

CHAPTER FIVE

FORMALIZATIONS OF PHONOLOGICAL RULES

IN SAMBALPURI

CHAPTER FIVE

FORMALIZATIONS OF PHONOLOGICAL RULES IN SAMBALPURI

5.1 Phonological Rules in Sambalpurī

On the basis of the theory presented in the previous chapters, we now seek to formalize the Phonological Rules (P-Rules, for short) in this concluding chapter. We shall begin each set of data with our general observation on some phonological phenomena of the language. It will be followed by the data, which in turn, will be followed by 'the Segmental Rule', that is the rule without features (labelled as Level I) and finally by 'the Phonological Rule', that is the rule with features (labelled as Level II).

The segmental rules will be numbered as the main number of the relevant sub-section followed by the small letters of the English alphabet (e.g. 1a and 1b). In cases where more than one rule becomes necessary, they will be treated as sub-rules and will be sub-numbered, i.e., they will be followed by a small Roman number (e.g.

1.i and 1.ii). The final Phonological Rules will be stated in the form of numbers such as 1, 2 and 3.

5.1.1 As far as changes in gender in Sambalpuri are concerned, the root morpheme becomes masculine when the masculine morpheme [a] is added and feminine when the feminine morpheme [i] is added to the root. Such additions do not normally bring about any changes in the derived words except when the feminine morpheme is added to the root morpheme having /ə/ phoneme. The /ə/ gets changed to /a/ (cf. Data Set 5.1A).

Data Set 5.1A

<u>Masculine</u>		<u>Feminine</u>
[kəka]	'uncle'	[kaki]
[kəbra]	'spotted'	[kabri]
[d ^h əɾa]	'young'	[d ^h əɾi]
[deɾa]	'tall'	[deɾi]
[c ^h uta]	'lame'	[c ^h uti]
[k ^h ura]	'glutton'	[k ^h auri]

<u>Masculine</u>		<u>Feminine</u>
[bupra]	'unlucky fellow'	[bupri]
[b ^h uska]	'fat'	[b ^h uski]
[tutra]	'stammering person'	[tutri]

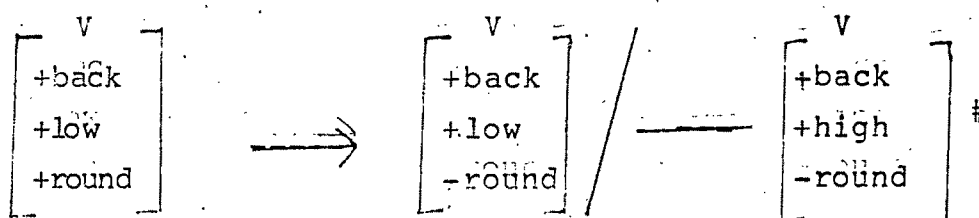
Hence we can formalize the phonological changes as shown in rules 1a and 1:

Level I:

1a. ə → ɔ̄ / _____ .i #

Level II:

P-Rule 1



5.1.2 In cases of morphemes ending in /i/, the masculine morpheme /ɔ̄/ gets nullified when the morpheme gets converted into feminine (cf. Data Set 5.2A).

Data Set 5.2 A

<u>Masculine</u>		<u>Feminine</u>
[guria]	'white-complexioned person'	[guri]
[kalia]	'black-complexioned person'	[kali]
[paentia]	'water-man'	[paenti]
[nacia]	'dancer'	[naci]
[beʃbeʃia]	'talkative person'	[beʃbeʃi]
[malməliā]	'dandy'	[malməli]
[turturia]	'person always in a hurry'	[turturi]

The phonological process regarding the above gender change can be represented as,

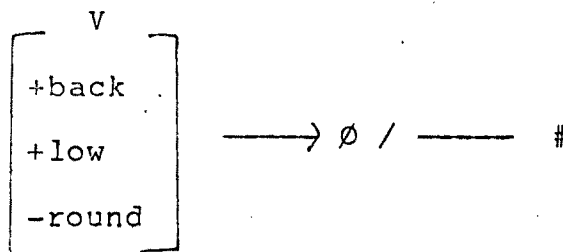
Level I:

2a

a ——— ∅ / ——— #

Level II:

P-Rule 2



5.1.3 Sambapuri speakers tend to velarize the retroflex /ḍ/ sound whenever it occurs in a word in the initial position (cf. Data Set 5.3 A).

Data Set 5.3 A

[ḍəŋḍ]	'boat'	[gḍḍ]	'castle'
[ḍəle]	'a basket full of'	[bərgḍḍ]	'name of a town'
[ḍəŋḍə r]	'mountain'	[pahḍḍ]	'mountain'
[ḍəbḍ]	'pouch'	[gḍḍ]	'ditch'
[ḍəmrḍ]	'gyre'	[səgḍḍḍ]	'cart'
[ḍəḿ]	'a caste'	[bḍḍ]	'big'
[ḍəsna]	'bedding'	[sḍḍək]	'road'
[ḍuli]	'plot'	[bḍḍrog]	'leprosy'

[daku]	'robber'	[cʰiɖa]	'rag'
[deɳa]	'tall'	[bedʌ]	'foolish'

We may state the phonological phenomena as in 3a and 3.

Level I:

3a. d → Velar / # _____

Level II:

P-Rule 3

+anterior +coronal +voice -aspiration -dental	→	Velar / # _____
---	---	-----------------

geminated

5.1.4 Quite a large number of words already exist in Sambalpuri vocabulary out of which a few are cited in Data Set 5.4 A. However, certain phonemes get geminated when suffixes beginning with a phoneme identical with that of the last phoneme of the root word is added to the root word (cf. Data Set 5.4 B).

Data Set 5.4 A

[kərra]	'robust and bushy' (mustache)'
[k ^h ərra]	'a caste'
[sērra]	'thick-skinned'
[gərra]	'he-sheep'
[ʃəḍḍa]	'a kind of fish'
[perra]	'pot-bellied'
[p̃erra]	'white'
[b ^h ərra]	'tall-talker'
[pəḱka]	'pucca', 'very sure'

Data Set 5.4 B

ken + nu	=	kennu	'where from (question)'
ʃen + nu	=	ʃennu	'where from (statement)'
ʃen + ne	=	ʃenne	'where at'

$b^h \underline{a} \underline{l} + \underline{l}ok$	=	$b^h \underline{a} \underline{l}lok$	'good person'
$s\underline{a}c + \underline{c}a$	=	$s\underline{a}cca$	'true'
$b\underline{a}k + \underline{k}a\underline{r}$	=	$b\underline{a}kk\underline{a}r$	'gossip'
$k\underline{u}d + \underline{d}u$	=	$k\underline{u}ddu$	'a wild fruit'
$p^h \underline{a}b + \underline{b}a$	=	$p^h \underline{a}bba$	'become free'

The gemination rule can be written as

P-Rule 4. $Cx \longrightarrow Cy / \text{---} Cz$

(Condition: $Cx = Cy = Cz$)

5.1.5 In certain other cases also (surnames, in fact) gemination takes place. Words like $[g\underline{a}d\underline{n}aj\underline{a}k]$ and $[p\underline{a}t\underline{n}aj\underline{a}k]$ are pronounced $[g\underline{a}nnaj\underline{a}k]$ and $[p\underline{a}nnaj\underline{a}k]$ respectively. The phonological changes may be shown as,

Level I:

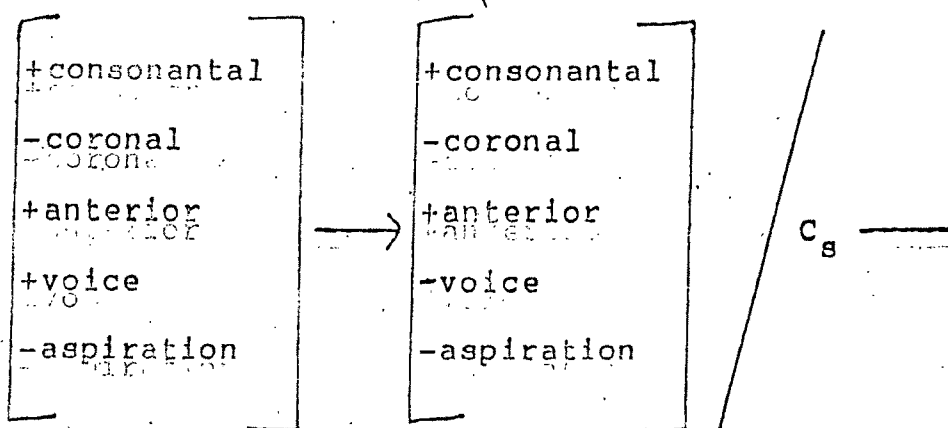
5a. $\left. \begin{matrix} t \\ d \end{matrix} \right\} \text{---} \longrightarrow n / \text{---} n$

Level I:

6a.

b → p / c_s —Level II:

P-Rule 6



5.1.7 We showed in sub-section 5.6 how [isbər] becomes [ispəɾ] in Sambalpuri through a phonological process. This nominal form becomes [isperi] by adding the /i/ morpheme to the root, i.e., to [ispəɾ]. But when these words, i.e. [ispəɾ] or [isperi] is added to another word to form compound words, the /p/ sound gets lost. That is,

ispər → isər

in compound words like

Data Set 5.7 A

ram + ispər	→	ramesər
ram + ispəri	→	ramesəri
bərən + ispər	→	bərunesər
ʃəl + ispər	→	ʃəlesər
d ^h bəl + ispər	→	d ^h bəlesər
ʃəgət + ispəri	→	ʃəgətesəri
b ^h ubən + ispəri	→	b ^h ubənesəri
sur + ispər	→	suressər
sur + ispəri	→	suressəri
bal + ispər	→	bəlesər

It is observed in Data Set 5.7 A that initial vowel of the conjoined words also undergoes a phonological change, that is,

$$i \longrightarrow e$$

these two phonological changes could be put as:

Level I:

7 a. $i \longrightarrow e / + \underline{\quad}$

7 b. $p \longrightarrow \emptyset / VC \underline{\quad} VC \#$

Level II:

P-Rule 7.i

$\begin{array}{c} V \\ +high \\ -back \end{array}$	→	$\begin{array}{c} V \\ -high \\ -low \\ -back \end{array}$	/	+	
--	---	--	---	---	--

P-Rule 7.ii

$\begin{array}{c} +consonantal \\ -sonorant \\ -continuant \\ -coronal \\ +anterior \end{array}$	→	∅ / VC		VC #
--	---	--------	--	------

These two rules need not be ordered as one is not dependent on the other and the applications of these rules in any order would trigger off the same result.

5.1.3 As we mentioned in Sub-section 5.1.6, the adjectival suffix /i/ could be added to the nominal form [ispəri] to form the adjective [ispəri]. But when this word is joined with another to form a compound, there is a further phonological change in the derived word, as exemplified below:

patna + ispəri — patmesri

whereas by the application of P-Rules 7.i and 7.ii we get the following derivations:

ram + ispəri → ramesəri

ʃan + ispəri → ʃanesəri

gjan + ispəri → gjanesəri

In examples such as,

patna + ispəri → patmesri

first of all P-Rule 7.i ^{and} is applied then P-Rule 7.ii is applied to get [patnesɔri]. That is,

patnesɔri. → patnesri → pātmesri

To put it formally,

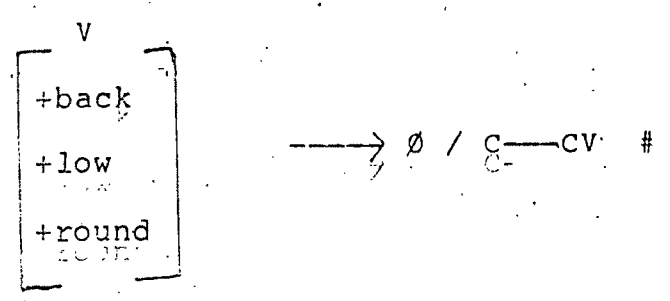
Level I:

8 a. ɔ → ∅ / C — CV #

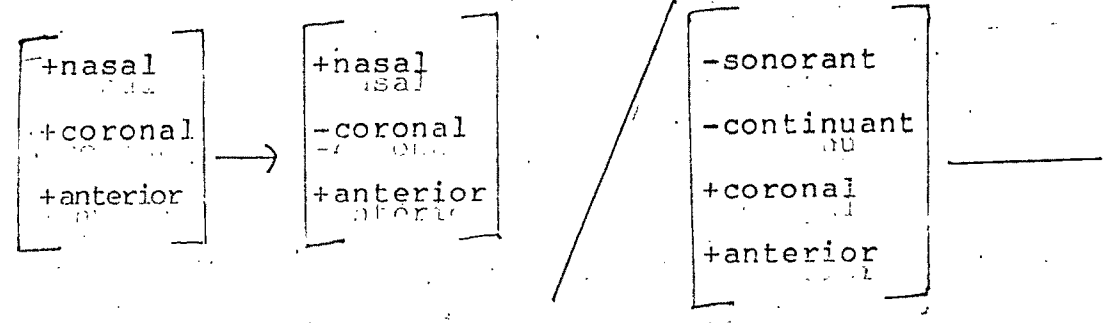
8 b. n → m / t. —

Level II:

P-Rule 8.i



P-Rule 8.ii



In this case, the two rules are ordered -- first, P-Rule 8a is applied and then only P-Rule 8b applies. That is, the loss of vowel /ə/ is due to the consonant cluster /tn/ which, when there is a syllabic division, the second consonant becomes part of the second syllable as shown below:

pat - nesəri → pat - nesri

[The (-) here marks the dividing line between syllables.]

In other words, to derive a word like [patmesri], we have to apply P-Rules 6, 7.i, 7.ii, 8.i and 8.ii. The last two rules have to be ordered, first 5.8.i and then 5.8.ii.

5.1.9 In certain cases, when two Sambalpuri words combine, the newly formed word may have a phonological change as shown below:

Data Set 9 A

bəl + kəs	→	bəkəs	'strong'
kəl + kəs	→	kəkəs	'harsh'
pəl + kəl	→	pəkəl	'misfortune'

The phonological process involved in Data Set 9A may be formalized as,

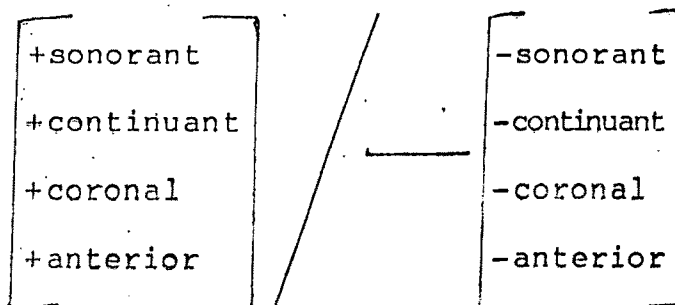
Level I:

9 a. l \longrightarrow r / --- k

Level II:

P-Rule 9

[+lateral] \longrightarrow



5.1.10 There are a number of Oriya words which frequently filter into the Sambalpuri language. But in the process, they undergo certain phonological changes in the form of inter-consonantal vowel loss. We cite below some such examples and the changes they have undergone.

Data Set 5.10 A

pipili	\longrightarrow	pipli	'name of a town'
dibiri	\longrightarrow	dibri	'kerosine lamp'
kukuda	\longrightarrow	kukda	'hen'

lekeri	→	lekri	'rag'
ʃarəda	→	ʃərda	'flavoured tobacco'
ʃ ^h ərəkə	→	ʃ ^h ərka	'window'
p ^h əp ^h oso	→	p ^h əp ^h so	'hollow'
bəgəlabə	→	bəgəlbə	'spread'

We may formalize the phonological rule as,

Level I:

10. a. $v \longrightarrow \emptyset / c _ c$

Level II:

P-Rule 10: $\left[\begin{array}{l} +\text{syllabic} \\ -\text{consonantal} \end{array} \right] \longrightarrow \emptyset / c _ c$

5.1.11 Oriya words beginning with /o/ like [goc^ha] undergo a phonological change when they are adopted in Sambalpur. The initial /o/ changes to /u/ (cf. Data Set 5.11 A, 5.11 B and 5.11 C).

Data Set 5.11 A

goc ^h a	→	guc ^h a	'bushes'
gora	→	gura	'white-complexioned'
ḡōḡa	→	ḡuḡa	'pair', 'two'
mōḡa	→	muḡa	'socks'
bokā	→	būka	'foolish'
pōiā	→	pula	'hollow'

Data Set 5.11 B

gōri	→	gūri	'white-complexioned' (fem.)
g ^h ōli	→	g ^h ūli	'shell'
ḡōli	→	ḡuli	'cradle'
c'ori	→	curi	'theft'
g ^h ōḡi	→	g ^h ūḡi	'mare'

Data Set 5.11 C

sor	→	sur	'memory', 'rhythm'
k ^h ob	→	k ^h ub	'very much'
g ^h ob	→	g ^h ub	'white'
pol	→	pul	'bridge'
cop	→	cup	'silent'
b ^h ol	→	b ^h ul	'mistake'

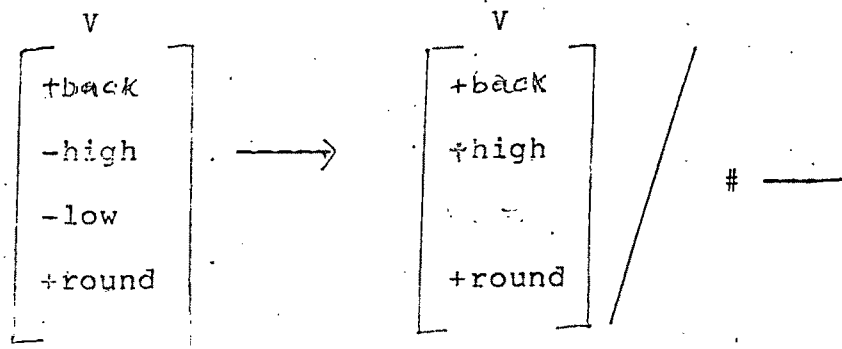
The phonological principle involved in the above words may be indicated in the following rules:

Level I:

11 a. 0 → u / # _____

Level II:

P-Rule 11



5.1.12 Certain Oriya words ending with a CV cluster with the consonant /n/ gets changed to /ŋ/ in Sambalpuri. It may be mentioned here that Oriya is a vowel-ending language (at least there would be an /ə/ when other vowels are not present). On the other hand, Sambalpuri words rarely end with /ə/. Hence, almost all the /ə/-ending words making their entry into Sambalpuri lose their final /ə/. Though we do not make a separate rule for it, we can account for such words as shown below:

Data Set 5.12 A

bənə	→	bən	→	bən	'forest'
ʃənə	→	ʃən	→	ʃən	'person'
banə	→	baŋ	→	baŋ	'arrow'
tənə	→	tən	→	tən	'pull (imp.)'
kərənə	→	kərən	→	kərən	'a caste'
p ^h əgunə	→	p ^h əgun	→	p ^h əgun	'an Indian month'
sərənə	→	sərən	→	sərən	'surrender'
pənə	→	pən	→	pən	'promise'
lunə	→	lun	→	lun	'salt'

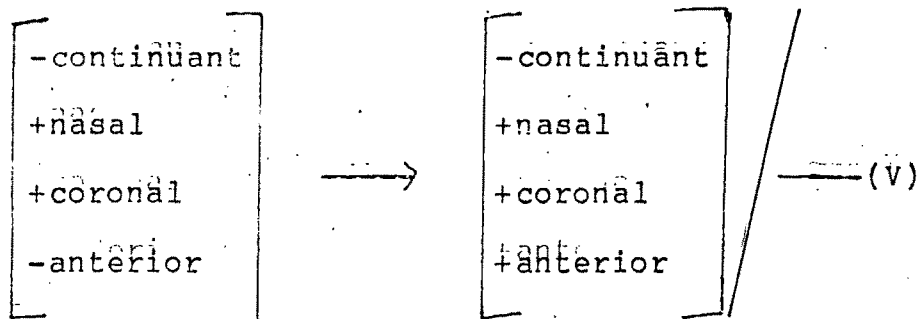
The phonological change of the words cited in Data Set 5.12 A may be shown as,

Level I:

12 a. $n \longrightarrow n / \text{---} (V)$

Level II:

P. Rule 12



5.1.13 In words beginning with /a/, the initial vowel of the root morpheme is changed to /ə/ (cf. Data Set 5.13 A).

Data Set 5.13 A

$kand^{\text{h}} + \text{ə}ra$	\longrightarrow	$kənd^{\text{h}}ara$	'person accustomed to crying'
$dat^{\text{h}} + \text{ə}ra$	\Longrightarrow	$dət^{\text{h}}ara$	'person with projected teeth'
$pāt^{\text{h}} + ua$	\Longrightarrow	$pət^{\text{h}}ua$	'educated'

lag ^h + ua	→	lɔg ^h ua	'loanee'
ʃal + ua	→	ʃɔluɔ	'hypocrite'
banʃ ^h + en	→	bənʃ ^h en	'issueless'
lag + ani	→	lɔgani	'loan'
mag + ɔni	→	mɔgɔni	'a kind of card game'

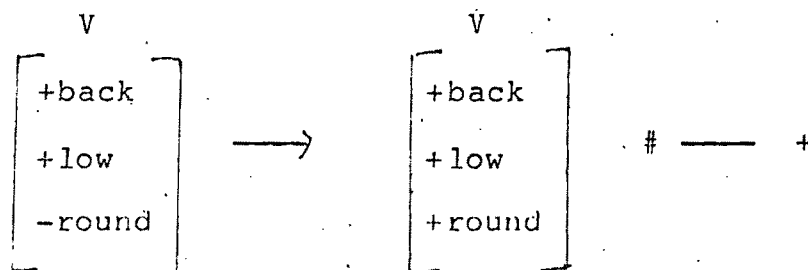
The phonological changes observed in Data Set 5.13 A could be represented in the following rules:

Level I:

13 a. a → ɔ / # _____ +

Level II:

P-Rule 13



5.1.14 Sambalpuri words like [c^hutia] are from [c^hotia] through a phonological process as shown below (cf. Set Data 5.14 A).

Data Set 5.14 A

$c^h o\check{t}\partial + ia$	\longrightarrow	$c^h \partial\check{t}ia$	\longrightarrow	$c^h u\check{t}ia$	'little'
$ko\check{t}\partial + ia$	\longrightarrow	$ko\check{t}ia$	\longrightarrow	$ku\check{t}ia$	'a tribe'
$k\check{o}r\partial + ia$	\longrightarrow	$ko\check{r}ia$	\longrightarrow	$ku\check{r}ia$	'hypocrite'
$mo\check{t}\partial + ia$	\longrightarrow	$mo\check{t}ia$	\longrightarrow	$mu\check{t}ia$	'fattish'
$mo\check{d}\partial + ia$	\longrightarrow	$mo\check{d}ia$	\longrightarrow	$mu\check{d}ia$	'bow down'
$ro\check{g}\partial + ia$	\longrightarrow	$ro\check{g}ia$	\longrightarrow	$ru\check{g}ia$	'diseased'

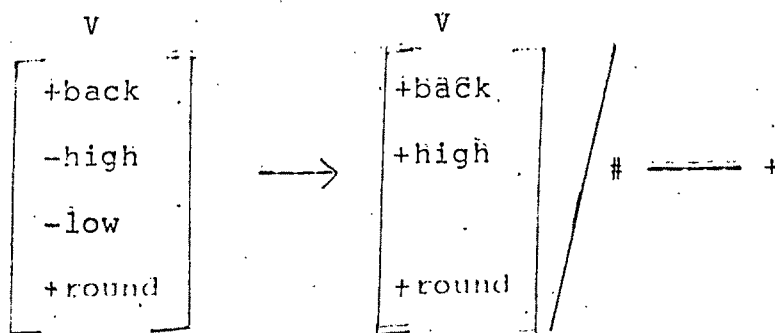
The phonological process involved could be formalized as,

Level I:

14 a. $o \longrightarrow u / \# \text{ --- } +$

Level II:

P-Rule 14



Words beginning with /u/ need not go any further change in their derivative forms.

5.1.15 An idiosyncratic feature of Sambalpuri is that most of the di-syllabic and tri-syllabic words with /i/ undergo a process of epenthesis (cf. Data Set 5.15 A).

Data Set 5.15 A

paṇi	→	paen	'water'
ṭaṭi	→	tæt	'door'
ṃaṭi	→	ṃæt	'soil'
nḍi	→	næḍ	'river'
ʃṭi	→	ʃæt	'caste'
baḷi	→	bæl	'hair', 'sands'
naṭi	⇒	næt	'grand-son'
kḷi	→	kæl	'tomorrow'
rḷi	⇒	ræt	'night'

Putting the epenthetic process, we get the following rules,

Level I:15 a. i # \longrightarrow e / --- c #Level II:

P-Rule 15

V +high -back	# \longrightarrow	V -high -low -back	---	C #
---------------------	---------------------	-----------------------------	--------------	-----

However, we would like to mention here that not all the di-syllabic and tri-syllabic words undergo such phonological transformation as shown in Data Set 5.15 B.

*rani	'queen'	\longrightarrow	raen
*sani	'Saturn'	\longrightarrow	sæn
*nani	'sister'	\longrightarrow	næn
*kani	'egg'	\longrightarrow	kæn
*paɪi	'mouth'	\longrightarrow	paet
*b ^h ati	'distillery'	\longrightarrow	b ^h aet
*sali	'sister-in-law'	\longrightarrow	sæl
*mali	'ornament'	\longrightarrow	mæl

The reason for this may be assigned to the etymology of the words. Sambalpuri, as we have pointed out earlier (cf. Chapter One: SS 1.7) has been largely influenced by tribal languages. This epenthetic tendency may, very likely, be owing to the influence of these tribal languages on Sambalpuri.

5.2 List of Rules Posited in the Dissertation

5.2.1 Segmental Rules (without Features)

(1a) $\partial \longrightarrow a / \text{---} i \#$

(2a) $a \longrightarrow \emptyset / \text{---} \#$

(3a) $\eta \longrightarrow \text{vela} / \# \text{---}$

[No segmental Rule labelled (4a)]

(5a) $\left\{ \begin{array}{c} \text{t} \\ \text{d} \end{array} \right\} \longrightarrow n / \text{---} n$

(6a) $b \longrightarrow p / \text{c}_s \text{---}$

(7a) $i \longrightarrow e / + \text{---}$

(7b) $p \longrightarrow \emptyset / \text{vc} \text{---} \text{vc} \parallel$

(8a) $\partial \longrightarrow \emptyset / \text{c} \text{---} \text{cv} \#$

(8b) $\tilde{n} \longrightarrow \tilde{m} / \text{t} \text{---}$

(9a) $l \longrightarrow r / \text{---} k \text{---}$

(10a) $v \longrightarrow \emptyset / c \text{---} c$

(11a) $o \longrightarrow u / \# \text{---}$

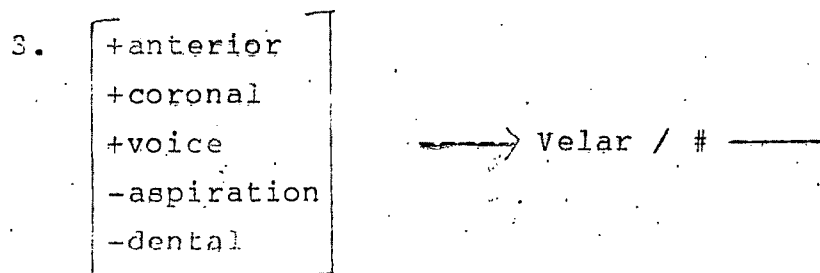
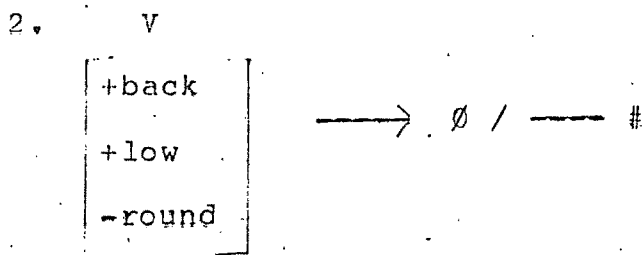
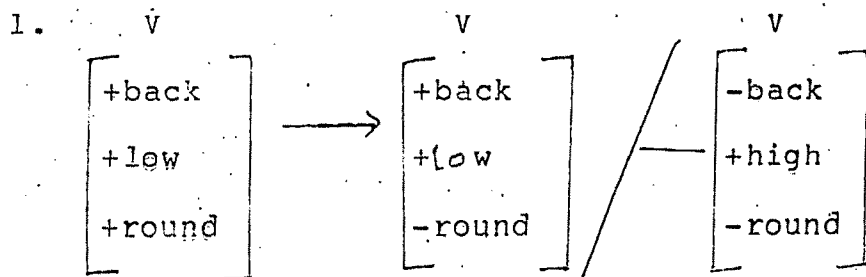
(12a) $n \longrightarrow n / \text{---} (v)$

(13a) $a \longrightarrow \partial / \# \text{---} +$

(14a) $o \longrightarrow u / \# \text{---} +$

(15a) $i \# \text{---} e / \text{---} c \#$

5.2.2 Phonological Rules (P-Rules) [With Features]



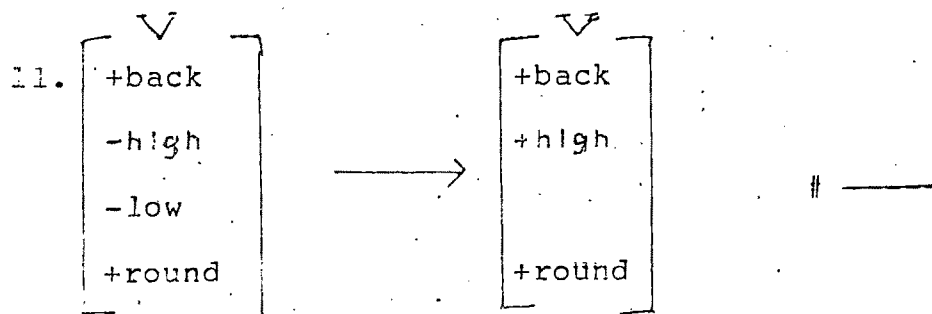
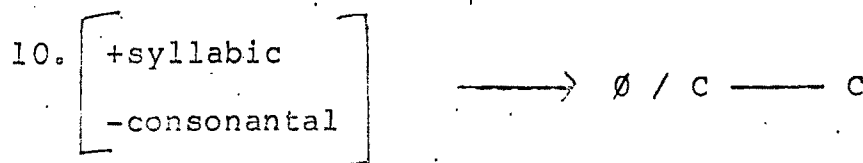
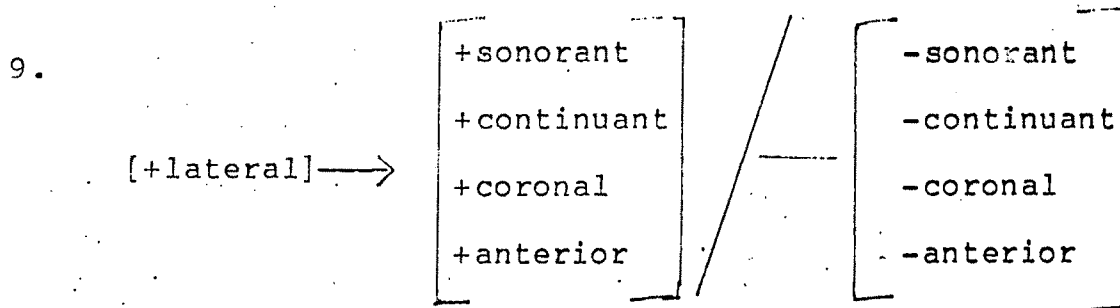
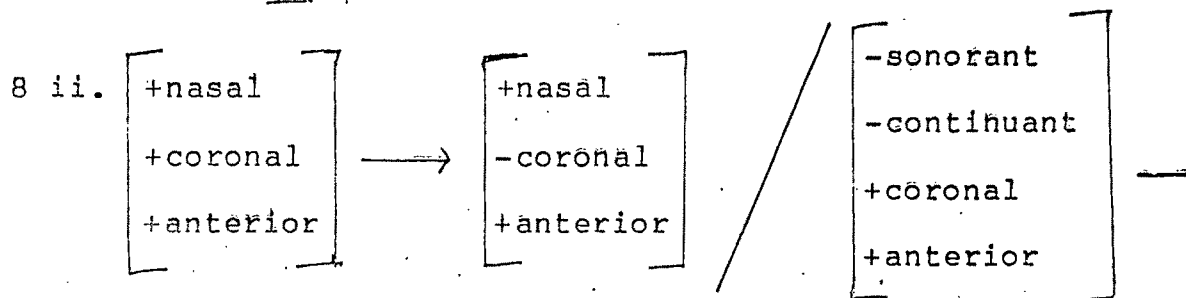
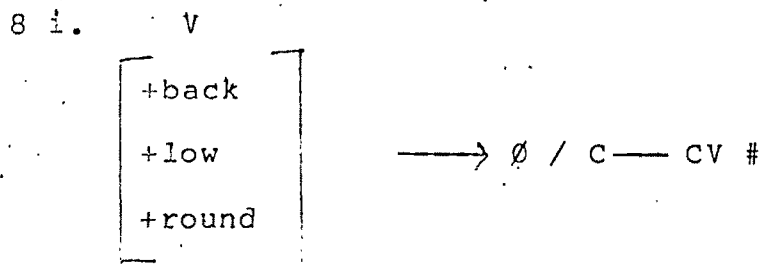
4. $C_x \longrightarrow C_y / \text{---} C_z$
 (Condition: $C_x = C_y = C_z$)

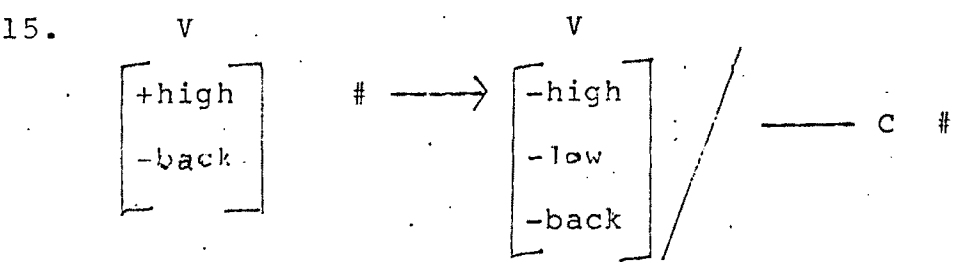
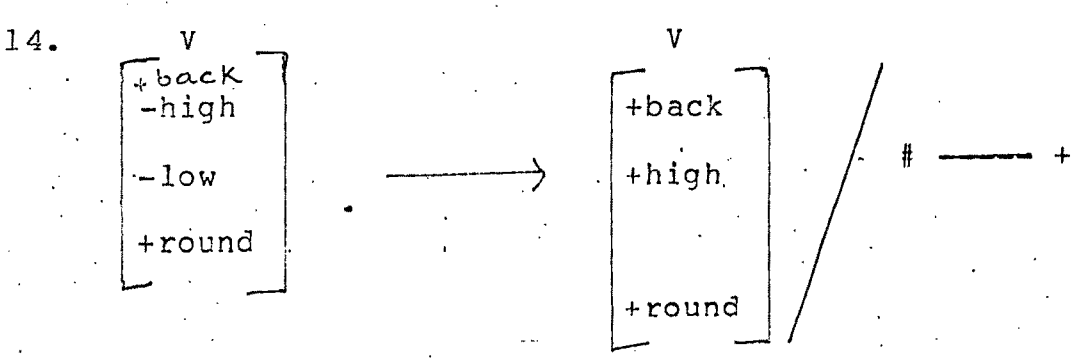
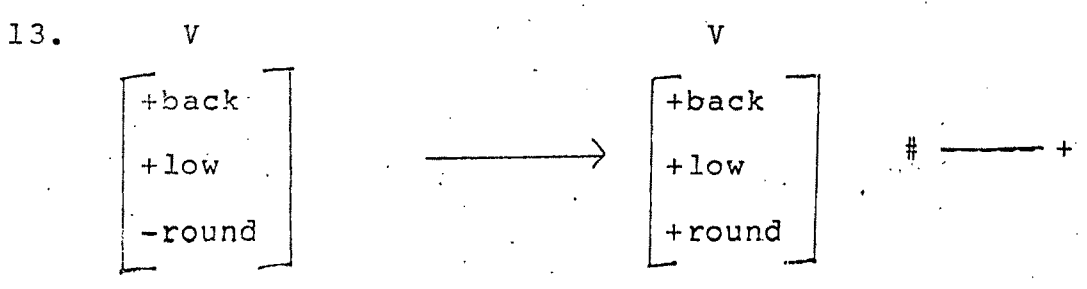
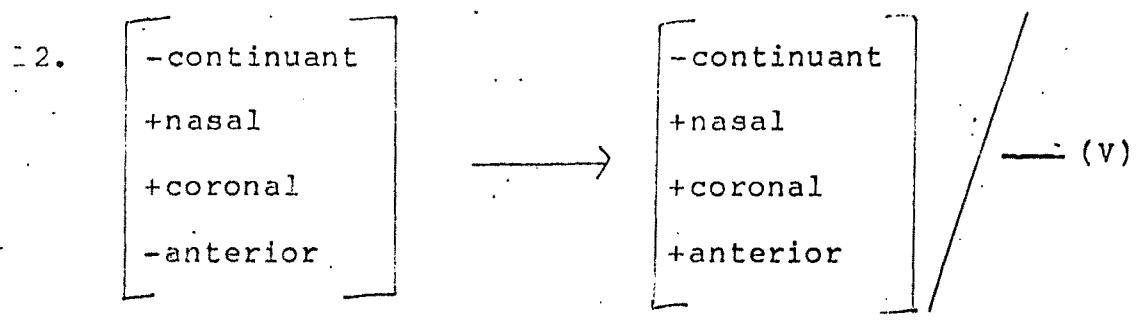
5. $\begin{bmatrix} +\text{coronal} \\ +\text{anterior} \\ =\text{dental} \\ -\text{aspiration} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{continuant} \\ +\text{nasal} \\ +\text{coronal} \\ +\text{anterior} \end{bmatrix} / \text{---} \begin{bmatrix} -\text{continuant} \\ +\text{nasal} \\ +\text{coronal} \\ +\text{anterior} \end{bmatrix}$

6. $\begin{bmatrix} +\text{consonantal} \\ -\text{coronal} \\ +\text{anterior} \\ +\text{voice} \\ -\text{aspiration} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{consonantal} \\ -\text{coronal} \\ +\text{anterior} \\ -\text{voice} \\ -\text{aspiration} \end{bmatrix} / \text{---} C_s$

7 i. $v \begin{bmatrix} +\text{high} \\ -\text{back} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{high} \\ =\text{low} \\ -\text{back} \end{bmatrix} / \text{---} + \text{---}$

7ii. $\begin{bmatrix} +\text{consonantal} \\ -\text{sonorant} \\ -\text{continuant} \\ -\text{coronal} \\ +\text{anterior} \end{bmatrix} \longrightarrow \emptyset / VC \text{---} VC \#$





5.3 Conclusion

As we made clear in the beginning of our study, we are making an attempt for the first time at a generative phonological study of the Sambalpuri language. This is also the first attempt at a study of this language in the SPE model. Though generative phonology has now evolved in several directions as offshoots of SPE, they are still in a state of flux. But SPE still continues to be honoured as a sophisticated standard theory. It is left for the future researchers to explore the Sambalpuri language through other and more sophisticated models.

Like all first attempts, this study cannot and does not claim to be all-comprehensive or fool-proof. It is again left for the future scholars to make multi-dimensional studies of Sambalpuri not only in the field of phonology but also in other related fields like morphology and syntax. The rules of phonology derived at in the present study should also be further tested by extensive data not only to sophisticate the present rules but also to modify further, if necessary, to make them descriptively adequate.