which require stem agreement will agree with the initial 2. But when the final 2 is replaced by a plural, there is no change in the verb stem (e.g., see (84) in chapter 6).¹² There is another possible explanation for the lack of stem agreement is that the morpheme for 'cause' only coincidentally has the same shape as one variant of the verb **ge** which requires verb stem agreement, and that the verb 'cause' is simply a different verb which does not trigger stem agreement. In that case 'boy' in (101a and b) above could conceivably be both the initial and final 2; i.e., that the sentences given above with 'cause' do not involve ascensions. If 'cause' is not an ascension verb and 'allow' is, this could account for the differences between these two verbs with respect to the possibility of upstairs replacement by a pronoun. This question must be left open for now.

7.2 Ascensions out of a 1-host¹³

In this section we will consider a case of 1 ascension where the ascendeé is a non-initial upstairs 1. Before presenting the ascension examples, I discuss corresponding sentences which exhibit no ascensions. Sentences (113) and (114) below show simple clauses in active and passive with the predicate **hum ku** 'to bother' (literally 'take mouth'); (115) and (116) show the same active and passive clauses as complements of the predicate 'hard'. (A stratal diagram is given for (116).)

(113) Jo hùm ku Pól
John take mouth Paul
'John bothers Paul'

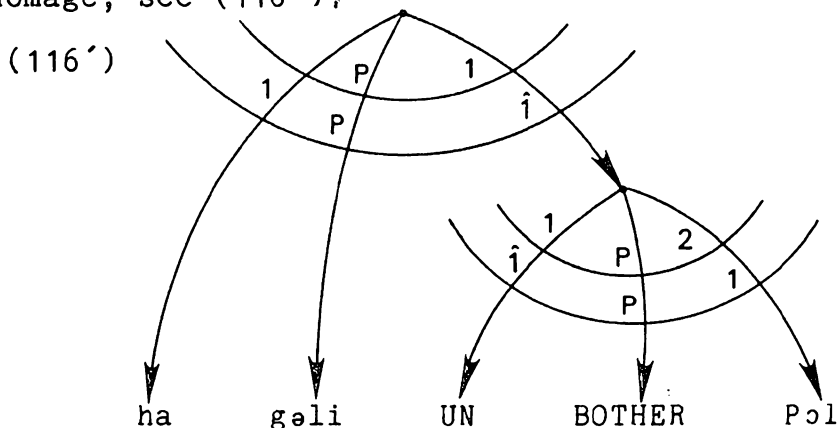
(114) Pól bə-hùm-hùm ku kás Joŋ-a
Paul AUX:m-take-REDUP mouth hand John-LOC
'Paul is bothered by John'

(115) há gəlí bə-hùm ku Pól
DUMMY hard AUX-take mouth Paul
'it's hard to bother Paul'

(116) há gəlí Pól bə-hùm-hùm ku
DUMMY hard Paul AUX:m-take-REDUP mouth
'it's hard for Paul to be bothered'

(117) há gəlí Sara də-hùm-hùm ku
DUMMY hard Sara AUX:f-take-REDUP mouth
'it's hard for Sarah to be bothered'

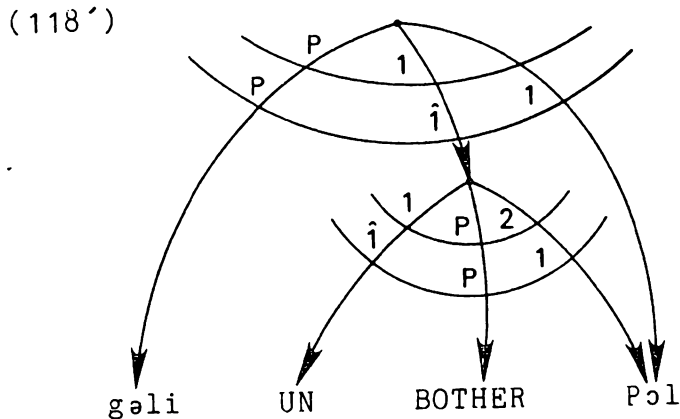
Evidently, Kera does not allow clauses as final 1, at least not with the matrix predicate in (115) and (116). Instead, a dummy **há** is final,¹⁴ putting the downstairs clause en chōmage; see (116'),¹⁵



In (118), which I analyze as a case of 1 ascension, the downstairs clause is passive and Paul is an ascendeé in the matrix clause and hence the final upstairs 1.

- (118) Pól gəlí bə̀-hùm-hùm ku
 Paul hard AUX-take-REDUP mouth
 Lit: 'Paul is hard to be bothered'

So this is not a case of a downstairs final 2 ascending upstairs, since by comparing (118) with (113) and (115) we see that the downstairs verb in (118) has passive morphology.¹⁰ (The stratal diagram for (118) is below.)

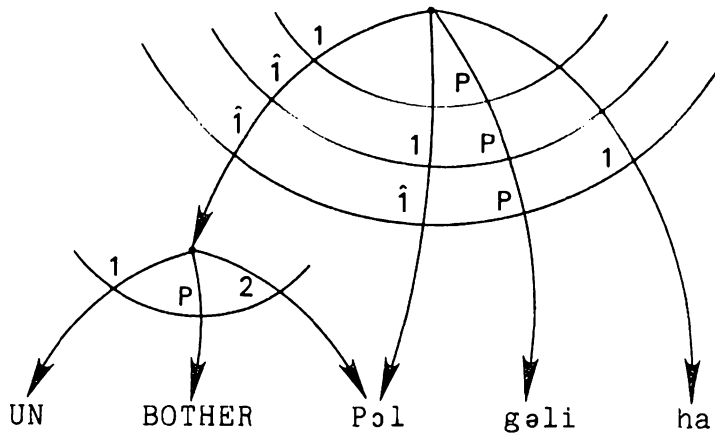


Ascension of a final downstairs 2 is possible, but only with **há** apparently putting the ascendeé en chômage in the upstairs clause; this is a different use of **há**, and is common in clauses whether or not they involve ascensions. Compare (121), in which **há** appears in a simplex clause.

- (119) há Pól gəlí bə̀-hùm ku
 DUMMY Paul hard AUX-take mouth
 'Paul is hard to bother'
- (120) *Pól gəlí bə̀-hùm ku
 Paul hard AUX-take mouth
 'Paul is hard to bother'
- (121) há hàrgá-ŋ dè-ay-áyé á Máriań
 DUMMY goat-DEF AUX-give-REDUP to Marian
 'it's the goat that was given to Marian'

In (119) it is clear that it is a downstairs final 2 which is the ascendeé, since there is no passive morphology in the downstairs clause. The stratal diagram for (119) is given below.

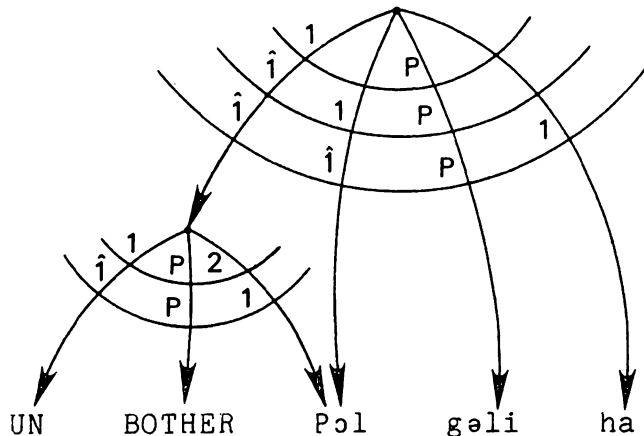
(119')



It is interesting to note that in the case of 1 ascension to an upstairs 1, as in (118), dummy-insertion is not sanctioned, though it is in the case of 2 ascension as was seen above in (119), (122), which would involve a dummy putting the final 1 of (118) en chômage, is ungrammatical. It is diagrammed in (122').

(122) *há Pɔl gəlí bə-hùm-hùm ku
 DUMMY Paul hard AUX-take-REDUP mouth
 'it's Paul (that was) hard to bother'

(122')



Based on the above data, we can suggest the following constraints on "tough" constructions as hypotheses which need to be tested further.

- (a) Only a nominal which heads an initial 2 arc can ascend
- (b) The final upstairs 1 must be either the final downstairs 1 or the dummy há.

These constraints are based on very limited data. Additional research is needed to determine whether there can be a specified initial 1 downstairs, as in test sentence (123), and if so, if it could be an ascendea in the matrix clause, with or without dummy-insertion, as in (124).¹⁷ To decide on the final form of hypothesis (a) above, one must test whether "tough" ascension is limited to initial 2's, as in

the data in my possession, or whether initial 3's and obliques in downstairs clauses are also candidates for ascension, either as final 3's, as in (126), or final 1's, as in (127), with or without dummy-insertion. (The question mark indicates that I do not know if a sentence is grammatical or not, not having tested it.)

- (123) ? há gèlí Jɔ̀ bə̀-hùm ku Pól
 DUMMY hard John AUX-take mouth Paul
 'it's hard that John bothers Paul'
- (124) ? (há) Jɔ̀ gèlí bə̀-hùm ku
 (DUMMY) John hard AUX-take mouth
 'John is hard to bother Paul'
- (125) ? há gèlí bə̀-ay só-ŋ(-a)
 DUMMY hard AUX-give food-DEF(-PROG)
 á hə̀lgé-ŋ
 to woman-DEF
 'it's hard to give the food to the woman'
- (126) ? (há) hə̀lgé-ŋ gèlí bə̀-ay só-ŋ(-a)
 (DUMMY) woman-DEF hard AUX-give food-DEF(-PROG)
 'the woman is hard to give food to'
- (127) ? (há) hə̀lgé-ŋ gèlí bə̀-ay-áyé só-ŋ
 (DUMMY) woman-DEF hard AUX-give-REDUP food-DEF
 'the woman is hard to be given food'

7.3 Ascensions and unaccusatives

We can make use of the apparent constraints (a) and (b) on "tough" ascensions to provide evidence for Unaccusative Advancement (UA). (See chapter 6 for more complete discussion of Unaccusative Advancement.) Consider the following sentences:

- (128) ten bə̀-wáté ku Kérá
 I AUX-say mouth Kera
 'I am speaking Kera'
- (129) ku Kérá-ŋ bə̀-wáté Kupor-a
 mouth Kera-DEF AUX-say Kupor-LOC
 'Kera is spoken in Kupor'
- (130) há gèlí bə̀-wáté ku Kérá
 DUMMY hard AUX-say mouth Kera
 'it's hard to speak Kera'
- (131) ku Kérá-ŋ gèlí bə̀-wáté
 mouth Kera-DEF hard AUX-say
 'Kera is hard to speak'

First of all, note that the verb **wate** 'say' in (129) does not have passive morphology. So this clause is a candidate for UA analysis. In (131), the same clause is embedded under 'hard'. I see three possible ways to analyze (131).

First, since the downstairs verb of (131) does not show passive morphology, this could be a case of downstairs final 2 ascension. However, looking back at what we saw in (119) and (122), this cannot be, since dummy insertion is necessary in the case of 2 ascension. So we rule out this analysis in which **ku Kera** is final 2 of 'say'.

Second, if we assume that **ku Kera** is both an initial and final downstairs subject in (131), (i.e., that this is not a case of Unaccusative Advancement), then we would be forced to revise part (a) of the tentative "tough" ascension constraint (see section 7.2) since we said there that only **initial 2's** can ascend.¹⁸

Third, if we assume that UA holds, then both constraints (a) and (b) on "tough" constructions are supported.

So if our constraints on "tough" ascensions are correct, they support the UA analysis of the downstairs clause in sentences such as (131), and by extension support the UA analysis of such clauses when they are not embedded (as in (129)).

8 Possessor ascension

According to Frantz (1981), there are two types of Possessor Ascension (PA). "In the first type, the ascended possessor takes on the relation of its host, putting the host en chômage. In the second type of possessor ascension, the ascendeé is a (non-initial) 3 in the clause, so the ascension does not put the host en chômage" (pp. 30-31). Kera exhibits both types of PA. But before discussing them, I present Kera possessive constructions which do not involve ascensions.

8.1 The possessive construction in Kera

There are two possessive constructions in Kera, one for inalienably possessed nouns and one for others. For inalienably possessed objects (body parts or kinship terms), the NP is of the form:

noun + possessor (+ def)

as in (132a) and (133a). If the possessor is a pronoun, it is fused into the head noun, as in (132b) and (133b):

- (132) a. cər Sara
 head Sara
 'Sara's head'

b. cár-é
head-her
'her head'

(133) a. mar Jɔ
wife John
'John's wife'

b. mur-ú-ŋ
wife-his-DEF
'his wife'

For other objects the form is:

noun + kə + possessor (+ DEF)

This construction takes the strong pronouns, as in (134b) and (135b), which do not cliticize. (136) is a list of the strong possessive pronouns in Kera.

(134) a. hàrgá ká Jɔ
goat of John
'John's goat'

b. hàrgá nuutú-ŋ
goat his-DEF
'his goat'

(135) a. kul ká Sara
house of Sara
'Sara's house'

b. kul naatá
house her
'her house'

(136) my	nín, kátán
your:male	nəmtí
your:feminine	niití
his	nuutú
her	naatá
our:inclusive	náŋ
our:exclusive	náré
your:plural	nəətí
their	neeté

8.2 Possessor ascension to 2

The first type of PA is illustrated in (138) below; compare (137) where there is no PA.¹⁹ (138a') expresses the analysis I am proposing for (138a).

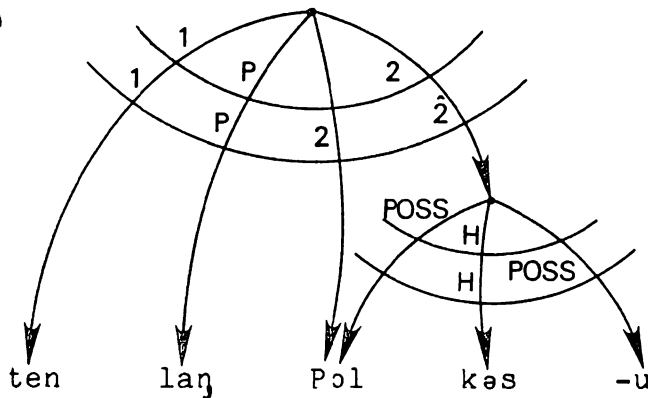
(137) a. ten lá-ŋ kas Pól
I hit-PST arm Paul
'I hit Paul's arm'

b. ten lé kas Pól-yaŋ
 I hit arm Paul-FUT
 'I will hit Paul's arm'

(138) a. ten lá-ŋ Pól kás-ú
 I hit-PST Paul arm-his
 'I hit Paul (on) his arm'

b. ten lé Pól-yaŋ kás-ú
 I hit Paul-FUT arm-his
 'I will hit Paul (on) his arm'

(138a')



Tense cliticization and fused direct object pronouns provide evidence for the final relations of the two sentences above. In (137b), the future tense cliticizes to **kas Pól** as final 2. But a comparison of (137b) and (138b), the futures of (137a) and (138a), respectively, indicates that the ascended possessor **Pól** is the final 2 in the matrix clause of (138a and b). If this were not a case of PA, we would expect **-yaŋ** to be cliticized to the whole NP, as in (139), which is ungrammatical. The possessor also has the immediate post-verbal position of a final 2 in the matrix clause of (138a and b). In sentence (140) we see that it is the possessor and not the possessed noun which is replaced by a fused direct object pronoun. This is another indication that (138a and b) are cases of PA, since if the possessor is realized as the fused direct object pronoun, it must be a final 2.

(139) *ten lé Pól kás-u-yaŋ
 I hit Paul arm-his-FUT
 'I will hit Paul (on) his arm'

(140) ten lé-n-ú kás-ú
 I hit-PST-3sgm.d.o. arm-his
 'I hit him (on) his arm'

We notice, too, that in cases of PA, there is a possessive pronoun fused to the nominal. In some languages,

The APC also predicts that there could be no PA with a 1 host. So a sentence like (143), 'Paul's hair is white' would be ungrammatical with PA, since the ascended possessor would head a final 1 arc. Though I have not actually tested (143) or similar sentences, I can say that I have found no examples that suggest that PA with a 1-host is possible and I expect that (143) would be rejected by native speakers. We will see later in this section that this constraint (APC) comes into play elsewhere, as well.

- (143) ? Pól g̀̀b̀̀r̀̀ẁ̀í c̀̀úr-ú
 Paul white head-his
 'Paul's hair is white'
 (Lit: 'Paul is white his hair')

In the examples of optional PA considered so far, the head of the initial 2 is a body part and the possessor is a noun. However, if the possessor is a pronoun, PA in such sentences is necessary; so (144), which does not involve PA, is bad.

- (144) *ten lá-ŋ kəs-ú
 I hit-PST arm-his
 'I hit his arm'

However, with a verb like 'see' where the predication does not affect the 2, PA to 2 is not allowed, as shown in (145b).

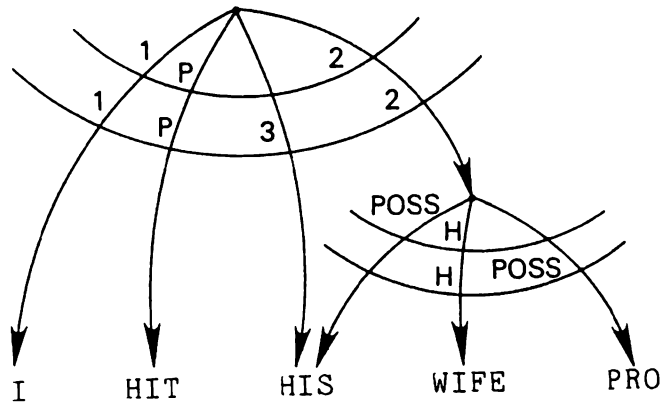
- (145) a. ten ásá-ŋ cərə Pól
 I see-PST head Paul
 'I saw Paul's head'
 b. *ten ásá-ŋ Pól c̀̀úr-ú
 I saw-PST Paul head-his
 'I saw Paul's head'

8.3 Possessor ascension to 3

There is evidently the other type of PA in Kera also, in which the possessor ascends to 3. These cases do not require that the 2 be directly affected and they usually involve head nouns which are either kinship terms or alienable objects. Sentences (146) and (147) do not involve PA, while (148) and (149) are the corresponding sentences which I suggest involve PA to 3. I propose (148') as the diagram for (148).

- (146) ten lá-ŋ mar Pól
 I hit-PST wife Paul
 'I hit Paul's wife'

- (147) yə gè kuli ká Pól
 they build house of Paul
 'they build Paul's house'
- (148) ten lə-n-u mur-ú-ŋ
 I hit-PST-3sgm.i.o. wife-his-DEF
 'I hit his wife'
- (149) yə gà-w kuli nuutú-ŋ
 they build-3sgm.i.o. house his-def
 'they build his house'
- (148')



In (148) and (149), it is an **indirect** object pronoun that has been fused to the verb (compare (140) and (148), recalling that tone distinguishes direct object clitics from indirect object clitics).

Also, using the test of tense cliticization, we see in (150) that **-yaŋ** is cliticized to the head noun as the final 2.²⁰ If these were cases of PA to 2, the head noun would be a 2-Cho and we have already seen a constraint against cliticization to a 2-Cho (see section 4.2).

- (150) ten lə-n-u mur-ú-ŋ-yaŋ
 I hit-PST-3sgm.i.o. wife-his-def-FUT
 'I hit his wife'
 (More lit: 'I hit to him his wife')

This analysis of PA to 3, in conjunction with previous constraints, accurately predicts the ungrammaticality of sentences like (151) and (152).

- (151) *ten lá-ŋ Pól mur-ú-ŋ
 I hit-PST Paul wife-his-DEF
 'I hit Paul's wife'
- (152) *Pól bə-lá-lé mur-ú-ŋ
 Paul AUX-hit-REDUP wife-his-DEF
 'Paul was hit his wife'

(151) violates the constraint against 3-2 without 2-1 (see

section 4.2). But the ascendeo cannot be a final 1 by the APC constraint given earlier in this section which states that an ascended possessor cannot head a final 1 arc, so (152) is ungrammatical.²¹

I should point out that all of the putative PA to 3 examples are open to analysis as involving initial Ben's as final 3. However, these constructions can be used to describe events which are far from beneficial to the possessor.

As in cases of PA to 2, the APC constraint against ascendeos heading a final 1 arc predicts that PA which results in a reflexive structure such as (153) would not be possible (though I have not tested (153)), since the initial 1 is also the possessor. We have seen that corresponding examples are ungrammatical in cases of PA to 2 (see (142)). I do know that (154), which does not involve PA, is a correct way of saying 'Paul hit his own wife'.

(153) ? Pól lá-ŋ kusur-u-ŋ mur-u
 Paul hit-PST body-his-DEF wife-his
 'Paul hit his own wife'

(154) Pól lá-ŋ mur-u
 Paul hit-pst wife-his
 'Paul hit his own wife'

As in cases of PA to 2, the possessor arc in the NP does not erase and there is a pronoun replacer to resolve the multiattachment.

8.4 Summary

Kera allows both PA to 2 and PA to 3. PA to 2 is possible when the head noun is a body part and there is some action which directly affects the Possessor; if these conditions are met and the possessor is a pronoun, then PA is necessary. PA to 3 is possible when the possessed noun is a kinship term or an alienable object. Kera does not permit an ascended possessor to head a final 1 arc. I have called this constraint the Ascended Possessor Constraint.

Notes

1. We could just as well say that there is no copula in the simple present tense and that the helping verb **ji** is required to support the tense clitics. I will not pursue this question further at this time, as it appears moot for purposes of this thesis.

2. Optionally, the progressive form (see (6)) can also have a reduplicated stem, in which case it will be formally identical to the passive. However, in most cases semantic likelihood determines whether such a form is recognized as progressive or passive, for usually one or the other interpretation will be semantically anomalous. Tenses for progressive are formed in the same way as for stative and passive. The glosses in this thesis for all such examples, as either active or passive, was determined by translations provided by native speakers.

3. I am not sure why two of these have variant forms, but I think it may have to do with discourse factors.

4. Since cliticization of the direct object pronoun suffix results in changes in the verb stem and in the tone on the verb, I have chosen in this paper to refer to this as fusion, rather than cliticization. This should also help prevent confusion between this type of cliticization and tense cliticization.

5. This **-a** suffix distinguishes locative forms from the genitive forms which do not have this suffix, such as **kas walgaŋ** (literally 'fear's hand') in (33).

6. In cases of intransitive verbs with unspecified initial 1, the same form **ye** 'they' is used.

7. The stratal diagram assumes that **he** is coreferential with **John**. The diagram would be different if it were not.

8. There is the possibility that the prefix auxiliary **bə-** is not an invariable form of the auxiliary, but simply an infinitive marker. If so, then the Equi-Erasure requires the infinitive, as it does in many other languages.

9. Actually, Ebert lists 13 verbs, but in working with native speakers I have found that two of the verbs listed, **gaa** and **vaa**, are actually the singular and plural forms of one verb. The plurals she lists for these two are, according to my research, not the regular plurals but iterative verb forms. So I have changed the listing to conform to the data I have been given by the native speakers I worked with.

10. Unfortunately, I have elicited similar causative examples from different speakers than those who provided (84) and (85), and these other speakers do make use of the plural form of 'cause' with a plural final 2. It is not clear which of three possible parameters is involved in this variation. The difference may be as to whether hypothesis 1 or hypothesis 3 is correct for the grammars of different speakers. Or it may be differences in "analyses" by speakers of the causative construction; for some speakers 'cause' may govern ascensions, while for other speakers it is like English **force** in requiring that the downstairs initial 1 also be the upstairs initial 2. (See section 7.1.) Or perhaps some speakers have two verbs **gaa** in their grammars, one meaning 'send' which shows stem agreement, and another meaning 'cause' which does not.

11. This will lead us below to consider an analysis of the 'cause' examples (101a and b) such that the final 2 ('boy') is also the initial 2; i.e., that these are not ascension but "equi" structures.

12. As indicated in note 10 of chapter 6, since not all speakers show lack of stem agreement in sentences such as (84), this discussion pertains only to grammars for those who do.

13. Perlmutter and Postal (1984b) propose that intransitive predicates governing ascensions universally determine unaccusative initial strata (p. 153). If correct, this means that the host clause for the ascensions dealt with in this section are initial 2's of the matrix clause, and the dummy *ñha* (see below) most likely is a 2 in its entry stratum.

14. Since there is no overt final subject in (115), the **be-** is invariable.

15. Similar constructions in other languages are often referred to as Extraposition, due to the consequent position of the clause which has been put en chômage.

16. It is interesting to note that in cases of so-called Tough Movement in other languages, it is usually a ds 2 which is the ascende and not a 1. With this type of construction in Kera, though the ascende is not the final ds 2, it **is** the **initial** ds 2.

17. Since I do not have access to a speaker of Kera at this time, I offer (123)-(127) as test sentences.

18. If the initial downstairs relation of **ku Kera** in (131) is the same as the final downstairs relation, i.e., an

initial and final 1, then we expect that dummy-insertion is not possible in (131) since in (118), when the final downstairs 1 was the ascendeé, dummy-insertion was not possible (compare (122)). However, I have not tested for this possibility. The UA analysis also predicts that dummy-insertion will not be grammatical. So both the second and third possible analyses predict that the following sentence will be bad:

- (a) ? há ku Kérá-ŋ gèlí bæ-wáté
 DUMMY mouth Kera-DEF hard AUX-say
 'it's Kera that's hard to speak'

19. Both of these are grammatical, but there is a slight difference in meaning. (138a) seems to be used when the speaker is focussing on the effect of the action upon the possessor. (137a) is more likely to be used if Paul's arm is extended away from his body and the blow is to prevent him from carrying out a certain action with his hand or arm. (138a) might be used when his arm is at his side when he is hit, so that the action is perceived as being directed against him personally and not just part of his body.

20. (150) is not a sentence that I elicited, but it is based on similar sentences with predicates 'bite' (which sanctions PA to 2) and 'break' (which sanctions PA to 3). The latter sentences (b) and (c) are presented here, but I do not have the tone for them, so did not include them in the main part of the paper. I would assume that the tone on them would reflect the difference between direct object and indirect object. Note that there is a difference in where the future suffix **-yaŋ** cliticizes. In (b), since this is PA to 2, **kəsu** is the 2-Chó, so **-yaŋ** cannot cliticize to it. In (c), a case of PA to 3, **kəsu** is the final 2, so **-yaŋ** does cliticize to it.

- (b) ten hə-w-yaŋ kəs-u
 I bite-3sgm,d.o.-FUT arm-his
 'I will bite his arm'

- (c) ten hə-w kəs-u-yaŋ
 I break-3sgm,i.o. arm-his-FUT
 'I will break his arm'

21. Missing in my data are examples of PA to 3, in which the possessor is a noun. It would be helpful to test sentences (d) and (e), presented below. I am quite sure they are grammatical, but I would think that the meaning would be taken to be Benefactive because of 3's and Ben's having the same marking.

- (d) ? ten lá-ŋ mur-ú-ŋ á Pól
 I hit-PST wife-his-DEF to Paul
 'I hit his wife (for Paul?)'
- (e) ? ten lá-ŋ mur-ú-ŋ á nunu
 I hit-PST wife-his-DEF to him
 'I hit his wife (for him?)'

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