SOME WORKING NOTES ON HALBI

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Linguistics 596A
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June, 1970

Introduction.

Halbi is the lingua-franca of Bastar District in the interior of the state of Madhya Pradesh, India, with a recorded 300,000 native speakers, according to the 1961 Census of India. It belongs to the Indo-Aryan family of languages and is closely related to both Hindi and Marathi.

My co-worker Fran Woods, Australian, and I spent two years on and off in the small village of Bhatpal, 1967-69, living among Raj Muria people, as members of the Summer Institute of Linguistics working under an agreement signed with Deccan College, University of Poona, India.

In working on an analysis of Halbi grammar previously, we concentrated mainly on clause and phrase structure. Some notice was taken of affixation and morphophonemics but no attempt was made at formal statements of these phenomena. In fact, some of the generalizations had not been evident. In approaching verb morphology in particular, now with some background in a generative grammar framework, other generalizations and certain distinctions between regular, predictable processes and irregular, idiosyncratic ones became clear. We could see previously, for example, that there was a close relationship between simple forms of the verb be and similar forms of the other verbs, but how to formally relate them eluded us. We had stated that there were two sets of simple forms of the verb be with the respective meanings of 'permanent state of being' and 'temporary state':

	sg	pl		sg	pl
1	ãy	ãw	1	asẽ	asũ
2	as	ahas	2	asis	asas
3	ay	at	3	ase	asot

Also, the simple form of verbs were as follows: ja - 'go'

	sg	pl
1	jaẽ	jaũ
2	jais	jaas
3	jae	jaot

The similarities are obvious, straightforward, in fact, between the asẽ and jaẽ forms. Being able to begin with one basic underlying form for person markers and all other affixes and verb stems in addition, allowed for these similarities and generalizations to be stated more adequately.

Another area in which additional insights have been gained from clues from a generative framework is that of redundancies. Again, a few redundancies had been noticed and these had been stated in words in our tentative phonemic statement, but not in any formal way.

In this present paper an attempt has been made to state underlying forms, certain readjustment or redundancy rules, and phonological rules pertinent to affixation with respect to verbs, nouns, pronouns and adjectives. An additional item is also included which we had not formalized previously, and that is a chart of kinship terms. It is here presented first.

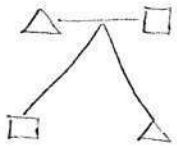
I. Kinship chart

The following chart begins with (X) as a point of reference, Self who would refer to each of the other relations on the chart by the term listed. There are cases, as with reference to children, when these are more terms of relationship than terms of address. For example, an adult would be most likely to call a child babu 'little boy' or noni 'little girl' than the actual term of their relationship. This is true also with respect to spouses. One does not refer to his spouse as "my husband/wife" but as "(name of their child)'s father/mother". These instances are also rather more general in their significance and are paralleled in cases where there is no blood relationship between the persons involved. That is, it is common for any adult to address any child as babu or noni and any person to refer to an adult as "so and so's father/mother". This is relevant in the area of friendship relationships also. Basically, names are not used for reference or address in most situations; either a relationship term or a general term, as noted above, is used. Among friends of about the same age the names of certain plants or flowers may be used in the case of girls; boys might be more likely to use each other's given names. Two things which seem to be more taboo than others with respect to names is for a child to refer to his father by name or a woman her husband, evidently out of deference and respect.

The terms in this chart were obtained from different individuals at different times. Most have been checked with additional Halbi speakers. It would be necessary now to check with more than one individual all these relationships with reference to himself and his relations. It would also be instructive to compare this chart with a similar one of Hindi terms and also one of Marathi

and of Oriya.

In this chart △ indicates female; □ indicates male.



married couple

their children

Terms in black ink are used whether Self is male or female. Terms in blue ink underlined are used by Self if female and parellel terms in blue ink are used by Self if male. Brothers and sisters to the left of Self or any other central point of reference are elder; those to the right are younger. Where there is more than one term given for a single relationship in black ink, they are alternative forms. A parallel chart in English is given for handy reference.

A few comments might be appropriate. It is interesting to note that a woman calls her sister's children and a man calls his brother's children by the same terms they would use to refer to their own children, i.e. 'son' and 'daughter'. Immediate nieces and nephews and in-law relationships are the areas in which there is distinction made on the basis of the sex of Self. If Self is a woman there seem to be more different terms for in-laws, probably due to the fact that a woman is taken into the extended family of her husband and interacts daily with his family, rather than he with hers.

Self's father's sister's children and mother's brother's children are the most eligible candidates for marriage, the most ideal but not alwayspossible marriage partners, often arranged for from infancy. Self's mother's elder sister is his 'big mother' and her younger sister is his 'little mother', with their husbands being respectively his 'big father' and 'little father'. His father's

elder brother is also his 'big father' and that uncle's wife his 'big mother'. Self's cousins are generally-speaking also his 'brothers' and 'sisters'.

Thus there are distinctions made with respect to relative age and to sex which are not made in English.

Note charts which follow on pages 6 and 7.

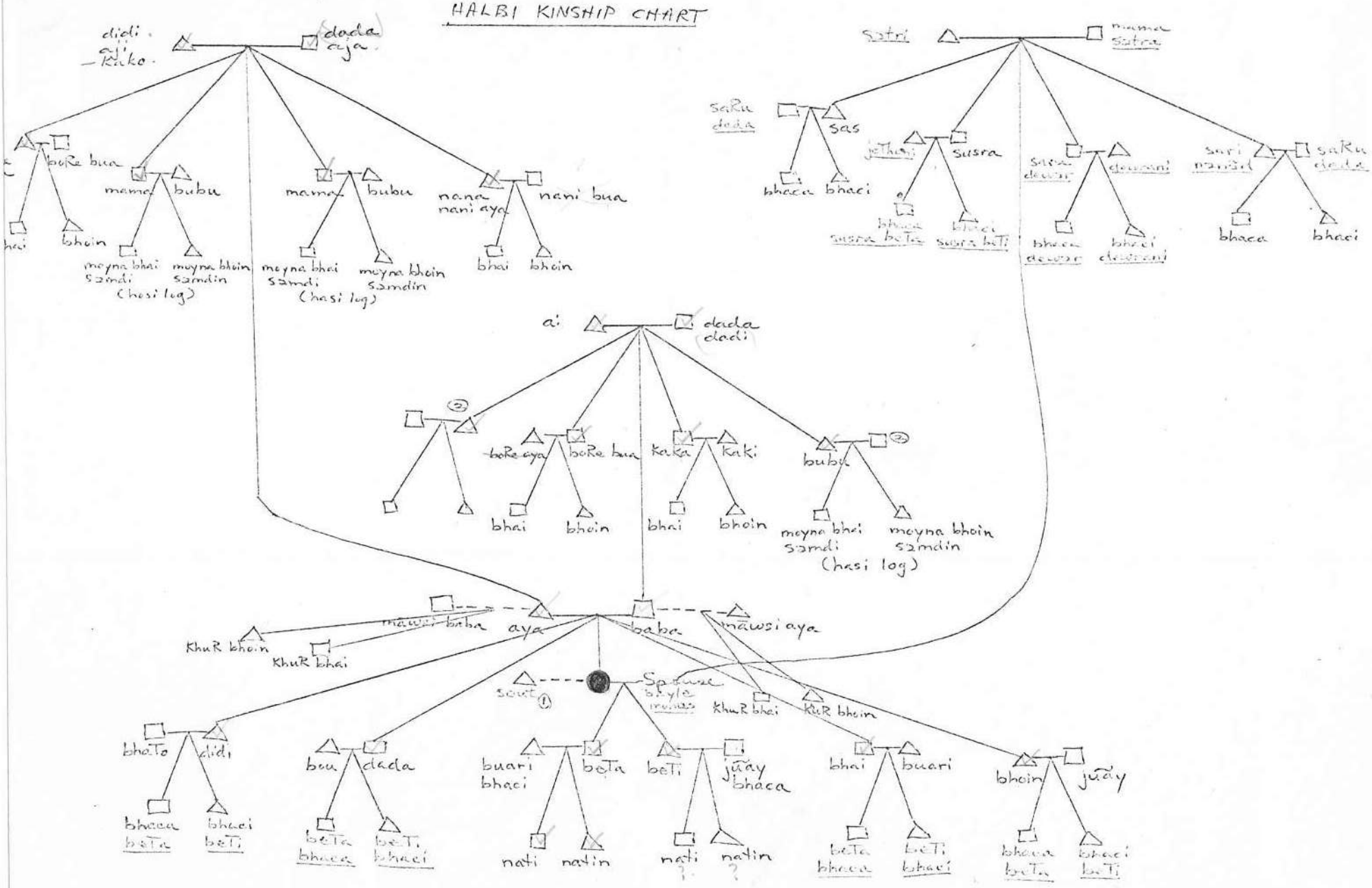
II. Lexical redundancies

Since leaving the village in India a year or so ago, my co-worker and I have exchanged several letters in Halbi with a teen-age boy and a young man in his thirties. Both were educated in Hindi-medium village schools through perhaps grades 7 or 8. These are probably their first attempts in writing much Halbi, adapting the Devanagri script from its use in writing the Hindi they learned to their own language now. It has been interesting to note the results - over and above such things as the running of words together and other idosyncracies due to lack of practice. A couple of things gave clues to certain items which we are dealing with here. One has to do with redundancies; the other will be mentioned later.

Note the chart of underlying Halbi segments on page 8.

There is a basic nasalization contrast in Halbi vowels, as seen in jaẽse 'I am going' and jaese 'he is going', a contrast which runs through the verbal paradigms with respect to person markers. Partly on this basis and partly for other reasons, we had previously decided to interpret a phonetic sequence of vowel, nasal consonant (homorganic to the following stop), stop as phonemically nasalized vowel, stop with the redundancy stated that in such a sequence there was a transitional nasal consonant present in the pronunciation, homorganic to the following stop. (We were

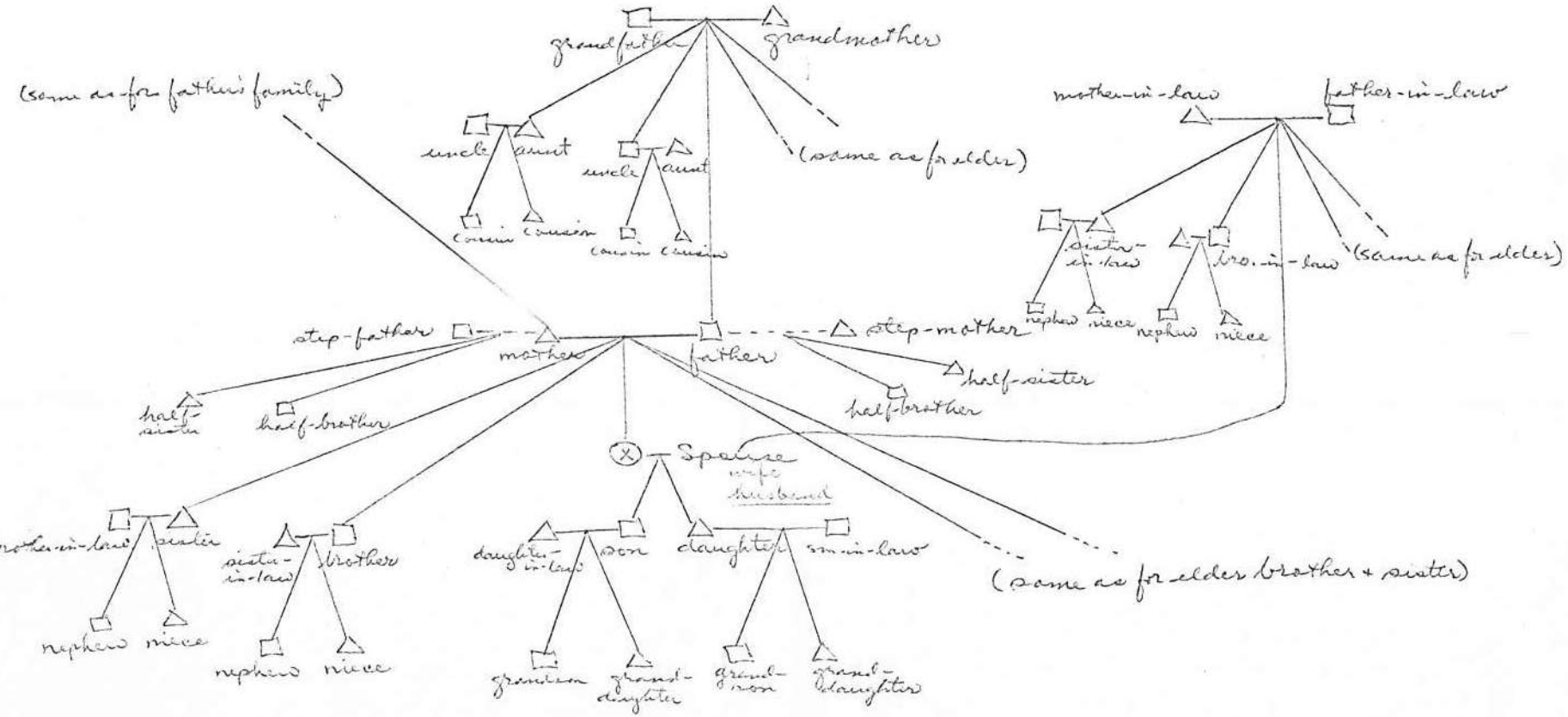
HALBI KINSHIP CHART



① second wife

② Undoubtedly these terms parallel those of mother's brothers, etc.

ENGLISH KINSHIP CHART



ĀALBI UNDERLYING SEGMENTS

	p	b	t	ɗ	ʈ	ɖ	ɤ	ǰ	k	g	s	m	n	ɻ	r	ɾ	h*	i	ĩ	u	ũ	e	ẽ	ə	ə̃	o	õ	a	ã
consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−	−	−	−	−	−	−	−	−	−	−	−	−
vocalic	−	−	−	−	−	−	−	−	−	−	−	−	−	+	+	+	−	+	+	+	+	+	+	+	+	+	+	+	+
nasal	−	−	−	−	−	−	−	−	−	−	−	+	+					−	+	−	+	−	+	−	+	−	+	−	+
continuant	−	−	−	−	−	−	−	−	−	−	+																		
anterior	+	+	+	+	−	−	−	−	−	−				+	+	−													
coronal	−	−	+	+	+	+	+	+	−	−		−	+																
voice	−	+	−	+	−	+	−	+	−	+																			
distributed					−	−	+	+																					
lateral														+	−														
high																		+	+	+	+	−	−	−	−	−	−	−	−
back																		−	−	+	+	−	−	+	+	+	+	+	+
low																								−	−	−	−	+	+
round																								−	−	+	+		

* [y] and [w] are predictable, e.g. in such cases as / V_V.

rather delighted at the time to note that our decision was somewhat confirmed in a sort of turned-around 'secret' language used by children as we use 'Pig-Latin', where syllables are exchanged, so that õDar 'bee' came out [Darõ] rather than [DarõN] or [Darõn] .)
(Note: Capital D,T,R indicate retroflexed consonants.)

In examining some of the verbal affixes (only in the verbs in Halbi is there any extensive affixation) this interpretation was re-confirmed:

ja + ũ + de jaũnde 'we will go'

ja + ẽ + ta jaẽnta 'I'm just going'

One redundanc rule will state this fact as well as accounting for the similar occurrence within a one-morpheme word such as jõdra 'corn'. ① $\emptyset \rightarrow \begin{bmatrix} C \\ +nas \\ \alpha ant \\ \beta cor \\ \gamma distr \end{bmatrix} / \begin{bmatrix} V \\ +nas \end{bmatrix} \_\_\_ \begin{bmatrix} +obs \\ -cont \\ \alpha ant \\ \beta cor \\ \gamma distr \end{bmatrix}$

(Note: numbering of rules does not denote order but is only used here for ease in reference.)

In the letters in Halbi from the young man in the village I noticed that often he left off nasalization marks on vowels, where I would have expected that there should be such marks written in. In noting which words such absences occurred in and in thinking about redundancies which could be stated once for the entire lexicon as in a generative framework, another generalization was recognized. Such words as the following were those where the nasalization was not written: nəgat 'good', məgalwar 'Tuesday', mĩjani 'weeding'. In checking through our vocabulary list, I found that the following general redundancy rule can be stated:

② $V \rightarrow [+nas] / \begin{bmatrix} C \\ +nas \end{bmatrix} \_\_\_ \begin{bmatrix} +voice \\ +obs \\ -cont \end{bmatrix}$

i.e. a vowel is redundantly nasalized when it is preceded by a nasal consonant and followed by a voiced stop. This is evidently only within a word, since in na jun 'not yet' which has two stress

peaks, the rule does not apply. Certain +foreign words are exceptions to this rule and must be marked as such:

nib 'tip of fountain pen'

miDil iskul 'middle school'

In reading some Hindi in preparation for an M.A. language requirement exam, I noticed a few interesting items:

Hindi		Halbi	
dãt	'tooth'	dat	
sãp	'snake'	sap	
sãgam	'convergence of two rivers'		sagam
nədi	'river'	nãdi	
nag	'cobra'	nãg	

Note that where Hindi has a nasalized vowel before a stop, Halbi does not, and where Hindi does not have a nasalized vowel, Halbi does, in accordance with the redundancy rule just stated above. These may not be paralleled in all instances, but these correspondences are interesting and informative.

Another redundancy was previously stated somewhat informally by means of a matrix to show that between certain syllable final consonants and other syllable initial consonants which follow them there is a transition or release of [ə] . This might be summarized asfollows: ③$\emptyset \rightarrow$ [ə release] /

$$(C)V\left\{\begin{array}{ll} C \_\_ \begin{bmatrix} -voc \\ -cons \end{bmatrix} & (1) \\ \left\{\begin{bmatrix} +voc \\ +cons \\ -lat \end{bmatrix}\right\} \_\_ C & (2) \\ \begin{bmatrix} C \\ -lat \end{bmatrix} \_\_ \left\{\begin{bmatrix} +voc \\ +cons \end{bmatrix}\right\} & (3) \end{array}\right\} V(C)$$

i.e., there is open transition between syllables where the second syllable begins with a glide (1), where the first syllable ends with /r,D,T,R/ (2), or where the first syllable ends with any consonant except /l/ and the second begins with a liquid or nasal.

A similar redundancy was noted mentally but never stated:

④ $\emptyset \rightarrow [ə] / C\_\_C\begin{Bmatrix} C \\ \# \end{Bmatrix}$, where [ə] is a full vowel.

E.g. /cəmk/ 'startle'
/cəmk+uk/ cəmkuk 'to startle'
/ni cəmk/ ni cəmək 'don't startle'
/cəmk+nay/ cəməknay 'with a start'

This redundancy rule must be ordered before ② above ($V \rightarrow [+nas] / \begin{bmatrix} C \\ +nas \end{bmatrix} \_\_ \begin{bmatrix} +vd \\ +obs \end{bmatrix}$) in order to account for the following forms:

/umj+uk/ umjuk 'to become sober'
/umj+se+l+e/ umə̃jlise 'she has become sober'

umj+se+l+e
umə̃jsele by rule ④
umə̃jsele by ②
umə̃jlise by other rules to be discussed later

There is a further redundancy which we had not noticed previously. Though we had stated that the [ə] in /tumRi/ tum^{ə}Ri 'dry gourd' was transitional we included as a full vowel the [ə̃] as in bilə̃gəT 'slimy' though it was not fully pronounced, because we could not predict the nasalization. After a list was made of such words, the following generalization has now become obvious:

⑤ $[^{ə}] \rightarrow [+nas] / \begin{bmatrix} +voc \\ +cons \end{bmatrix} \_\_ \begin{bmatrix} +obs \\ +vd \end{bmatrix}$, i.e. a transitional [ə] is nasalized when it follows a liquid (r,l,R) and precedes a voiced stop in two-syllable words, e.g. Dholə̃ŋgi, karə̃ñji, goRə̃ndi.

/Dholgi/
Dhol^{ə}gi by ③
Dhol$^{ə̃}$gi by ⑤
Dhol$^{ə̃}$ŋgi by extension of ①

Two syllable words need not be specified since this rule applies only to transitional [^{ə}]. It must therefore follow ③. There is a contrast between rag rəga 'brown, red' and rə̃g 'color'. In rapid speech the transitional ə̃+nasal consonant often sounds more like a pre-syllabic nasal, i.e. the two-syllable 'feel' of the word is preserved more strikingly by contracting [$^{ə̃}$N] to [^{N}]: [Dhol^{ʔ}gi] rather than [Dhol$^{ə̃}$ŋgi].

A related redundancy was also noted previously but not stated formally and that is that the transition between /h/ and Consonant has the same vowel quality as the vowel preceding /h/:

⑥ $\begin{bmatrix} V \\ \alpha\text{high} \\ \beta\text{back} \\ \gamma\text{low} \\ \delta\text{round} \end{bmatrix}$ h C

1 2 3 ⇒ 1 2 ^{1} 3

e.g. /cihni/ cih^{i}ni 'jacks'
/mohri/ moh^{o}ri 'flute'

An interesting parallel was noted, again in reading Hindi:

Hindi: bə̃h 'upper arm'
Halbi: bə̃hə̃

There is no /h/ in word final position in Halbi and these two related words reflect the influence of the Halbi redundancy rule ⑥ above.

Certain other morpheme structure conditions can be stated for Halbi:

1. No /R/ occurs in word initial position:

If: # $\begin{bmatrix} +\text{voc} \\ +\text{cons} \end{bmatrix}$

Then: ⇓ $\begin{bmatrix} +\text{ant} \end{bmatrix}$

2. The only consonant clusters allowed in any position are a combination of stop plus /h/. (Note: "Aspirated stops" have been interpreted here as cluster of stop plus /h/ for several reasons not repeated here.)

If: C C

Then: ⇓ ⇓

$\begin{bmatrix} +\text{obs} \\ -\text{cont} \end{bmatrix} \begin{bmatrix} -\text{cons} \\ -\text{voc} \end{bmatrix}$

The effect of this condition is evident in such borrowed or imitated words from English as the following:

TekTər	'tractor'
iskuTər	'scooter'
səkuTər	"
upəs	'oops!'
phəran uDəs	'Fran Woods' (name)

Different remedies have been taken above, but they all have the purpose of avoiding consonant clusters. One exception has been noted: əgəsT 'August'. In contrast, Hindi has a variety of consonant clusters both word initially and finally.

3. /h/ does not occur in word final position

If: [-voc]#

Then: [+cons]

4. [ə] does not occur in word final position

If: $\begin{bmatrix} V \\ +bk \\ -high \\ -low \end{bmatrix}$ #

Then: [+round]

One problem regarding redundancies was noticed in trying to work out the statement of rule ④. The environment C___C# refers specifically to verbs simply because other words would not fit into the environmental statement. But in such cases as the following it would be tempting to allow it to apply: sũdər 'beautiful', sũdrihin 'beautiful one (female)'. We could say that [ə] → ∅/___C+V but this seems to be the same case as camkuk. So why not start with /sũdr/? Then rule ④ would apply to give sũdər but would not apply for /sũdr+ihin/. There are many similar instances, e.g.

/əsn/ əsən 'like this', /əsn+i/ əsni 'just like this'

There are also many words which have no affixes, such as koTən 'rice husking hole'. Should it be underlyingly /koTn/? In a way it seems to be hedging a bit and would leave [ə] underlying only in #(C)___ positions. That is necessary because of such contrasts as nək 'fingernail' and nak 'nose'. But then too comparison between some words obviously borrowed from or at least cognate with Hindi, corraborates a choice of stating all C_a_C# as predictable:

Hindi:	umr or umər	'age'	kərm or kərəm 'duty'
Halbi:	umər		kərəm

This matter needs further investigation, but for the present since the rules are already independently justified and necessary for verbal forms and since it certainly simplifies the lexicon, we shall allow such [a]'s in C__C# position to be predicted by rule (4) as well and thus not written in the lexicon.

III. Affixation and morphophonemics

A. Verbal affixation

There is more affixation with respect to verbs in Halbi than with respect to any other lexical categories. The following might be a beginning approximation of the phrase structure rules expanding the categories verb phrase and auxiliary:

$$VP \rightarrow (NP)\ (NP)\ V\ Aux$$

$$Aux \rightarrow (Causative) \left\{ \begin{matrix} (Negative)\ \ (Mood) \\ (Aspect)\ \ (Tense) \end{matrix} \right\} \text{Person Marker}$$

I am making no claims here as to the exact adequacy of this expansion of Auxiliary; I am specifically interested in the order of affixes and the morphophonemics involved in certain combinations, particularly the sequence of aspect, tense, person markers. Other aspects of the auxiliary will be dealt with first. More complex verbal forms such as compound verbs have purposefully been excluded here and must be handled at a later date.

1. Causative

The causative is formed by adding a to most verbs, subject to certain conditions. It virtually forms a new verb which can then take Person Marker and Negative, Imperative, Subjunctive or Aspect, Tense. A case grammar framework might well handle causatives more adequately.

Most verbs simply add a to the verb, e.g.

dɔk 'look, see' dəka 'show'
sun 'listen, hear' suna 'tell'

In these two pairs the relationship is of a transitive verb to a ditransitive, i.e. an indirect object is added. In other cases the relationship is of intransitive to transitive, e.g. aig dhər 'fire lights, bursts into flame', aig dhəra 'someone lights a fire'.

Certain verbs do not take a causative affix:

e 'come', ne 'take', de 'give', ga 'sing', pa 'carry', ja 'go'.

It seems that this can be stated someway phonologically

$$* \begin{bmatrix} \#(C)V+ \\ +verb \end{bmatrix} +causative$$

There seems to be no other reason for this restriction.

Certain combinations require adjustment:

(1) /kha/ 'eat' /kha+a/ khoa 'feed' Since this is a lone case of such a difference it could be handled by a readjustment rule: kha +caus→ khoa. Or a P-rule could handle it:

$$\begin{bmatrix} V \\ -high \\ +bk \end{bmatrix} \rightarrow \begin{bmatrix} -low \\ +rd \end{bmatrix} / \_\_\_ +caus$$

(2) /lag/ 'stick' /lag+a/ ləga 'put'
/lam/ 'stretch'(vi) /lam+a/ ləma 'stretch' (vt)

$$\begin{bmatrix} V \\ +bk \end{bmatrix} \rightarrow \begin{bmatrix} -low \\ -rd \end{bmatrix} / \_\_\_ C+caus$$

(3) /ol/ 'enter' /ol+a/ olea 'cause to enter' murea- gothea-

This seems to be another lone case, handled by a readjustment rule: ol + caus→ olea

(4) /sər/ 'be finished' /sər+a/ sar 'finish' This needs a readjustment rule; it is an exception, an idiosyncratic occurrence, perhaps to avoid homonymity with /səra/ 'to plaster floor with dung/mud mixture'. (Note: /kər+a/ kəra 'cause to do'). sər + caus→ sar

In normal rapid speech the combination verb + caus + infinitive (uk) e.g. dəkauk, becomes verb + caus + k: dəkak.

u→ ∅/ +caus +___k (Feature specifications not indicated w no generalization will be lost by abbreviating in this way.)

2. Negative, Mood

Negative is included here in the Auxiliary though it normally occurs before the verb. If Neg is present, Asp and Tns may not occur. A Neg placement rule will be needed.

Mood → {Imperative / Subjunctive} With imperative, Person Marker (PM) is deleted. Imperative → {Singular / Plural} . Singular Imp is ∅, i.e. only the verb stem itself, e.g. kar 'do!', ja 'go!', kha 'eat!'. Plural Imp is a, e.g. kara, jaha. The following P-rules are necessary: (1) $\begin{bmatrix} V \\ -bk \end{bmatrix} \rightarrow [+high] / \_\_\_ + \begin{bmatrix} Imp \\ +Pl \end{bmatrix}$ e.g. /ne+a/ nia 'take!(pl)' /de+a/ dia 'give! (pl)'

(2) ∅ → h/a___ + $\begin{bmatrix} Imp \\ +pl \end{bmatrix}$ e.g. /ja+a/ jaha 'go!(pl)' /kha+a/ khaha 'eat!(pl)'

(3) a → u/+caus+___ e.g. /kar+caus+Imp/ karaw 'cause to do' (pl) /kha+caus+imp/ khoaw 'feed!(pl)'

An additional readjustment rule is necessary:

(4) e +caus → aw 'come!' And some such statement as the following is needed: (5) ∅ → s/ (Optional) $\begin{bmatrix} de \\ +Imp \end{bmatrix}$ ___ (de ~des 'give!' / dia ~dias 'give!(pl)')

The subjunctive morpheme is t and always occurs with a following PM. The morphophonemics of sequences of Subjunctive+PM will be discussed later below.

3. Aspect, Tense, PM

Aspect may be	se	imperfect
	te+ro	continuative
	u+ro	continuative, past

Perfect ?

Tense may be	u+a	indefinite
	l	past
	de	future

Person markers may be

	sg	pl
1	ẽ	ũ
2	is	as
3	e	ot

The procedure to be used here will be to examine different combinations of affixes and note what P-rules are needed. Once again, numbering makes no claims about ordering, though where ordering is crucial that will be noted.

a. Verb+PM

Verb	PM	ja 'go'
ja	ẽ	
	is	
	e	
	ũ	
	as	
	ot	

Verb	PM	a 'be'
a	ẽ	
	~~is~~ → as	
	e	
	ũ	
	as → ahas	
	~~ot~~ → at	

Note: where no P-rules are necessary the phonetic form will not be repeated.)

(1) $\emptyset \rightarrow h / \#a\_\_ +a$ (2) $\{i, o\} \rightarrow \emptyset / \#a+\_\_$

This is another case where a letter in Halbi from the villagers in Bhatpal gave a clue to the underlying form. What we had written as ay was written by them as ae. Phonetically it is pronounced as one syllable ay but they way it was written by a Halbi speaker reflected the underlying a+e.

b. Verb+Aspect+PM

Verb	Impf Asp	PM
ja	se	ẽ → jaẽse
	~~se~~	is → jasis
	se	e → jaese
	se	ũ → jaũse
	~~se~~	as → jasas
	~~se~~	ot → jasot

Verb	Impf Asp	PM
a	~~se~~	ẽ → asẽ
		is → asis
		e → ase
		ũ → asũ
		as → asas
		ot → asot

③ Verb Imperf PM
1 2 3 ⇒ 1 3 2

Condition: 3 is +V+
1 is not a

④ e→∅/+s___+PM (rule ④ must be ordered after ③; otherwise we would get *jaẽs rather than jaẽse .)

The following cooccurrence restrictions may be stated:

If: a + X + PM , i.e. with a, only se may cooccur, of the optional elements of Aux.

⇓

Then: se

On page 1 above it was stated that these two verb be paradigms were treated as essentially different verbs: aẽ being a permanent state of being and asẽ temporary. Here they are treated as the same underlying verb a with the difference being the presence or absence of the imperfect aspect se. This seems like a more plausible solution, one which captures the generalizations both of their similarity and their differences.

Verb	Cont Asp	PM
ja	{u, te} +ro	ẽ
		is
		e
		ũ
		as → rahas
		ot → rohot

⑤ r V + [V, +bk] C
1 2 3 4 ⇒ 1 ∅ 3 h 3 4

c. Verb+Tense+PM

Verb	Past Tns	PM
ja	1	ẽ → gele ⑤
		is → gelis
		e → geli ⑥ / gelo
		ũ → gelu ⑤
		as → gelas
		ot → gela ⑦

⑥ ja→ge /__+Past tense

⑦ [V, -low] → { [-high, +bk, +rd] / [+C+___, +human masculine] ; [+high, -bk] / +C+___ }

i.e. e → { o/ [+C+___, +human masculine] ; i/ [+C+___] }

⑧ V → [-nas] /+C+___

⑨ ot → a/+C+___

(A sequence of Verb+Subjunctive+PM is subject to these same rules ⑦, ⑧, ⑨:

ja	t	ẽ → jate ⑧
		is
		e → jati ⑦
		→ jato
		ũ → jatu ⑧
		as
		ot → jata ⑨)

Only in these two cases of past tense and subjunctive mood is there a difference in affix with respect to human masculine or -human masculine. It would seem that this might be a vestige of earlier grammars of the language in which there was greater differentiation with respect to gender. Animals, non-animate objects and human females are all considered in the -human masculine gender; for that reason I am not calling it feminine.

The rules ⑦ - ⑨ can be stated with an environment of +C+___ since Past tense and Subj. mood affixes are the only ones consisting of a single consonant.

Certain other idosyncracies occur with past tense:

Verb	Past	PM		
e	l	is	ilis	'you(sg) went'
ne			nilis	'you(sg) took'
de			dilis	'you(sg) gave'

⑩ $\begin{bmatrix} V \\ -bk \end{bmatrix} \rightarrow [+high] / ___ +$Past Tns . This rule may be combined with that regarding Imp Plural found on page 16, #(1), in sec. 2.:

$$\begin{bmatrix} V \\ -bk \end{bmatrix} \rightarrow [+high] / \_\_\_ + \left\{ \begin{matrix} \text{Imp Pl} \\ \text{Past Tns} \end{matrix} \right\}$$

It must be ordered before rule ⑥ above in order to prevent *gilis 'you (sg) went'.

Verb	Past	PM
pa	1	is → pawlis 'you(sg) carried'
ga		→ gawlis 'you(sg) sang'

(11) ø → w/a___+C+

Verb	Past	PM
kha	1	is → khadlis 'you(sg)ate'

(12) kha → khad/___+Past tense

Verb	Future	PM
ja	(de)	ẽ̃ → jaẽde → jaẽnde (by redund.rule 1, p.5,part II)
		is → jase
	(de)	ẽ → jaede
	(de)	ũ̃ → jaũde → jaũnde "
		as → jaase
		ot → jade

(13) Fut + 2sg → se

(14) Fut +2pl → ase

(15) 3pl → ø / +Fut___

(16) Fut PM
1 2 ⇒ 2 1
Condition: 2 is +V+

(16 may be combined with rule (3) above as follows:

Verb {Imperf / Fut} PM
1 2 3 ⇒ 1 3 2
Condition: 3 is +V+
1 is not a

Verb	Indef	PM
ja	ua	ẽ̃
		is → jauas (by rule (2) above)
		e
		ũ̃
		as → jauahas (by rule (1) above) → jauəhas (by (16a) below)
		ot → jauat (by rule (2) above)

(16a) $\begin{bmatrix} V \\ +bk \\ -rd \end{bmatrix} \rightarrow [-low] / + \begin{bmatrix} V \\ +bk \\ +high \end{bmatrix} + \_\_\_ \begin{bmatrix} -voc \\ -cons \end{bmatrix}$, i.e. a → ə / +u+__h

d. Verb+Aspect+Tense+PM

The following cooccurrence condition may be stated:

If: se + Tense
Then: ⇓
Past

Verb	Impf	Past	PM
ja	se	1	ẽ → gelese is → gelisis e → gelise, gelose ũ → geluse as → gelasas ot → gelasot

(Since the derivations for this combination are rather involved they will be given below individually. Here only the final forms are given.)

(17) Imperf + Tense
1 2 ⇒ 2 1

(18) $+s\begin{bmatrix} V \\ \alpha bk \end{bmatrix} C$

$1\ 2\ 3 \Rightarrow \begin{bmatrix} 2 \\ \alpha bk \\ \alpha low \\ -\alpha high \end{bmatrix}\ 1\ 2\ 3$

This rule accounts for insertion of /i/ before /sis/ and/a/ before /sas/ and /sot/.

	jaselẽ	jaselis	jasele	jaselũ	jaselas	jaselot
(6)	geselẽ	geselis	gesele	geselũ	geselas	geselot
(17)	gelseẽ	gelseis	gelsee	gelseũ	gelseas	gelseot
(4)		gelsis			gelsas	gelsot
(3)	gelẽse	——	gelese	gelũse	——	——
(8)	gelese			geluse		
(18)	↓	gelisis	↓	↓	gelasas	gelasot
		↓			↓	↓

final forms

(17) must be ordered before (4), (3), (8), (18).
(6) has no order imposed here.
(3) and (4) are not ordered with respect to each other.
(8) must be ordered after (3), and (18) after (4).

Verb	Cont	Past	PM
ja	{u, te} + ro	1	ẽ → role (by (8)) is e → roli, rolo (by (7)) ũ → rolu (by (8)) as ot → rola (by (9))

Verb	Cont	Future	PM
ja	{u, te} + ro	de	ẽ → roẽde (by 16) → roẽnde (by red. 1, III, p.5) is → rose (by 15) e → roede (by 16) ũ → roũde (by 16) → roũnde (") as → roase (by 14) → rahase (by (5)) ot → rode (by 15)

Verb	Cont	Indef	PM		
ja	{u / te}+ro	ua	ẽ	ruaẽ (by 19 below)	
			is	ruais "	→ ruas (by 2)
			e	ruae "	
			ũ	ruaũ "	
			as	ruaas "	→ruahas (by 1) → ruəhas (by 16a)
			ot	ruaot "	→ruat (by 2)

19 $\begin{bmatrix} V \\ +bk \\ +vd \\ -high \end{bmatrix} \rightarrow \emptyset \; / \; r\_\_\_ + \begin{bmatrix} V \\ +bk \\ +rd \end{bmatrix}$, i.e. o → ∅/r___+u

These rules listed above generally specify all the morphophonemics involved in verbal affixation. They also apply to other combinations of verbal forms, e.g. compound verbs.

B. Affixation on nouns

There is less affixation on nouns than on verbs. It is pretty much limited to three areas: noun+certain postpositions, the number 'one'+noun, and noun+gender in certain cases.

1. Noun+postposition

Normally postpositions are independent particles but in certain instances some may be fused to the nouns which precede them. There are basically four postpositions: co 'of' possessive, ne 'to,in,on' location, time; 'by' instrumental, le 'from' location, time; 'than' comparative, ke direct or indirect object marker.

Ne in a location or time sense may be fused to the preceding noun, seemingly without any restrictions except that the noun end with a consonant, e.g. din+ne dine 'on/in the day', ghər+ne ghəre 'in/to the house', bhitr+ne bhitre 'inside'. The following rule will account for this: $\begin{bmatrix} n \\ +loc \\ +time \end{bmatrix} \rightarrow \emptyset / \; C+\_\_\_e$. (1)

Co may be optionally fused with only certain nouns which precede it and since the number is very limited perhaps they will have to be marked in the lexicon; they are more the exception than the rule: ghər+co → ghəro ('of the house', than+co → thano ('of the place'. ② c → ∅/C+___o.

Two other similar cases deserve attention here. The final vowel on kali 'yesterday' and aji 'today' may be deleted optionally before co. If that option is taken with aji, then we get aj+co and the result is ac.o by the two rules:

③ voicing assimilation $\begin{bmatrix}+\text{obs}\\-\text{ant}\\+\text{cor}\\+\text{distr}\end{bmatrix} \rightarrow [-\text{voice}] / \_\_\_ + \begin{bmatrix}+\text{obs}\\-\text{ant}\\+\text{cor}\\+\text{distr}\\-\text{voice}\end{bmatrix}$

i.e. j → c/___+c

④ lengthening of consonant instead of gemminate consonants

c + c → c.

The second case is that of aplo 'one's own' which I am here claiming comes from apən +co 'one's self' plus 'of'. We had previously noticed free variation between /l/ and /n/ in certain Halbi words:

'river' nə̃di / lə̃di
'tail' nẽgri / lẽgri
'abdomen' nami / lami
'to finish' nimruk / limruk

The Halbi word lim referring to a certain tree and its flower is paralleled by nim in Hindi. There seems to be some sort of close connection between Halbi /l/ and /n/. Thus the following derivation is here proposed for aplo:

apn+co
apno by ② above here in Bl.
aplo by a rule like $\begin{bmatrix}+\text{cons}\\+\text{nas}\end{bmatrix} \rightarrow [+\text{lat}]$, which is obligatory here but optional in word initial position

One form related to le is təle 'since, until' . təl means 'lower' as in təl phur 'the under-world'; təle in its free form means 'underneath': e təle 'under this'. təle may be joined to a time noun such as bian 'morning' or to a verb such as ber udətle ('since/until the sun set ') (bianətle 'since/until morning')

The following rule is needed:

⑤ ə→Ø / [+seg] +t__le, and then red. rule ④, page 11 inserts [ə] in the appropriate place for the correct pronunciation.

mor+təle
mortle (by ⑤ above here)
morətle (by red. rule ④ p.11)

2. The number 'one' + noun

Very often a sequence of goTək 'one' plus noun become noun+ək as an optional abbreviation and fusing. E.g.

goTək rat ratək 'one night' , goTək thapR thapRək 'one slap'

When the noun ends in a vowel, that final vowel is deleted before ək, i.e. ⑥ V→Ø/C___+ək, e.g.

goTək cipRi cipRək 'one leaf cup', goTək dona donək 'one leaf dish'

In a phrase with a noun plus number, when the whole phrase is being referred to as a unit this abbreviation may also be used, e.g. haT tinək 'a length of three weeks, a three-week period'. In such a case, however, when _k is added to dui 'two' the result is duik, necessitating the following rule: ⑦ ə→Ø/VV+__k.

3. Gender

Normally in nouns there is no marking for gender. In certain cases, however, there are such affixes. These will be pointed out here but rules will not be formally stated at this point.

In one case there is a true +/- human masculine distinction made between pairs, both in nouns and in adjectives. +human masc.

affixes on nouns are ∅, ea, a and the corresponding -human masc. affixes are in, i , e.g.

laj kurea	laj kurin	'a shy person'
kana	kani	'a blind person'
khoRea	khoRi	'a lame person'
mõjla	mõjli	'middle'

In a second case the distinction is not regarding sex but is between large and small, e.g.

boTka	boTki	'dish'	large-small
Tukna	Tukni	a type of basket	large-small

Here the affixes are constant, i.e. a large, i small.

In a third group of words the pairs of words have distinctions which are neither related completely to sex or size, though those aspects may have some semantic importance:

jõdra	'corn'	DheTa	'handle'
jõdri	'millet'	DheTi	'cow's udder'

gohRa	'crowd of people'
gohRi	'herd of animals'

C. Pronouns and affixes

The follo ing may be posited as the basic pronouns:

	sg	pl	
1	mə	am	
2	tu	tum	
3	e	e mən	(near)
	hun	hun mən	(remote)

mən is the usual plural marker on nouns. tum here may be a shortened form of an earlier *tumən. am is more questionable.

When i is added to the pronoun stems we get the nominative forms: mõy from mə +i, tui, huni, i from e+i, ami, tumi, huni mən, i mən from e+i mən.

Some rules such as the following are needed to account for the morphophonemics involved: $mə \rightarrow mõ / \_\_\_ +i$; $\left[\begin{smallmatrix} e \\ +pron \end{smallmatrix}\right] +i \rightarrow i$

The pronoun stems plus the postpositions co and ke involve no such adjustments:

mɔco	amco	
tuco	tumco	
eco	hun mɔn co	no fusing of postpos.
hunco	e mɔn co	
mɔke	amke	
tuke	tumke	
eke	e mɔn ke	no fusing
hunke	hun mɔn ke	

There are a few other situations involving affixes which cannot be dealt with here due to limited time, but which must be accounted for later - e.g.

in adverbs, such as ɔsn 'like this'
usn 'like that'
kɔsn 'how'
jɔsn 'as' (relative)

in adjectives, such as itlo 'this much'
hutlo 'that much'
kitlo 'how much'
jitlo 'as much'

and in nouns, such as TõDkahan, TõDkihin 'one who nags' +/- human masc
bhuklahan, bhuklihin 'one who is hungry' "
sudrihin 'one who is pretty' -hum.masc.
eklahan 'one who is alone'

Summary.

As the title implies, these are working notes, an attempt to formalize some recent insights, particularly as revealed within a generative framework, and to pull together some stray bits and pieces which were not handled adequately in our incomplete analysis heretofore. Obviously there still remains much work to be done and many areas in which further informant checking is necessary.