KANGRI IN CONTEXT: AN AREAL PERSPECTIVE

by

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ABSTRACT

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This study is a grammatical description and analysis of the dialect of Pahari known as Kangri, spoken in and around Palampur, Himachal Pradesh, India. It presents data for Phonology, Tone, Stress, Morphology, and Syntax and includes feature comparisons with several of the related regional and high domain languages (Hindi, Punjabi, and Dogri), particularly at points where they differ.

Special focus is given to issues involving stress assignment and tone. These are shown to be sensitive to different morphological categories, for which the framework of Lexical Phonology is useful in accounting. Various tense/aspect grammatical categories are also discussed, among which there are some unique features in Kangri. There is also a discussion of the copulas used in Predicate Nominal constructions which bear a striking resemblance to English copulas and provides a different analysis of the 'be' verb in both languages.

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ABBREVIATIONS

1	Verbal affix: first person
1p	Verbal affix: first person, plural agreement
1s	Verbal affix: first person, singular agreement
1P	Pronoun root: first person, plural morpheme
1S	Pronoun root: first person, singular morpheme
2P	Pronoun root: second person, plural morpheme
2s	Verbal affix: second person, singular agreement
2S	Pronoun root: second person, singular morpheme
3	Pronoun suffix: third person
3FS	Pronoun suffix: Third person, feminine, singular morpheme
3MS	Pronoun suffix: Third person, masculine, singular morpheme
3P	Pronoun suffix: Third person, plural morpheme
3s	Verbal affix: third person, singular agreement
3S	Pronoun suffix: Third person, singular morpheme
ACCOMP	Noun/pronoun suffix/root: Accompaniment case
ADJ	Adjective
ADVR	Noun suffix: adverbializer
A(GT)	Agent
ANIM	Animate
AUX	Auxiliary word category
AuxV	Auxiliary verb word category
Bene	Benefactive
CAUS	Verbal derivational suffix: causative morpheme
CAUS1	Verbal derivational suffix: causative 1 morpheme (Hindi only)
CAUS2	Verbal derivational suffix: causative 2 morpheme (Hindi only)
COP	Copula
CMPR	Adverbial pronoun suffix: comparative
CPCL	Verbal compounding suffix: compounding participle
DAT	Noun/Pronoun suffix/root: Dative case
DIR	Adverbial pronoun suffix: direction
DST	Pronoun/adverb deictic root: distal
DST.V	Pronoun/adverb deictic root: distal visible
DST.NV	Pronoun/adverb deictic root: distal non-visible
EMPH	Emphatic particle
ERG	Noun/Pronoun suffix: Ergative case

Abbreviations—Continued

f	Modifier suffix: feminine gender agreement (Hindi only)
FC	Flap Consonant
fnp	Modifier suffix: feminine, nominative, plural agreement
FNP	Noun suffix: Feminine gender, nominative case, and plural number
fns	Modifier suffix: feminine, nominative, singular agreement
FNS	Noun suffix: Feminine gender, nominative case, and singular number
FOC	Focus particle
fos	Modifier suffix: feminine, oblique, singular agreement
FOS	Noun suffix: Feminine gender, oblique case, and singular number
fop	Modifier suffix: feminine, oblique, plural agreement
FOP	Noun suffix: Feminine gender, oblique case, and plural number
fp	Verbal and auxiliary inflectional suffix: feminine, plural agreement
fs	Verbal and auxiliary inflectional suffix: feminine, singular agreement
FUT	Verbal inflectional suffix: future tense morpheme
GEN	Noun/Pronoun suffix/root: Genitive case
H	High tone
HAB	Verbal inflectional suffix: habitual aspect
IMP(.IMM).PL	Verbal inflectional suffix: plural, immediate, imperative mood
IMP.IMM.INT	Verbal inflectional suffix: intimate, immediate, imperative mood
IMP.INSTR	Verbal inflectional suffix: instructional imperative mood (Hindi only)
IMP.INSTR.INT	Verbal inflectional suffix: intimate, instructional, imperative mood
IMP.INSTR.PL	Verbal inflectional suffix: plural, instructional, imperative mood
IMP.URGE	Verbal inflectional suffix: repeated “urging” imperative mood
INCPT	Inceptive auxiliary verb
IND	Indefinite article
INF	Verbal inflectional suffix: infinitive morpheme
INSTR	Noun/Pronoun suffix/root: Instrumental case
INTR	Pronoun/adverb root: interrogative
L	Low tone
LOC	Adverbial pronoun suffix: location
mnp	Modifier suffix: masculine, nominative, plural agreement
MNP	Noun suffix: Masculine gender, nominative case, and plural number
MNR	Adverbial pronoun suffix: manner
mns	Modifier suffix: masculine, nominative, singular agreement
MNS	Noun suffix: Masculine gender, nominative case, and singular number
mop	Modifier suffix: Masculine, oblique, plural agreement
MOP	Noun suffix: masculine gender, oblique case, and plural number
mos	Modifier suffix: Masculine, oblique, singular agreement
MOS	Noun suffix: masculine gender, oblique case, and singular number
mp	Verbal and auxiliary inflectional suffix: masculine, plural agreement
ms	Verbal and auxiliary inflectional suffix: masculine, singular agreement

Abbreviations—Continued

n	Number suffix: nominative case agreement
N	Noun
N_M	Noun masculine
N_F	Noun feminine
N(OM)	Pronoun suffix: nominative case
NP	Noun phrase
NV	See DST.NV
Obj	Object
o	Number suffix: oblique case agreement
O(BL)	Pronoun suffix: oblique (non-nominative) case
PAST	Tense auxiliary root: past tense
PASS	Verbal derivational suffix: passive morpheme
PERF	Verbal inflectional suffix: perfective aspect
PROG	Verbal inflectional suffix: progressive aspect
p	Verbal and auxiliary inflectional suffix: plural agreement
P(at)	Patient
PCMPLX	Complex Postposition
PRES	Tense auxiliary root: present tense
PRX	Pronoun/adverb deictic root: proximate
QNTY	Adverbial pronoun suffix: quantity
REL	Pronoun/adverb root: relative
RES	Verbal inflectional suffix: resultative aspect
s	Verbal and auxiliary inflectional suffix: singular agreement
Sub	Subject
SUBJ	Verbal inflectional suffix: subjunctive mood
SUBJ.FUT	Verbal inflectional suffix: future subjunctive mood
SUBJ.IMM	Verbal inflectional suffix: immediate subjunctive mood
TS	Temporal Succession
V	Verb
VCR	Verb compound root
VR	Verb root
VST	Verb stem
YNQ	Yes-No Question
YNTAG	Yes-No Tag Question

CHAPTER 1

INTRODUCTION

The linguistic situation in North India presents a particularly fruitful setting in which to investigate comparative linguistic phenomena. The dialectal variation in most of North India is proverbial. It is said, "The language changes every 12 kilometers." This is, no doubt, due to the mountainous terrain which has given birth to dozens of varieties known collectively as 'Pahari'.[1] Even within the same town, members of different caste groups usually speak slightly different varieties.

Of the various Pahari dialects, the focus of this study is the variety known as *Kangri*. There have been several linguistic descriptions made of Kangri, published by S. L. Sharma (1974) and A. R. Chauhan (1992). While these are fairly comprehensive in their description, they are less so in terms of analysis and lack a comparative perspective. The major goals of this present study, therefore, are: a) to expand on the analysis of the data, b) to provide comparative details in order to situate the Kangri language variety in its linguistic context, and c) to make available data for cross-linguistic and typological studies.

[1] The word 'Pahari' literally means "mountainous", but is used as a generic term for language varieties such as Kangri, Mandeali, Hamirpuri, Bilaspuri, and Chambeali; so called because of the district in Himachal Pradesh in which they predominate: Kangra, Mandi, Hamirpur, Bilaspur, and Chamba districts, respectively.

Furthermore, those earlier works were written about slightly different varieties than the focus of this study, which could be called *Palampuri Kangri*. Thus, while there are excellent resources of a comparative nature available for most of the major Indo-Aryan languages (Cardona & Jain 2007, Turner 1985, Masica 1993), much less is available, particularly in the international linguistic community, on smaller languages and dialects in North India where so much can be learned about language variation at the micro-level. It is hoped that this study will provide another "data point" through which language variation might be studied.

One issue of debate regarding Kangri is its status in the Indo-Aryan family tree. Some scholars (Grierson 1916, Grimes 2000, Pathania p.c.) consider Kangri to be a sub-dialect of Dogri, which is itself considered by some to be a sub-dialect of Punjabi (Shackle 2003). In contrast, others (J. C. Sharma p.c., Chauhan 1992, S. L. Sharma 1974, Verma 1959) have suggested that Kangri is more closely related to the Satluj dialect group, which includes the varieties of Pahari east of the Kangra district, such as Mandeali, and Chambeali, as well as Kullui. Unfortunately, time did not permit the collection of data on any of the Satluj dialects with which to compare for this study. Consequently, though the Punjabi/Dogri comparisons made here may be useful in answer this question from the western side, further research will be need to answer the question from the eastern/Satluj side.

The following picture (Huffman 2006) gives a rough estimate of the areas where these different language varieties are spoken:

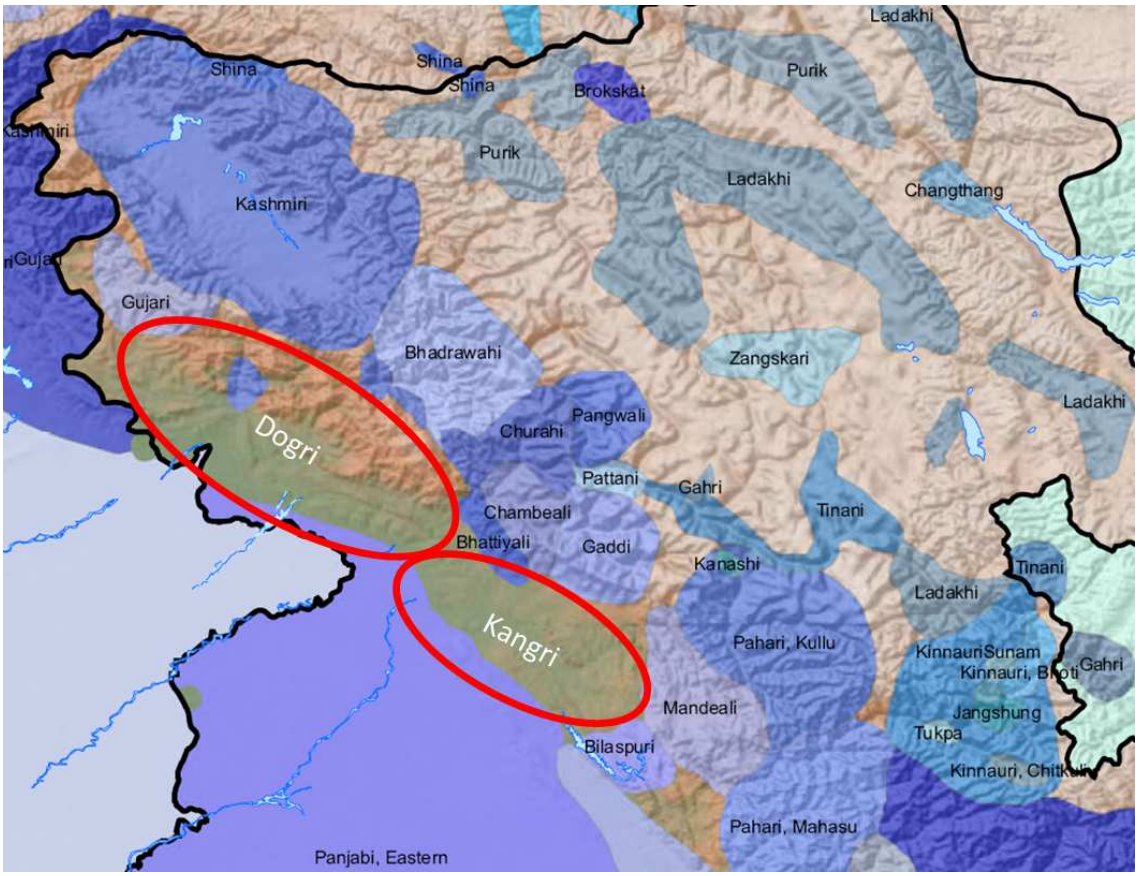

Figure 1-1: Language Map of Northwest India

As of the 1991 Census, Kangri is now categorized by the Government of India as a dialect of Hindi, presumably since that is the state language of Himachal Pradesh. However, the question remains, what are the differences between Kangri and Hindi? To help answer this question, comparisons with Hindi will be given at almost every level of the grammar. Furthermore, to highlight comparative differences, and so that this study

will be more useful in India itself, the orthographic representations of Kangri, Dogri and Hindi words in Devanagari have also been included.[2]

In terms of content, special emphasis will be given to those areas of the grammar, syntax, phonology, etc., where Kangri is especially different or unique.

A sketch of Kangri Phonology is given in Chapter 2, as well as a comparison of the sound system with several of the surrounding language varieties. Also discussed are the various morphophonological rules that operate in Kangri. Casting the data within the Lexical Phonology framework (Mohanan 1986, Kiparsky 1982, Pulleyblank 1986) will be shown to account for the ordering and co-occurrence restrictions of various forms.

The topic of Tone is taken up in Chapter 3, where it will be shown that the three distinct tones used in Kangri can be accounted for by allophonic alternations of the voiced glottal phoneme /ɦ/ in different positions adjacent to a vowel: a) before a vowel (producing a low-rising tone), b) after a vowel (producing a high-falling tone), or c) absent (resulting in a default, mid-level tone). Unexpected occurrences of tone (cf. Bhatia 1975) will be shown to involve the association of tone with the stressed syllable.

Word stress assignment is discussed in Chapter 4, where it will be shown that stress is assigned on the basis of a fairly complex set of rules primarily related to syllable weight. An analysis for stress is also offered in the framework of Lexical

[2] The orthographic forms for Hindi are from McGregor (1997). The Dogri forms are based on Gupta (1995) and personal communication with Dr. Shashi Pathania and Mr. Sadiq Masih. The Kangri forms were developed over 5 years of studying Kangri in consultation with the late Sri. Baldev Singh Thakur, Mrs. Parwin Goldsmith, Mr. Karan Dogri, and Mr. Pawan Koundal. Of course, any mistakes in these forms are the present author's.

Phonology which provides an account of some Hindi data that has been suggested to indicate that stress in Hindi is phonemic (Bailey 1933; Arun 1961; and Mehrotra 1965). It will be shown that the stress patterns in the problematic data can be accounted for by assuming that stress is assigned in the lexicon, and specifically, that stress is always assigned within the stem of a word only, excluding any inflectional affixes.

The different grammatical categories of Aspect and Mood that are expressed morphologically in Kangri are discussed in Chapter 5. Special focus is given to the RESULTATIVE aspect, the morphological nature of which is a unique feature in Kangri and Dogri.

Chapter 6 provides an overview of the various Word Categories in Kangri along with their inflection patterns. The grammatical words for deictic, interrogative and relative pronouns are compared for Kangri, Dogri and Hindi, which are argued to be an important marker of language variety identification.

The periphrastic expression of Tense (Chapter 7) is also shown to be the basis of the copular forms in predicate nominal constructions in Kangri. The inflectable auxiliaries, which are the tense bearing units of other syntactic constructions, also function as copulas in the predicate nominal and related constructions. The nature of the 'be' verb from which these copula forms derive is examined (Chapter 8) in order to argue that it is not the verb 'be' that functions as the copula in predicate nominal constructions, but rather syntactically and morphologically-distinct inflectable tense auxiliaries. The behavior of these inflectable tense auxiliaries in Kangri bears a striking

resemblance to the corresponding words in English and a re-analysis of similar structures in English is presented.

Chapter 9 discusses various syntactic issues in Kangri, including constituent order of the different phrase types, case marking of grammatical relations, verbal agreement patterns, and several grammatical constructions that are used to express various tense-aspect-mood categories. Primary focus is given to those constructions for which Kangri is different or unique as compared with Hindi.

Chapter 10 discusses Relative Clause formation in Kangri. Special focus is given to the somewhat rare CORRELATIVE PRONOUN strategy used in many Indo-Aryan languages to overcome the CASE RECOVERABILITY PROBLEM (Keenan 1985). The data showing the parallel between relative clause formation for nominal, as well as adverbial, modifiers are also discussed. Finally, the functional motivation for the various orders of relative clause formations are discussed.

CHAPTER 2

PHONOLOGY

This chapter provides a phonological sketch of Kangri. First a summary is presented which is compared with areally and politically-related varieties. This is followed by a section on the different phonological rules that operate in the language. Finally, the data will be cast in the Lexical Phonology framework (Mohanan 1986, Kiparsky 1982, Pulleyblank 1986) to account for the ordering and co-occurrence restrictions of various forms.

2.1 Vowels

The following table shows the summary of Kangri vowel phonemes. [3]

Table 2-1: Kangri Vowel Phonemes

	front (-rd)	central	back (+rd)
high	iː		uː
mid-high	ɪ		ʊ
mid	e	ə	o
mid-low			ɔ
low	æ	ɑː	

There is not a significant difference between the vowel system in Kangri and that of other surrounding Indo-Aryan languages (cf. Masica 1993:110 with regard to

[3] Throughout this study, the International Phonetic Alphabet (IPA) is used for Latin-based representations.

Hindi and Punjabi). Kangri also has a ten vowel system that exhibits nasal contrast. There is a quantitative length difference between adjacent high vowel pairs (e.g. [iː] ~ [ɪ] and [uː] ~ [ʊ]) and the central vowels (i.e. [ə] ~ [ɑː]), but these vowels are also distinguishable on the basis of vowel quality as well, so the length difference is likely an historical left-over from Sanskrit. In the phonetic/surface transcriptions given in this paper, the length will not be shown (e.g. [kiː] will be represented as [ki]).

2.2 Consonants

The following table shows the summary of Kangri consonant phonemes.

Table 2-2: Kangri Consonant Phonemes

		bilabial	dental	alveolar	post-alveolar	retroflex	velar	glottal
voiceless	unaspirated	p	t		t͡ʃ	ʈ	k	
	aspirated	pʰ	tʰ		t͡ʃʰ	ʈʰ	kʰ	
voiced	unaspirated	b	d		d͡ʒ	ɖ	g	
voiceless fricative				s				
voiced fricative								ɦ
nasal		m		n				
lateral				l		ɭ		
flap				ɾ		ɽ, ɽ̃		
approximant					(j)			

The first thing to notice is that Kangri does not have the voiced, aspirated consonant series generally found in Indo-Aryan languages (i.e. /bʱ dʱ d͡ʒʱ ɖʱ gʱ/). Instead, the cognate words in Hindi that have voiced, aspirated consonants are realized phonetically in Kangri as their voiced, *unaspirated* counterparts with tone instead (see

§0). For the same reason, the Hindi consonant phoneme /h/ does not exist in Kangri. Instead, Kangri has a tone producing voiced glottal consonant /ɦ/. This is similar to the situation in Punjabi (Bhatia 1975) and is discussed in Chapter 3 in more detail.

As with Punjabi (Masica 1993, J. C. Sharma 2002), Kangri has a retroflex lateral flap /ɭ/ (e.g. /पीऺला/ [piɭɑ] 'yellow') that is somewhat rare among Northern Indo-Aryan languages. However, Kangri differs from Punjabi in three other typical areal features: 1) Kangri completely lacks the semivowel *[ʊ]; 2) the status of the other common semivowel [j] is in question; and 3) there is only a single sibilant fricative (i.e. [s]).

A few words are in order regarding other existing Kangri descriptions: the phoneme chart shown above is different in a number of places from the phonological summaries for Kangri given by Chauhan (1992) and S. L. Sharma (1974). In most cases the differences are due to regional variations based on the area where the data were collected (i.e. Hamirpur and Sujanpur, respectively, vs. Palampur for this study). For example, in the Palampur variety, cognate words which otherwise would have the semivowel [ʊ] use several different strategies to avoid it.[4] One strategy is to use the phonetically similar consonantal obstruent [b]. For example, the Hindi word [pəʊɪtr̥]

[4] Various scholars analyze the phoneme /ʊ/ differently. Masica (1991:107) represents it as /w/, Shapiro (2003) and Ohala (1999) represent it as /ʊ/. Since the phone in question does not have a velar component, I will follow Shapiro and Ohala. In any case, this phoneme is totally lacking in the dialect of this study.

‘holy’, is pronounced [pəbɪtr] in Kangri, and the Hindi [ʋɪʃʋɑs] ‘belief’, is pronounced [bɪsʊɑs].

In addition to demonstrating the [ʋ] → [b] change, this latter example also demonstrates the other strategy that Kangri uses to avoid the semivowel word-medially, vis-à-vis, [ʋ] → [ʊ]. Kangri speakers in Palampur pronounce this sound as more of a vowel rather than a semivowel.

Regarding the phonemic status of /j/, there are a few words which ambiguously have the [j] sound (e.g. [tjɑr] ‘ready’, [djə̆rdɑ] ‘daytime’). However, these could equally well be analyzed as different palatalized constants (i.e. [tʲɑr] and [dʲə̆rdɑ]). So it is not clear whether this sound exists in Kangri as an independent phoneme. The majority of occurrences of the [j] sound involve a morphophonemically-motivated allomorph of the Perfective Aspect morpheme (see §5.3.4.1), which normally surfaces as a null morpheme, but is realized as [j] between two non-high, non-front vowels (e.g /ro/ ‘cry’ + {Ø → [j]} ‘PERF’ + /ɑ/ ‘ms’, as [rojɑ] ‘he cried’). For Hindi cognate words which have /j/, the Kangri equivalents strenuously avoid it in favor of either: a) nil (cf. Hindi /याद/ [jɑd] ‘memory’ = Kangri /आद/ [ɑd]) or b) the palatal affricate [d͡ʒ] (cf. Hindi /या/ [jɑ] ‘or’ = Kangri /जा/ [d͡ʒɑ]). However, Chauhan (1992:7) lists several words, such as [pɑjɑ] ‘pillar’ and [jɑri] ‘friendship’, which seem to require that /j/ be a bona fide phoneme.

Regarding the voiceless sibilant fricatives, Hindi, for example, has three: /स/ [s], /श/ [ʃ], and /ष/ [ʂ] (Shapiro 2003). When a Hindi word containing one of these phonemes is cognate with a Kangri form, all of these sibilant fricatives reduce to [s]. For example, the Hindi word /भाषा/ /bɦɑʂɑ/ 'language' becomes /भासा/ /bɦɑsɑ/ in Kangri, and the alveolar sibilant in /शरमा/ /ʃərmɑ/ 'feel shy' becomes /सरमा/ /sərmɑ/ in Kangri.

The only other phoneme in Table 2-2 to mention explicitly is /ɽ̃/. This is not specifically unique to Kangri, but it occurs in Kangri much more frequently than in most Indo-Aryan languages. According to Masica (1993) and Shapiro (2003), the underlying phoneme of which this is supposedly just an allomorph, is the retroflex nasal /ɳ/, which comes into Hindi only in Sanskrit borrowings. However, it is not clear that /ɳ/ actually exists as an independent phoneme in Kangri (or Hindi for that matter). It does occur phonetically in contexts involving assimilation with the following consonant (e.g. the Hindi /ʈəNɖ/ [ʈəɳɖ] 'cold' or the Kangri /t͡ʃiNɖɑ/ [t͡ʃiɳɖɑ] 'scream'). But whenever the corresponding orthographic symbol (i.e. /ण/) occurs elsewhere, it really reflects to a nasalized retroflex flap sound (i.e. /ɽ̃/) rather than the retroflex nasal (i.e. /ɳ/). The reason for the confusion is likely due to orthographic bias. The Devanagari character that represents this phoneme is considered a nasal by the orthography: it occurs in the 5th column of the Devanagari syllabary, which corresponds to the nasal

consonants. However, since the pronunciation is really more of a nasalized retroflex flap and the retroflex nasal consonant is clearly an assimilation reflex, the nasalized retroflex flap is assumed to be underlying.

2.3 Phonological Alternations

2.3.1 Consonant Gemination

In most Kangri words, a stem-final consonant will geminate before a suffix-initial vowel. This can be expressed by the following morphophonemic rule:

1. $C \rightarrow CC / V \_ + V$ (Consonant Gemination Rule)

This rule applies regardless of word category. Consider these derivations:

Table 2-3: Derivations involving the Consonant Gemination Rule (CGR)

	Verb		Adjective	Noun
	'arrive'+HAB+fs	'arrive'+PERF+fs	'great'+mns	'messenger'+MOS
Underlying form	/pʊd͡ʒ/ + /d/ + /i/	/pʊd͡ʒ/ + Ø + /i/	/bəɖ/ + /ɑ/	/dut/ + /e/
Gemination rule		d͡ʒd͡ʒ	ɖɖ	tt
Surface representation	pʊd͡ʒdi	pʊd͡ʒd͡ʒi	bəɖɖɑ	dutte
Orthographic representation[5]	**पुजदी**	**पुज्जी**	**बड्डा**	**दूत्ते**

Notice in the second column of Table 2-3 that when the suffix begins with a consonant, the stem-final consonant does not geminate. However, when different

[5] From a purely linguistic perspective, the orthographic representation would normally correlate with the underlying representation rather than the surface representation (i.e. 'great' + mns should be /**बडा**/ /bəɖɑ/ rather than /**बड्डा**/ /bəɖɖɑ/). However, due to sociolinguistic factors—in this case, the widespread use of the Devanagari script in a *phonetic* rather than *phonemic* manner—people prefer that the orthographic representation follow the surface representation instead.

vowel-initial suffixes are joined to consonant-final stems of different word classes, as shown in the other three columns, then the stem-final consonant geminates.

The rule does not apply, however, if the stem-final consonant is a FLAP consonant (i.e. /ɾ/, /ɽ̃/, /l̢/, and /ɽ̢/). Consider these derivations:

Table 2-4: Derivations involving CGR for Stem-Final Flap Consonants

	/ɾ/	/ɽ̃/	/l̢/	/ɽ̢/
	'do' + IMP.PL	'hear' + PERF + ms	'yellow' + fns	'very' + fos
Underlying form	/kəɾ/ + /ã/	/sʊɽ̃/ + Ø + /eɑ/	/pil̢/ + /i/	/bəɽ̢/ + /ɪɑ/
Gemination rule				
Surface representation	kəɾã	sʊɽ̃eɑ	pil̢i	bəɽ̢ɪɑ
Orthographic representation	**करां**	**सुणेआ**	**पील़ी**	**बड़िआ**

On the suffix side, there is another exception: the gemination rule does not apply to vowel-initial DERIVATIONAL suffixes (see §5.2.3.1), even though all such suffixes begin with a vowel. Consider these derivations:

Table 2-5: Derivations involving CGR for Derivational Suffixes

	'cut'+IMP.PL	'cut'+CAUS+INF+ms	'cut'+PASS+INF+ms
Underlying form	/kəɽ̢/ + /ɑ/	/kəɽ̢/ + /ɑ/ + /ɽ̃/ + /ɑ/	/kəɽ̢/ + /o/ + /ɽ̃/ + /ɑ/
Gemination rule	ɽ̢ɽ̢		
Surface representation	kəɽ̢ɽ̢ɑ	kəɽ̢ɑɽ̃ɑ	kəɽ̢oɽ̃ɑ
Orthographic representation	**कट्टा**	**कटाणा**	**कटोणा**

Notice in Table 2-5 that when the vowel-initial suffix is a derivational morpheme (CAUS or PASS), the gemination rule does not operate—even when it involves

the same vowel as an inflectional suffix that triggers the rule (i.e. inflectional, /ɑ/ 'IMP.PL' vs. derivational, /ɑ/ 'CAUS'). The Lexical Phonology framework is used to provide an account of these facts in the next section.

Though it is made clear in the environment of rule (1), the consonant gemination rule also does not apply when the stem-final consonant is part of a consonant cluster (i.e. when the word stem already ends in two consecutive consonants—nominally an obstruent preceded by a homorganic nasal consonant). Consider these derivations:

Table 2-6: Derivations involving CGR for Stem-Final Consonant Clusters

	'distribute' + PERF + ms	'oath' + FOS
Underlying form	/bəɳɖ/ + Ø + /ɑ/	/səgənd/ + /i/
Gemination rule		
Surface representation	bəɳɖɑ	səgəndi
Orthographic representation	**बंडा**	**सगंदी**

These latter two facts (i.e. the effect of derivational morphology and stem-final consonant clusters) also suggest a possible motivation for this gemination rule. It seems to insure that the final syllable of the stem is as heavy as possible. That is, without the gemination, a single stem-final consonant would become the onset to a suffix-initial vowel by the Maximal Onset Principle (Kahn 1976), which would otherwise prefer an onset to a coda (i.e. CVC+V → [CV.CV]). However, by doubling the consonant, the original stem-final consonant will be realized in the coda, closing the stem-final syllable. Then the geminate consonant will be realized in the onset of the syllable in

which the affix vowel is the nucleus (i.e. CVCC+V → [CVC.CV]; cf. Kenstowicz 1994:293). This has the effect of insuring that the stem retains its shape not having lost its final consonant to the suffix, and causing the stem-final syllable to be both heavy and closed. As will be shown in Chapter 4, stress is assigned on the basis of syllable weight, so this rule and its interaction with stress assignment is taken up further in §4.4.

Finally, it should be noted that there are a few residual words, such as /मता/ /mət + ɑ/ [mətɑ] 'many', for which the gemination rule does not apply; though it is not clear why. Perhaps it is a recent innovation that has not fully spread throughout the lexicon or that it is beginning to disappear due to pressure from surrounding varieties which do not exhibit this rule. Another possible explanation in this particular case is that perhaps the gemination rule does not apply when there is a phonetically similar word that needs to be distinguished. In this case, there is a Biblical name /मत्ती/ /mətti/ 'Matthew' that has the double consonant underlyingly. So perhaps the gemination rule does not apply to the adjective 'many' (which has the form /मती/ /məti/ when preceding a feminine noun) to distinguish it from this perceptually similar name.

2.3.2 Flap Reduction

In Kangri, the second flap consonant in a two-flap sequence is reduced. There is one suffix which begins with the flap consonant /ण/ /ɽ̃/ in Kangri; the infinitive (INF) morpheme. When a verb stem ends in one of the flap consonants (FC = {/ɾ/, /ɽ̃/, /ɭ/, /ɻ/}

and the INF suffix is adjoined, then the flap consonant in the suffix will be changed to the alveolar nasal consonant, /**न**/ [n].[6] This can be expressed by the following rule:[7]

2. /ɽ̃/ → [ən] / FC + _ # (Flap Reduction Rule)

Consider these derivations:

Table 2-7: Derivations Involving the Flap Reduction Rule

	'do' + INF + ms	'hear' + INF + ms	'hear' + CAUS + INF + ms
Underlying form	/kəɾ/ + /ɽ̃/ + /ɑ/	/sʊɽ̃/ + /ɽ̃/ + /ɑ/	/sʊɽ̃/ + /ɑ/ + /ɽ̃/ + /ɑ/
Flap Reduction rule	n	n	
Surface representation	kəɾnɑ	sʊɽ̃nɑ	sʊɽ̃ɑɽ̃ɑ
Orthographic representation	**करना**	**सुणना**	**सुणाणा**

Notice in Table 2-7 that when two flap consonants occur consecutively, the second one is changed to /n/. This is likely motivated by the difficulty involved in pronouncing two flap consonants consecutively. However, as the last column shows, when some phonological material intervenes (in this case, the CAUS suffix /ɑ/), both flap consonants survive.

This rule has an interaction with another rule not yet discussed. In chapter 3, the analysis of Kangri Tone will be presented. In that analysis, it will be shown that the underlying phoneme /ɦ/ is changed into a low tone (L) when it occurs non-word-

[6] If the resulting nasal is word-final, then it will also be syllabic (i.e. [n̩]).

initially. This low tone rule is ordered before (and in certain cases, feeds) the Flap Reduction Rule.

Specifically, there is a verbal suffix which contains a /ɦ/ before a flap consonant (i.e. /ɦɽ̃/ 'pl:SUBJ'). When this suffix is joined to a verb stem that ends in a flap consonant, the Flap Reduction Rule still applies. Consider these derivations:

Table 2-8: Ordering of the Tone and Flap Reduction Rules

	'go' + pl:SUBJ	'hear' + pl:SUBJ
Underlying form	/d͡ʒa/ + /**ɦ**ɽ̃/	/sʊɽ̃/ + /**ɦ**ɽ̃/
Tone rules (see Chapter 3)	â **Ø**	û **Ø**
Flap reduction rule		n̩
Surface representation	d͡ʒâɽ̃	sûɽ̃n̩
Orthographic representation	**जाहूण**	**सुहूणन**

Notice in the final column of Table 2-8 that the Flap Reduction rule operates even though underlyingly there is an intervening segment (i.e. /ɦ/). This suggests that the tone rules, which affects the suffix-initial /ɦ/, must operate before the Flap Reduction rule. Also notice in the last column that if the reduced nasal is word-final, then it is syllabic as well (as mentioned in footnote 6).

[7] Since there is only one flap consonant that ever occurs in a suffix (i.e. /ɽ̃/ 'INF'), it is not clear if this formulation could be made more generic.

2.3.3 Homorganic Nasal Epenthesis

When an obstruent-initial suffix is adjoined to a vowel-final stem, a nasal consonant at the same point of articulation is inserted just prior to the obstruent. This can be expressed by the following rule:

3. Ø → [+nasal, α place] / V _ + [-cont, α place] (Homorganic Nasal Epenthesis)

There are 4 suffixes in Kangri which begin with one of two voiced obstruent consonants that trigger this rule. They are:

Table 2-9: Obstruent-Initial Suffixes in Kangri [8]

/द/ /d/	'HAB' (habitual aspect)
/द/ /d/	'IMP.INSTR.INT' (intimate instructional imperative) [9]
/द/ /d/	'ADVR' (adverbializer) [10]
/ह़ग/ /ɦg/	'FUT' (future tense).

The operation of this rule is shown by the following derivations:

[8] Though these are all voiced obstruents, it is not clear if a voicing specification is required for this rule. There are no non-voiced obstruent-initial suffixes in Kangri.

[9] It is possible that this imperative suffix (which only occurs in negative polarity imperatives—e.g. "do*n't* come") is the same morpheme as the homophonous HAB (habitual aspect) morpheme, in which case it could be said that the intimate instructional imperative is expressed by the habitual aspect form of the verb, along with a negative word.

[10] This morpheme is also homophonous with the HAB morpheme, and since the equivalent constructions in Hindi is formed from the imperfective participle (i.e. participial form involving the habitual aspect morpheme—cf. Smith 1946), there's good reason to suspect that this morpheme also is the same habitual aspect morpheme. In that case, there are only two morphemes that begin with obstruent consonants: HAB and FUT.

Table 2-10: Derivations involving the Homorganic Nasal Epenthesis Rule

	'go'+HAB+ms	'go'+FUT+ms	'cut'+CAUS+FUT+ms
Underlying form	/d͡ʒɑ/ + /d/ + /ɑ/	/d͡ʒɑ/ + /ɦg/ + /ɑ/	/kəʈ/ + /ɑ/ + /ɦg/ + /ɑ/
Tone rules (see chap 3)		â Ø	â Ø
Homorganic nasal epenthesis	n	ŋ	ŋ
Surface representation	d͡ʒɑndɑ	d͡ʒâŋgɑ	kəʈâŋgɑ
Orthographic representation	जांदा	जांह़गा	कटांह़गा

Notice from Table 2-10 that when the stem ends in a vowel, then a nasal consonant at the same point of articulation as the following consonant is inserted. Also notice that this epenthesis rule must be ordered after the tone rules as well, so that—in the case of the future (FUT) tense morpheme—the /ɦ/ has already been changed into a tone in order to feed this rule. Finally, notice that all the different homorganic nasal consonants are represented in the orthographic forms by the same ANUSVAR[11] diacritic (i.e. /◌̇/) above the stem-final vowel.

2.3.4 Vowel Lowering

The mid-front vowel /e/ is lowered and nasalized resulting in the form [ɛ̃] when it follows a nasal or nasalized consonant. It is even possible for there to be an intervening vowel and the rule will still apply. This can be expressed as (where N represents any nasal or nasalized consonant):

4. /e/ → [ɛ̃] / N (V) _ (Vowel Lowering Rule)

Consider these derivations:

Table 2-11: Derivations involving the Vowel Lowering Rule

	'house' + MOS	'tell' + INF + ms	'water'+ MOS
Underlying form	/pərdes/ + /e/	/səɽa/ + /ɽ̃/ + /e/	/paɽ̃/ + /ɪe/ [12]
Vowel lowering rule		ɛ̃	ɛ̃
Gemination rule [13]	ss		
Surface representation	pərdesse	səɽaɽ̃ɛ̃	paɽ̃ɪɛ̃
Orthographic representation	परदेस्से	सणाणैं	पाणिऐं

Notice in Table 2-11 that when the word stem ends in /s/, a suffix vowel /e/ is not changed by the Vowel Lowering rule (cf. column 2). Column 3 shows an example where the first order suffix (i.e. INF) is a nasalized consonant and so the following gender-number agreement suffix /e/ is changed to [ɛ̃] by the Vowel Lowering Rule. The final column demonstrates how the rule operates with the masculine, oblique, singular (MOS) morpheme and shows that intervening vowels are transparent as far as the Vowel Lowering Rule is concerned.

2.4 Lexical Phonology

Indo-Aryan languages in general have had a long tradition of distinguishing a hierarchy of morphology (cf. Panini), because they generally are very rich in both inflectional and derivational morphological processes (Mohanan 1986:15). In the analysis given above, it was made clear that ordering of certain rules is required in order to account for the application of some of the phonological rules in certain environments

[11] The anusvar diacritic is used to represent homorganic nasals in Hindi as well (cf. McGregor 1997).
[12] This is an alternate allomorph of the MOS morpheme for masculine class II nouns, whose nominative singular form ends in /ी/ /i/ (see §6.1.1).
[13] There is no apparent rule ordering between the vowel lowering rule and the gemination rule.

and not others. However, instead of simply ordering the rules, it will be useful to look at the data in the framework of Lexical Phonology (Kiparsky 1982, Mohanan 1986, Pulleyblank 1986) which can profitably be used to account for several additional features of Kangri phonology, as well as Indo-Aryan languages generally.

The theory of Lexical Phonology posits that phonological rules operate in two distinct components of a language's grammar: the LEXICON and the SYNTAX components.[14] The rules which operate in the lexicon are involved in word-formation and are assumed to apply cyclically and in several different stages. The following figure shows the relationship between these different components (from Pulleyblank 1986):

[14] There is some controversy on this point between different scholars. Some (Pesetsky 1979; Kiparsky 1982) suggest that there are two separate sets of phonological rules: lexical and postlexical. By contrast, Mohanan (1982) talks about lexical and postlexical *domains of rule application*. While it may be true that a particular rule only applies postlexically (a.k.a. a postlexical rule) or lexically (a.k.a. a lexical rule), this approach leaves it open for rules to possibly operate at both levels. The discussion here follows Mohanan (1982, 1986) and Pulleyblank (1986).

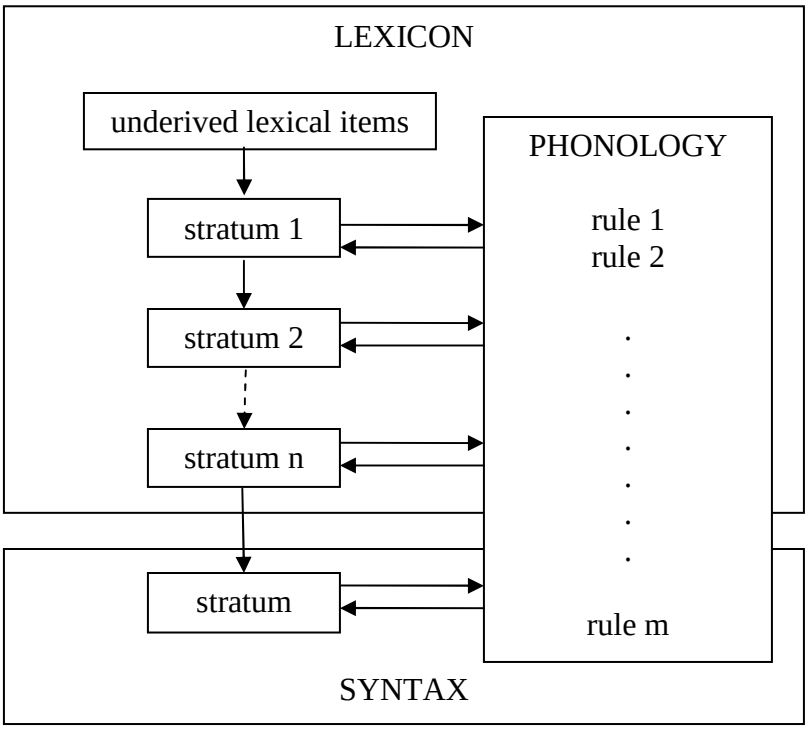

Figure 2-1: Model for Lexical Phonology

The salient features of the framework for this study are:

- The Lexicon contains multiple levels or strata. These different strata can account for the ordering of different affix types (e.g. derivational vs. inflectional), as well as the ordering of phonological rules.
- The application of some or all of the phonological rules occurs in each stratum; not just to the output of the syntactic component (cf. Chomsky & Halle 1968).
- There are not two distinct sets of phonological rules that operate differently in the lexicon vs. the syntax components. As suggested by Figure 2-1, the single PHONOLOGY component spans both the Lexicon and the Syntax module, and the rules are considered to be shared between them.
- However, it may be the case that a particular phonological rule applies only in certain strata and not others. It is argued that if a rule applies in multiple

strata, they must be contiguous. That is, you shouldn't get a rule which operates in strata 1 and 3, but not 2.

- The affixation and phonological rule application within a stratum are considered to be cyclical. So that if several affixes are adjoined within a particular stratum, the phonological rules apply after each affixation and the stratum may be reentered. However, once a word leaves a stratum, then it may not return to an earlier stratum.
- Upon leaving a stratum, any internal boundaries are erased so that subsequent strata deal only with the entire output of the previous stratum. This is known as BRACKET ERASURE and greatly constrains the power of phonological rules by not allowing them to refer to word-internal junctures. In this way, rules which need to appeal to word-internal boundaries are, by definition, rules of the lexical phonology.
- Mohanan (1982) suggests that there is a correlation between a rule referring to a word-internal boundary and its ability to have lexical exceptions. Therefore, he argues, only lexical rules may have exceptions.

In this framework, the observation that different morphemes can trigger different phonological rules can be expressed concisely if we assume that the different morpheme types are associated in the different strata of the lexicon.

As an example, consider Siegel's (1974, 1977) observations on English affixes. She notes that suffixes like *-ity*, *-ic*, *-ion*, *-al*, etc., (which she calls CLASS I affixes) always occur inside (i.e. closer to the root) than suffixes like *-ness*, *-less*, *-hood*, *-ful*, etc. (which she calls CLASS II affixes). For any given word in English you can get multiple suffixes of the same class. So, for example, you can get a word with two class I suffixes like, univers-*al*-*ity*, or a word with two class II suffixes like, beauti-*ful*-*ness*.

You can also get words with a class II suffix following one or more class I suffixes (e.g. univers-*al*-*ness*). But you cannot get a class I suffix attached to a word stem that already has a class II suffix (e.g. *bounty-*full*-*ity*, *piti-*less*-*al*). This difference can be accounted for by assuming that class I affixes are attached to a word in an earlier stratum in the lexicon than class II affixes.

Now returning to Kangri, we can look at the various morphophonological alternations in terms of phonological rules and lexical strata. It can now be argued that the causative and passive morphemes discussed above in relation to the Consonant Gemination Rule (see §2.3.1) are adjoined to a verb root in an earlier stratum (say, stratum 1) of the lexicon. The other Aspect-Mode INFLECTIONAL affixes, then, are adjoined during a subsequent stratum (say, stratum 3, because later we will need an intermediate stratum for compounding). This will insure that the causative and passive (i.e. derivational) affixes are always closer to the verb root than inflectional affixes, as well as explain the behavior of the Consonant Gemination Rule. Its domain of rule application will be stratum 3 and beyond, which prevents it from operating on derivational and compounding affixes (see §4.4). This allows us to recast the above rules as follows:

Table 2-12: Kangri Phonological Rules in the Lexical Phonology Framework

Name	**Rule**	**Domain of Application**
Consonant Gemination Rule	C → CC / V _] V	Stratum 3
Homorganic Nasal Epenthesis Rule	Ø → N/ V _] O	Stratum 3
Flap Reduction Rule	/ɽ̃/ → [n] / FC _	All
Vowel Lowering Rule	/e/ → [ɛ̃] / N (V) _	All

As will be discussed in the next two chapters, the rules involving tone and stress assignment can also be usefully stated in this Lexical Phonology framework, which is consistent with Kiparsky's findings (1982:33) that stress assignment is sensitive to lexical categories for German, French, Tiv and Hebrew.

CHAPTER 3

KANGRI TONE

> In the Beginning was the Sino-Tibetan monosyllable, arrayed in its full consonantal and vocalic splendor. And the syllable was without tone and devoid of pitch. And monotony was on the face of the mora. And the Spirit of Change hovered over the segments flanking the syllabic nucleus.
> And Change said, "Let the consonants guarding the vowel to the left and the right contribute some of their phonetic features to the vowel in the name of selfless intersegmental love, even if the consonants thereby be themselves diminished and lose some of their own substance. For their decay or loss will be the sacrifice through which Tone will be brought into the world; that linguists in some future time may rejoice."
> And it was so. And the Language saw that it was good, and gradually began to exploit tonal differences for distinguishing utterances–yea, even bending them to morphological ends. And the tones were fruitful and multiplied, and diffused from tongue to tongue in the Babel of Southeast Asia.
> –Matisoff (1973)

3.1 Tone languages

Yip (2002) distinguishes between several types of languages related to the question of tone: One type is LEXICAL TONE LANGUAGES, such as Chinese and Thai. For this type of language, each syllable, or more specifically, each tone bearing unit (TBU), is assigned a tone in the lexicon which affects the meaning of a word. The classic Mandarin example of this is the syllable /ma/ on which 5 different tones occur producing 5 distinct words:

Table 3-1: Minimal Pairs in Mandarin based on Tone

mā	high level (a.k.a. 5-5)	'mother'
má	high rising (a.k.a. 3-5)	'hemp'
mǎ	low falling-rising (a.k.a. 2-1-4)	'horse'
mà	high falling (a.k.a. 5-1)	'scold'
ma	neutral (a.k.a. 3-3)	YNQ

A second type—often confused with lexical tone languages—is STRESS LANGUAGES. Yip gives the example (2002:3) of the English words *glitter* and *guitar* which have stress on the first and second syllables respectively. Compare these two sentences involving the word *guitar*:

5. *Tom's just bought himself a guitar.*
6. *A guitar? I thought he played the drums.*

Yip points out that in the declarative statement in (5), the second syllable of the word *guitar* will have a high falling tone (i.e. [gɪ.t^{h}ûr]). By contrast, if the speaker of (6) is incredulous about the statement in (5), then the word *guitar* will have a low pitch on the first syllable, which rises into the second syllable (i.e. [gì.t^{h}ǔr]). This shows that the pitch associated with the second syllable does not remain constant, but rather it is the syllable which attracts the intonational pitch. For *glitter* the effects are similar, but it is the first syllable which attracts the intonational pitch, showing that it is the stressed syllable.

A third type of language related to tone is what are known as ACCENTUAL LANGUAGES. Accentual languages have lexical tone, but they differ from more

prototypical tone languages in that there are usually only a few contrasting tones which do not necessarily occur on every syllable or even in every words. The tones usually belong to specific syllables within the word from which they are often inseparable.

3.2 Tone in Kangri

Much of the existing literature regarding tone in Punjabi, Kangri, and Dogri seems to characterize it as a lexical tone language like Mandarin. However of the three types of languages discussed by Yip, this present study argues that Kangri behaves more like an accentual language. Kangri has one level tone and two contour tones. The level tone is overwhelmingly the default tone for Kangri syllables. In my lexicon of 1992 lexemes in Kangri, only 498 (25%) have a contour tone in them, whereas the other 1496 lexemes (75%) have only the level tone on all syllables. Furthermore, even when a word has a contour tone in it, the tone always occurs on the stressed syllable. The fact that there are only a few tones that are both sparsely distributed and tied to a specific (stressed) syllable suggests that Kangri fits the pattern of an accentual language.

Palampuri Kangri is especially useful for study because the TONOGENESIS process appears to be more recent than in Punjabi and can shed light on the diachronic process that has led to tone in these languages. However, before looking at the Palampuri Kangri data, first a look at one of the existing analyses of Kangri tone:

S. L. Sharma (1974), Chauhan (1992), S. R. Sharma (1998), all describe Kangri as having 3 tones: high-falling, low-rising, and level. Chauhan, for example, suggests that the three tones are phonemic, as shown by the contrast in the following minimal pairs:

Table 3-2: Minimal Pairs in Kangri based on Tone (Chauhan 1992:12)

ê	high-falling	'this one'
ĕ	low-rising	'(they) are' [15]
e	level	'this'

Though he does not say it explicitly, by characterizing the tone in this way (i.e. three distinct, phonemic tones), Chauhan is effectively arguing that Kangri is a lexical tone language. By contrast, the present study argues that there are no phonemic tones and no lexical specification for tone on tone bearing units. Instead, the tone is argued to be completely predictable based on an allophonic alternation of the phoneme /ɦ/. First, consider the distribution of /ɦ/:

The variety of Kangri spoken in Palampur, Himachal Pradesh is slightly different from that described in Chauhan (1992). In that work, he argues that there is no surface [h] sound in Kangri. However, in Palampur, the [h] phone still exists in the word-initial environment, as these words show:

Table 3-3: Words with an explicit [h] phone in Palampuri Kangri

[h-æ]	'PRES-sg'
[h-ən]	'PRES-pl'
[həkk]	'justness'
[hətt^{h}]	'hand'

[15] The form given here should be singular. It is likely that he meant, '(he/she) is' rather than '(they) are'.

In terms of distribution, however, the [h] phone never occurs non-word-initially. As discussed in §2.1, Kangri does not have a phoneme /h/. To account for the [h] sound, it is argued that a devoicing rule operates on the phoneme /ɦ/, producing [h] in the word-initial environment.[16]

When the underlying /ɦ/ phoneme occurs elsewhere in the word, it surfaces as one of two contour tones rather than [h], as the following table shows:

Table 3-4: Kangri Words with Tone

/ɦ/ After a Vowel (=high-falling tone)	**/ɦ/ Before a Vowel (=low-rising tone)**
/एहू/ /eɦ/ [ê] 'PRX:3:N'	/भरना/ /bɦərnɑ/ ['bə̆r.nɑ] 'to fill'
/तांहू/ /tãɦ/ [tẫ] 'this direction'	/प्हाड़/ /pɦɑɽ/ [pə̆ɽ] 'mountain'
/रेहूआ/ /ɾeɦɑ/ ['ɾê.ɑ] 'lived (ms)'	/म्हारा/ /mɦɑɾɑ/ ['mə̆.ɾɑ] 'our (ms)'
/कदेहूआ/ /kədeɦɑ/ [kə.'dê.ɑ] 'what kind of'	/न्हाळना/ /njɦɑɭɳɑ/ ['njə̆ɭ̣.nɑ] 'to wait'
/इंहूआं/ /ĩɦɑ̃/ ['ĩ̂.ɑ̃] 'this way'	/बेस्हारा/ /besɦɑɾɑ/ [be.'sə̆.ɾɑ] 'unsupported'
/किंहूआं/ /kĩɦɑ̃/ ['kĩ̂.ɑ̃] 'what way'	/ब्हाणा/ /bɦɑɳɑ/ ['bə̆.ɳɑ] 'to cause to flow'

In Table 3-4, all the words on the left have the /ɦ/ occurring after a vowel and correlate with a high-falling tone on that vowel, while all the words on the right have the /ɦ/ occurring before a vowel (and after another consonant) and correlate with a low-rising tone on the vowel.

[16] In fact, though, the *voiced* glottal consonant never surfaces (i.e. there is no [ɦ]). So positing an underlying /h/ could potentially be less problematic. However, since it is normally *voiced* consonants which correlate with low tone (Hyman 1973), it seemed more likely that this tone-generating consonant is underlyingly voiced. See also Bhatia (1975) for a similar analysis.

And herein lies the benefit of studying the Palampur variety: it still has vestiges of the source of tone, which not only gives us a clue to the genesis of tone in these languages, but also allows for a different analysis of tone that, while still *lexical*, does not involve *phonemic* tone, thereby reducing the total inventory of phonemic elements.

Under Chauhan's account, the phonemic inventory lacks the /ɦ/ (and /h/) phonemes, but includes three lexical tones. In the analysis presented here, the phoneme /ɦ/ does exist, but can be used to account for the [h] phone in the word-initial environment, as well as both the low-rising and high-falling tones.

Furthermore, in this analysis, no tone bearing units need have a lexical specification for tone, as is the case with lexical tone languages, since the tone is argued to be an allophonic alternation of the phoneme /ɦ/ in different environments. Specifically, the phonetic (or perhaps, *tonetic*) alternation can be expressed by the following pseudo-allophonic rule:

7. /ɦ/ → [h] / # _ (Allophonic Alternation of /ɦ/)
→ [v̂$_i$] / v$_i$ __
→ [v̌$_i$] / C _ v$_i$

This rule indicates that there are three alternations for /ɦ/: first, it surfaces as [h] when it occurs word-initially (e.g. /हन/ [**h**-ən] 'PRES-pl'). The other two alternations are allotones: the second row indicates that /ɦ/ surfaces as a high falling tone on a vowel

when it follows that vowel (e.g. /सैह़/ /sæɦ/ [sæ̂] '3:NOM'). The final row indicates that /ɦ/ surfaces as a low-rising tone on a vowel when it occurs before that vowel and after a consonant (e.g. /न्हौणा/ /nɦɔɽ̃ɑ/ [nɔ̆ɽ̃ɑ] 'to bathe'). In this analysis, then, the "overwhelmingly default" mid-level tone mentioned above is simply the result of a default rule inserting mid-tone on any syllable that has no adjacent /ɦ/.

The following table shows the derivation of three different Kangri words in each of the unique environments in which the /ɦ/ phoneme may occur (i.e. the three environments of the Allophonic Alternation of /ɦ/ Rule in (7)):

Table 3-5: Derivation of Words Affected by the Allophonic Alternation of /ɦ/ Rule

	/ # __	/ V__	/ C__V
Underlying form	/ɦ-ən/ PRES-pl	/sæɦ/ 3.NOM	/nɦɔŋɑ/ 'to bathe'
Allophonic Alternation of /ɦ/	**h**	æ̂**Ø**	**Ø**ɔ̆
Surface form	[hən]	[sæ̂]	[nɔ̆ŋɑ]
Orthographic form [17]	**हन**	**सैह़**	**न्हौणा**

[17] Notice in the Orthographic forms that when /ɦ/ surfaces as [h], the standard Devanagari letter, /**ह**/, is used. However, when it surfaces as a tone in the latter two columns, the same Devanagari letter is used, but it occurs with the NYUKTA diacritic (i.e. the dot below the symbol: /़/). The nyukta is used in the Hindi orthography as a diacritic on Persian-derived words to represent sounds that are not native to Hindi and are slightly different than what the base character otherwise represents (e.g. /**फ**/ = [p^h], but with the nyukta, /**फ़**/ = [f]). From a purely linguistic point of view, there is no overriding reason to use a different letter or symbol to represent these different sounds since they are all allotones of the same underlying phoneme. However, given the history of the Devanagari script being considered a *phonetic* writing system, the language consultants that collaborated in this study preferred to show the difference by using the nyukta diacritic for the occurrences representing tones.

Returning to Chauhan's minimal pairs, then, this analysis suggests a different underlying form for the three words that does not involve phonemic tones:

Table 3-6: Chauhan's Minimal Pairs Reinterpreted

/eɦ/ [ê] 'this one'	high-falling
/ɦe/ [ě] '(they) are'	low-rising [18]
/e/ [e] 'this'	level

Notice that these words have minimally different surface representations. However, they also have different underlying forms that predictably produce the corresponding surface forms on the basis of the Allophonic Alternation of /ɦ/ Rule (suitably modified for Chauhan's dialect—see footnote 18).

Therefore, the source of the tone is *lexical*, in the sense that the presence of the underlying phoneme /ɦ/ is required in a specific segmental position in order to generate the proper tone, but the tones themselves are not *phonemic*.

This analysis, then, reduces the phonemic inventory so that there are *no* tonemes and only a single consonant phoneme /ɦ/ to account for the word-initial [h] phone as well as the two non-default contour tones in Kangri.

[18] Notice that the low-rising tone form here does not properly fit the environment of the Allophonic Alternation of /ɦ/ Rule. This is because the /ɦ/ phoneme—while being before a vowel—is *not* after a consonant, as required by (7). In fact, in Palampuri Kangri, this word does not have tone and is pronounced [hæ], which is consistent with (7). The discrepancy is due to the fact that the Allophonic Alternation of /ɦ/ Rule operates differently in Chauhan's dialect as compared with the Palampuri variety. In Chauhan's dialect, there is no surface [h], and therefore the rule reduces to a binary alternation: if /ɦ/ is after a vowel, then it generates a high-falling tone; otherwise it generates a low-rising tone.

This analysis is supported by the fact that many Kangri writers (P. Gulari, B. S. Thakur p.c.) mark the tone with the orthographic symbol for /ɦ/ followed by a HALANT[19] (i.e. ह्). That is, they think of the tone sound as "half an h", which highlights the correspondence in speakers' minds between /ɦ/ and tone.

3.3 Voiced, Aspirated Consonants

Most of the surrounding language varieties (including Kangri) lack voiced, aspirated obstruents (J. C. Sharma 2002, Masica 1993). Hindi cognate words which have a voiced, aspirated obstruent (or /h/) become tonal in these languages.

The following table shows the correspondences of voiced, aspirated consonants in Hindi, Kangri, and Punjabi/Dogri:

Table 3-7: Voiced Aspirates in Hindi, Kangri, and Punjabi/Dogri

Orthographic Symbol	Hindi	Kangri	Punjabi/Dogri
भ	[bʰə]	/bɦə/ [bə̆]	/bɦə/ [pə̆]
ध	[dʰə]	/dɦə/ [də̆]	/dɦə/ [tə̆]
झ	[d͡ʒʰə]	/d͡ʒɦə/ [d͡ʒə̆]	/d͡ʒɦə/ [t͡ʃə̆]
ढ	[ɖʰə]	/ɖɦə/ [ɖə̆]	/ɖɦə/ [ʈə̆]
घ	[gʰə]	/gɦə/ [gə̆]	/gɦə/ [kə̆]

[19] Devanagari consonant symbols have an implicit schwa vowel associated with them (e.g. /ह/ = [hə]). The HALANT (i.e. ्) is an orthographic diacritic used to suppress the implicit schwa (i.e. /ह्/ = [h], rather than [hə]).

Notice in Table 3-7 that the aspiration (i.e. /^{h}/) from Hindi has the form /ɦ/ in Kangri and Punjabi/Dogri.[20] This distinction is important, because the latter is a source of the tone in these languages, while the aspiration is not. This can be seen in that voiceless, aspirated consonants do not have tone, such as, /फूल/ /p^{h}ul/ [p^{h}ul] 'flower'.[21]

Another difference to note between Kangri and Punjabi/Dogri is that these forms surface as *voiced* consonants in Kangri, but *voiceless* consonants in Punjabi/Dogri. That is, Kangri has lost the aspiration (in gaining tone), but Punjabi/Dogri has lost both aspiration and voicing.

It is likely that these are separate innovations which originated in the West (Punjab or Jammu & Kashmir) and have spread outwards. The loss of aspiration (and gaining of tone) has been fully realized in all three languages, but the loss of voicing has not yet reached Kangri.[22]

3.4 Tone Association

As mentioned in §3.2, only about one-quarter of the words in my lexicon have a contour tone. Of those, most can be accounted for by the Allophonic Alternation of /ɦ/

[20] The reason that the underlying form of these consonants is represented with the full segmental /ɦ/ rather than /^{ɦ}/ is because the form /g^{ɦ}/ never surfaces in Kangri and because there are other consonants with which the tone letter can similarly associate, which are otherwise not considered aspirated (e.g. /न्हुआर/ /nɦʊɑr/ 'likeness'; not /*n^{ɦ}ʊɑr/). In this analysis, there are no underlying phonemes for the voiced, aspirated forms in Kangri, Punjabi or Dogri, and the historical/cognate /g^{ɦ}/ is assumed to have become /gɦ/ diachronically.

[21] It is possible to get the tone with an unaspirated consonant (e.g. /प्हाड/ /pɦɑɖ/ [pɑ̌ɖ] 'mountain'), but it is a result of the voiceless consonant (i.e. /p/) followed by the underlying /ɦ/ rather than aspiration.

[22] Though, see S. L. Sharma (1974) for an analysis which argues for the loss of voicing in Kangri as well. His data is from a variety of Kangri further west than the data presented here.

Rule given in (7) above. However, as Bhatia (1975) points out regarding Punjabi, there are words whose surface tone argues against the allophonic interpretation given above. For example, consider the following words in which the tone does not occur as one would otherwise expect from the preceding discussion.

Table 3-8: Kangri Words with Unexpected Surface Tone

समझ़ा 'understand-IMP.IMM.PL'	भ़रोणा 'fill-PASS-INF-ms'	रुह़ानी 'spiritual-FNS'
/səmd͡ʒɦ/ + /ɑ/	/bɦər/ + /o/ + /ɽ̃/ + /ɑ/	/rʊɦɑn/ + /i/
/səmd͡ʒɦɑ/	/bɦəroɽ̃ɑ/	/rʊɦɑni/
['sə̂m.d͡ʒɑ]	[bə.'rŏ.ɽ̃ɑ]	[rʊ.'ă.ni]

In the first word (i.e. /səmd͡ʒɦɑ/ → ['sə̂m.d͡ʒɑ]), the /ɦ/ occurs in an environment which should have triggered a low rising tone on the vowel of the second syllable (i.e. due to its environment between the consonant /d͡ʒ/ and the following vowel—see Allophonic Alternation of /ɦ/ Rule in (7)). This should have resulted in the surface form [*səmd͡ʒă]. But instead, the tone surfaces on the vowel of the first syllable. Since this word is cognate with the Hindi, **समझिए** [səmd͡ʒʰɪe], where the aspiration is clearly following /d͡ʒ/, there is no reason to suspect that the /ɦ/ is underlyingly in the position that would otherwise be needed to trigger the surface form as shown above (i.e. /*səɦmd͡ʒɑ/).

In the second word (i.e. /bɦəroʇɑ/ → [bə.'rŏ.ʇɑ]), the /ɦ/ also occurs after a consonant and before a vowel, which ought to have become a low rising tone on the first vowel (i.e. [*bə̌.ro.ʇɑ]). Instead, the tone surfaces unexpectedly on the vowel of the second syllable. Again, since this word is morphologically-related to the non-passive form भरना /bɦərʇɑ/ 'to fill', there is no reason to think that it has the underlying form which would give the proper surface form according to (7) (i.e. /*bərɦoʇɑ/).

Finally, in the third word (i.e. /rʊɦɑni/ → [rʊ.'ă.ni]), since the /ɦ/ follows a vowel, according to (7), it should have become a high-falling tone on that (preceding) vowel (i.e. [*rû.'ɑ.ni]). Instead, it surfaces as a low-rising tone on the following vowel (i.e. [rʊ.'ă.ni]), which is normally only allowed when it follows a consonant. In these examples, it is as if the underlying /ɦ/ (or the low tone resulting from it) has shifted position at some stage of derivation and has become associated with another syllable in the word than what we expect from the Allophonic Alternation of /ɦ/ Rule above.

To account for these forms, notice that in each case, the contour tone ends up on the stressed syllable. In an earlier analysis (Eaton 2007), it was mistakenly suggested that the contour tone always associates with the stem-final syllable. Further analysis proved that though the stem-final syllable is most often the stressed syllable, it is more complete to say that the tone always occurs on the *stressed* syllable rather than the stem-final syllable.

Additionally, appealing to speakers' perceptions, as my Kangri language consultants got more and more experience writing Kangri and especially Kangri tone, they preferred to write the orthographic symbol for /ɦ/ in the stressed syllable where the tone actually occurs rather than where it is underlyingly (e.g. /**सहूमजा**/ /sə**ɦ**mdʒ͡ɑ/ 'understand!' instead of what would clearly be the underlying form /**समज्हा**/ /səmdʒ͡**ɦ**ɑ/). This suggests that in their minds, the /ɦ/ is associated with the stressed syllable at least in some level of representation. [23]

Autosegmental phonology (Goldsmith 1976) has long been used to provide an analysis of tonal systems. In this framework, tones are assumed to be ordered on a separate tier from the consonant and vocalic segments and the mapping of tones is accomplished by ASSOCIATION LINES that link tones on the tonal tier with tone bearing units on the segmental tier. Williams (1971), for example, proposed that tones from the tonal tier are assigned to syllables on the segmental tier in a one-to-one, left-to-right fashion. If there are more tones than syllables, the extra tones would associate with the final syllable creating a contour tone (depending on language specific rules). If there are more syllables than tones, then the final tone would be spread to the remaining syllables of the word. Another crucial constraint proposed by Goldsmith is that association lines are not allowed to cross.

[23] See also footnote 5 and 17, where it was noted that speakers prefer to use Devanagari in a phonetic rather than phonemic manner.

Many modifications to this idea have been added since Williams and Goldsmith to account for various observed behaviors, such as noting that tone mapping in some languages may be sensitive to syllable quantity effects, such as tones associating to multiple MORAE in a single syllable rather than one-to-one on a syllable basis.

To provide an Autosegmental analysis for Kangri tone and handle the directionality issues discussed above, first recall that the tones in Kangri always associate with the stressed syllable only. This means that in Kangri the only tone bearing units are stressed syllables:

8. TBU = { $\sigma_{[+stress]}$ }

Next, it is argued here that the contour tones are formed by the combination of two level tones: a high and a low tone, the latter of which is the result of the underlying /ɦ/.

Formally, this can be expressed by the following rules: first, a rule to add a high tone (H) to the stressed syllable:[24]

9. H (High Tone On Stressed Syllable Rule)
⋮
σ́

With this rule, we can then reformulate the Allophonic Alternation of /ɦ/ Rule in (7) above as follows (where L stands for a low tone):

10. /ɦ/ → [h] / # _
→ L / elsewhere

That is, whenever /ɦ/ occurs word-initially, it surfaces as [h], and when it occurs non-initial, it becomes a low tone (L).

The glottal and laryngeal effects of consonants have long been known to correlate with differences in pitch (Hyman 1973; Hombart 1978; Silva 2006). Voiced consonants, especially, are known to correlate with low tone. Since the low tone side of both contour tones corresponds to the side of the vowel that the /ɦ/ phoneme occurs, one could consider /ɦ/ to simply be a pitch depressor (Matisoff 1973, J. Ohala 1973).

Next, the low tone resulting from the underlying /ɦ/, will associate with the same stressed syllable:

11. L (Low Tone On Stressed Syllable Rule)
⋮
σ́

Note that by the time this rule operates, the stressed syllable already has a high tone associated with it (via (9)). Therefore, the association resulting from (11) will be to one side or the other of the existing high tone depending on which side of the nucleus the underlying /ɦ/ was originally located, as this figure shows:

[24] Since one of the well-known phonetic correlates of stress is increase pitch, this is not an obscure rule. What might be unusual, however, is the fact that this rule must precede the subsequent rule involving the low tone. This order is required to produce the proper contour.

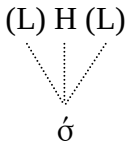

Figure 3-1: Directional Association of Low Tone

The fact that the low tone associates with the stressed syllable either from the left or the right of the existing high tone is crucial to produce the proper contour. If /ɦ/ was to the right of the stressed syllable nucleus, then when it becomes a low tone, the low tone will associate on the right side of the stressed syllable, resulting in a high-falling tone on that stressed syllable. If the /ɦ/ was to the left of the stressed syllable nucleus, then when it becomes a low tone, the low tone will associate on the left side of the stressed syllable, resulting in a low-rising tone. The directionality of this tone association is significant and has long been a confusing factor in the analysis of tone in these languages (cf. Matisoff 1973, Bhatia 1975).

With this analysis then, the sequence of events needed to account for tone are: a) stress is assigned to one syllable in the word (see Chapter 4), b) a high tone is associated with the stressed syllable by (9), and c) a low tone resulting from an underlying /ɦ/ is also associated with the stressed syllable by (11), creating a tone contour.

Given this sequence, here is an account of the derivations for the words in Table 3-8. For the first word, ['sə̂m.d͡ʒɑ] ‘understand!’, the vowel of the second syllable is the plural immediate imperative suffix, /ɑ/ ‘IMP.IMM.PL’. The underlying /ɦ/ is immediately

before this vowel suffix, and therefore, according to (7), it should surface on this vowel. However, since the first syllable is stressed in this word, the low tone resulting from (11) associates left-ward to the first syllable. This yields the following derivation:

Table 3-9: Derivation of 'understand' + IMP.IMM.PL

	'understand' + IMP.IMM.PL
Underlying form	/səmd͡ʒɦ/ + /ɑ/
Syllabification [25] and Stress Assignment	'səm.d͡ʒɦɑ
High Tone on ǿ	H | 'səm.d͡ʒɦɑ
Allophonic Alternation of /ɦ/ Low Tone on ǿ	H L \ / 'səm.d͡ʒɑ
Surface form	['sə̂m.d͡ʒɑ]

Notice in Table 3-9 that the low tone resulting from the underlying /ɦ/ does not associate in the normal 1-to-1 (tone to syllable) fashion that Goldsmith (1976) predicts. This is because the only tone bearing units in Kangri are stressed syllables. Thus, the low tone will associate with the stressed syllable that already has the high tone on it producing the high-falling contour tone.

[25] The details of syllabification for Kangri are assumed to follow Kiparsky (1979), including the UNIVERSAL SYLLABLE TEMPLATE and the PRINCIPLE OF MAXIMAL SYLLABIFICATION. See also Mohanan (1986:31) for a characterization of this in the Lexical Phonology framework.

With [bə.'rŏ.ʧɑ], even though the underlying /ɦ/ starts out in the first syllable, the second syllable will end up being stressed and therefore, the tone will associate right-ward with the second (stressed) syllable. This yields the following derivation:

Table 3-10: Derivation of 'fill' + PASS + INF + ms

	'fill'+ PASS + INF + ms
Underlying form	{/bɦər/ + /o/}$_{stem}$ + /ʧ/ + /ɑ/
Syllabification and Stress Assignment	bɦə.'ro.ʧɑ
High Tone on ó	H | bɦə.'ro.ʧɑ
Allophonic Alternation of /ɦ/ Low Tone on ó	L H \ | bə.'ro.ʧɑ
Surface form	[bə.'rŏ.ʧɑ]

With [rʊ.'ă.ni], even though an intervocalic /ɦ/ would normally result in a high-falling tone on the preceding vowel (cf. (7)), in this case, the second syllable will end up being stressed and therefore, the tone will associate right-wards with it. This yields the following derivation:

Table 3-11: Derivation of ‘spiritual’ + FNS

	‘spiritual’+ FNS
Underlying form	{/rʊɦɑn/}$_{stem}$ + /i/
Syllabification and Stress Assignment	rʊ.'ɦɑ.ni
High Tone on ɔ́	H | rʊ.'ɦɑ.ni
Allophonic Alternation of /ɦ/ Low Tone on ɔ́	LH \ | rʊ.'ɑ.ni
Surface form	[rʊ.'ɑ̆.ni]

3.5 Directionality and Change of Surface Tone

The directionality aspect of this analysis also provides a solution to another unaccounted aspect of tone as described in the earlier accounts, which in turn, gives further support for the argument presented here that tone in Kangri (and possibly Punjabi/Dogri as well) is not phonemic.

As mentioned previously, most of those who have written about tone in these languages argue that the tones are phonemic and are in the lexicon as contour tones: a *high-falling*, a *low-rising*, and for some, a third *level* tone (Bahl 1957, Bhatia 1975, Chauhan 1992, Masica 1993, S. R. Sharma 1998, and Yip 2002). But consider these two morphologically-related words:

Table 3-12: Tone Contour Change Between Morphologically-Related Words

समझ़ा ‘understand’ + IMP.IMM.PL	समझ़ाआ ‘understand’ + CAUS + IMP.IMM.PL
{/səmd͡ʒɦ/}$_{stem}$ + /ɑ/	{/səmd͡ʒɦ/ + /ɑ/}$_{stem}$ + /ɑ/
/səmd͡ʒɦɑ/	/səmd͡ʒɦɑɑ/
['sə̂m.d͡ʒɑ]	[səm.'d͡ʒə̆.ɑ]

Notice in the surface forms of these two morphologically-related words that not only are the tones surfacing in different syllables (due to different syllables being stressed), but that they surface with different contours as well. If the phonemic inventory and the lexicon contained contour tones as argued in the earlier accounts, then since the tones here both come from the same word stem, one would expect both words to have the same contour tone—even if it moved to another syllable. The fact that the tone contours are different would require an additional rule to change the tone to the opposite contour.[26]

Such a *contour-changing* rule would be difficult to justify as well, because there are analogous cases where the tone associates leftwards (as in ['sə̂m.d͡ʒɑ] above), but the contour does not change. Consider these two other morphologically-related words:

[26] In contrast to these others, Losey (2002) posits a low tone (L) in the lexicon for which the two contour tones are the result of a combination with an underspecified or default high tone. His analysis is very similar to this one with the exception that he argues the lexicon contains a (low) tone specification and I argue that it contains only /ɦ/, which is more consistent with the Devanagari/Gurmukhi orthographic and cognate data.

Table 3-13: Morphologically-Related Words with No Change in Tone Contour

कटांहूगा 'cut' + CAUS + FUT + ms	कटहूगा 'cut' + FUT + ms
{/kəʈ/+/ɑ/}$_{stem}$+/ɦg/+/ɑ/	{/kəʈ/}$_{stem}$+/ɦg/+/ɑ/
/kəʈɑɦgɑ/	/kəʈɦgɑ/
[kə.'ʈə̂ŋ.gɑ]	['kə̂ʈ.gɑ]

Notice that in both of these words the tone surfaces as a high-falling tone even though it associates (leftwards) to a different syllable.

The following derivations show how the present analysis accounts for these examples:

Table 3-14: Derivation of 'understand' and its Causative Counterpart

	'understand'+CAUS+IMP.IMM.PL	'understand'+IMP.IMM.PL
Underlying form	{/səmd͡ʒɦ/ + /ɑ/}$_{stem}$ + /ɑ/	{/səmd͡ʒɦ/}$_{stem}$ + /ɑ/
Syllabification and Stress Assignment	səm.'d͡ʒɦɑ.ɑ	'səm.d͡ʒɦɑ
High Tone on ɔ́	H səm.'d͡ʒɦɑ.ɑ	H 'səm.d͡ʒɦɑ
Allopho. Alternation of /ɦ/ Low Tone on ɔ́	LH səm.'d͡ʒɑ.ɑ	H L 'səm.d͡ʒɑ
Surface form	[səm.'d͡ʒɑ̌.ɑ]	['sə̂m.d͡ʒɑ]

In Table 3-14, the contour tones are different on the surface, because the low tone resulting from /ɦ/ associates from different sides of the stressed syllable.

Here are the derivations for the examples in Table 3-13:

Table 3-15: Derivation of ‘cut’ and its Causative Counterpart

	‘cut’+CAUS+FUT+ms	‘cut’+FUT+ms
Underlying form	{/kəʈ/+/ɑ/}$_{stem}$+/**ɦ**g/+/ɑ/	{/kəʈ/}$_{stem}$+/**ɦ**g/+/ɑ/
Syllabification and Stress Assignment	kə.'ʈɑ**ɦ**.gɑ	'kəʈ.**ɦ**gɑ
High Tone on ɔ́	H | kə.'ʈɑ**ɦ**.gɑ	H | 'kəʈ**ɦ**.gɑ
Allophonic Alternation of /ɦ/ Low Tone on ɔ́	H **L** |/ kə.'ʈɑ.gɑ	H **L** |/ 'kəʈ.gɑ
Homorganic Nasal Epenthesis (§2.3.3)	ŋ	
Surface form	[kə.'ʈɑ̂ŋ.gɑ]	['kɑ̂ʈ.gɑ]

These derivations show that the change (or non-change) of the tone contours are accounted for directly by assuming a single low tone that—along with the High Tone On Stressed Syllable Rule—produces the contour rather than there being phonemic contour tones in the lexicon.

The next chapter discusses how stress is assigned in Kangri, which then completes the account for tone in Kangri.

CHAPTER 4

STRESS

"[Stress in Hindi] is largely of foreign origin."
–Scholberg (1940)

4.1 Stress Typology

Hayes (1995) outlines a typology of stress assignment in languages. He gives three distinct axes upon which languages may differ in terms of rules for stress placement. They are:

- Free vs. Fixed: this has to do with whether the stress pattern of the words in a language are predictable based on location or phonological properties of a word (fixed) or not (free), in which case stress is phonemic and must be specified in the lexicon.
- Rhythmic vs. Morphological: this has to do with whether stress is based on phonological factors, such as syllable weight and distance from word boundaries (rhythmic), or whether stress serves to highlight the morphological structure of a word (morphological).
- Bounded vs. Unbounded Stress: this only applies to Rhythmic stress systems and defines whether stress can fall within a certain distance from a boundary or another stressed syllable (bounded), or whether there are no restrictions on where stress may fall (unbounded).

Given this typology, Kangri exhibits *fixed* rather than *free* stress language behavior. This is because the stress in a given word is predictable primarily based on phonological factors (by an, albeit complex, set of rules). In terms of the rhythmic vs. morphological axis, as with English, Kangri exhibits behaviors of both types: *rhythmic* in the sense that stress will be shown to correlate with syllable weight, but also *morphological* in the sense that stress may only be assigned to a syllable within the stem of the word and never on inflectional affixes. In terms of boundedness, Kangri exhibits an *unbounded* system in that there are no limits (within a stem, anyway) where stress can occur.

Before looking at stress assignment in Kangri, the literature regarding stress in Hindi is briefly summarized.

4.2 Stress Assignment in Hindi

Several studies have been made regarding stress placement in Hindi and Urdu (Grierson 1895, Bailey 1933, Arun 1961, Mehrotra 1965, Kelkar 1968, A. Sharma 1969). However, as M. Ohala (1977) points out, these have not always been consistent in the way they express their rules for stress assignment, and generally speaking have not tested their work with native speakers in order to determine what phonetic/acoustic correlates of stress are significant. Several of them (Bailey, Mehrotra, and Arun) have claimed that stress is phonemic in Hindi due to several minimal pairs of words which they suggest are distinguished only on the basis of stress (e.g. ['gə.lɑɑ] ‘throat’ vs. [gə.'lɑɑ] ‘melt’, and ['bə.hɑɑ] ‘flowed’ vs. [bə.'hɑɑ] ‘cause to flow’). But Ohala argues that the attributing of phonemic status to stress is not supported experimentally in

testing with native Hindi speakers. In her experiments, she spliced these words in minimally different sentences in order to distinguish the use of the minimal pairs. Her findings were that native speakers could not consistently tell which version was correct. Often they would rate the wrongly spliced pronunciation as acceptable in the context.

Furthermore, Pandey (1989) would only consider data *regular* if 70% of his language informants gave the same result and threw out any data for which 40% did not agree. In such a situation, it is difficult to maintain that words even have a definite stress pattern. In fact, as reflected in the quote at the beginning of the chapter, Scholberg (1940) suspects that, "[Stress in Hindi] is largely of foreign origin."

Nevertheless, in certain cases stress is more easily detectable, and several newer studies have made the claim that stress can be assigned on the basis of syllable weight (Pandey 1989, Dyrud 2001, Hussain 1997). Their analyses are based on the following details regarding Hindi syllable structure:

Generally speaking, Hindi syllables are considered to be of three distinct types (cf. Hayes 1995, Dyrud 2001): monomoraic or LIGHT (i.e. CV), bimoraic or HEAVY (i.e. CVC or CVV), and trimoraic or SUPERHEAVY (i.e. CVVC or CVCC). The weight is based on the rhyme of the syllable only; onsets are irrelevant (cf. Kenstowicz 1994:292). Furthermore, individual vowels may be multi-moraic. According to Pandey (1989), Dyrud (2001), and Hussain (1997), the vowels [i, e, æ, u, o, ɔ, ɑ] are bimoraic,

while the vowels [ɪ, ʊ, ə] count as a single mora.[27] So any syllable containing one of the former set would automatically be at least HEAVY.

With these three syllable types, stress in Hindi is said to fall on the last heavy syllable in a word. Beyond that, scholars differ. Some suggest that if the word consists of light syllables only, then the penultimate syllable is stressed. Others suggest that it is the first syllable that is stressed. Much of this could very well be due to dialect variations since Hindi is spoken over such a wide area and by speakers of many different languages as mother-tongue.

These analyses also assume the notion of EXTRAMETRICALITY in which the final mora of the word is ignored for stress assignment.[28] But even within this characterization, a caveat is required (Losey 2002): "In morphologically complex words, morphological rules may supersede the normal stress placement rules. For example, in verb stems formed with the causative suffix, the causative suffix is always stressed, superseding stress placement based on syllable weight."

The following figure (reproduced from Dyrud 2001) shows the syllable structure of several Hindi words:

[27] Interestingly, these are the very vowels which are generally not marked by any orthographic symbol or diacritic in the Urdu writing system.

[28] Though it is not mentioned explicitly by Pandey, Dyrud, or Hussain, the extrametricality is presumed to be revoked at some stage of the derivation since the final segment is ultimately parsed in Hindi words; just not while assigning stress.

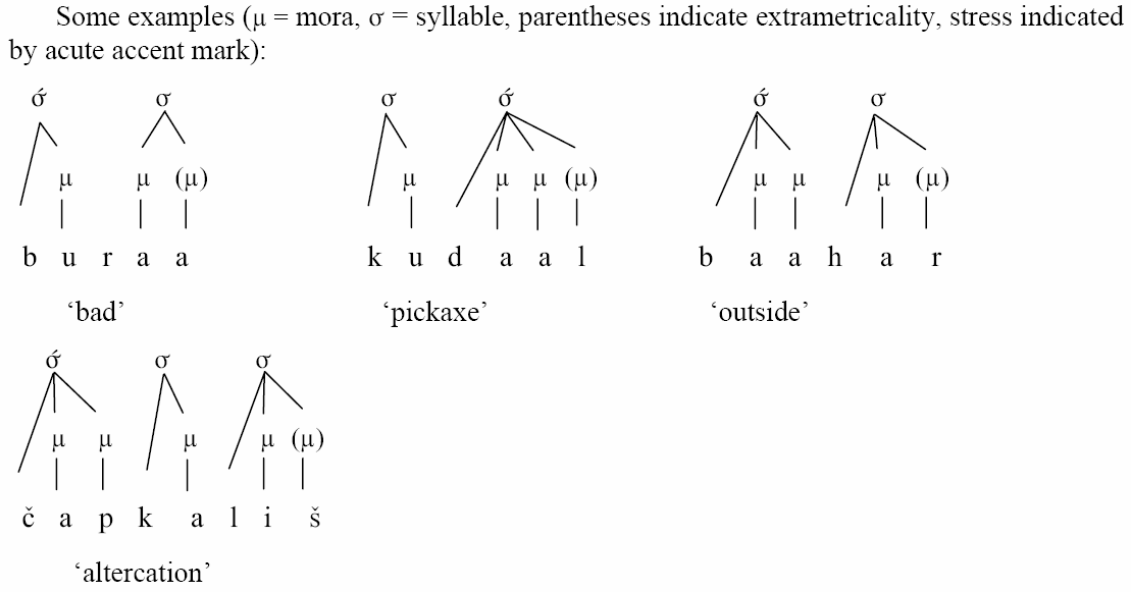

Figure 4-1: Hindi Syllable Structure Examples (reproduced from Dyrud 2001)

4.3 Stress Assignment in Kangri

Though most of the details of stress assignment in Kangri follow the analyses presented above for Hindi by Pandey, Dyrud, or Hussain, the analysis presented here for Kangri is different in two respects: firstly, pitch is not a definitive correlate of stress as it is thought to be in Hindi (Lea 1977, Hayes 1995, and Dyrud 2001). If the otherwise stressed syllable has a low-rising tone in it (resulting from an /ɦ/ to the left of the stressed syllable nucleus), then it will actually have a lower pitch than the surrounding syllables (see §4.3.2). Secondly, not only is the final mora excluded for the stress assignment determination, but in Kangri, all *inflectional* morphology is excluded as well. As argued below, stress assignment is done in the lexicon and is always assigned exclusively within the stem of the word (i.e. word root plus any derivational affixes).

Inflectional affixes, regardless of syllable shape, are never stressed. Given these constraints, the assignment of stress in Kangri can be stated by the following rules:

- Looking only at the syllables in the stem of the word,
- factoring in extrametricality,
- the heaviest,
- or right-most heavy syllable is stressed.
- If all syllables are LIGHT, then the first syllable is stressed.

Since the conditions listed above have a fairly complex interaction, they will be presented in order of increasing complexity.

4.3.1 Stress the Heaviest Syllable in the Stem

If a word stem contains a single HEAVY or SUPER-HEAVY syllable, then it will always be stressed. In fact, the clearest examples of stress in Kangri (and Hindi) are when a single syllable is heavier than all of the other syllables in the word. The greater the differential in weight, the more the stress becomes apparent. Consider these words:[29]

Table 4-1: The Heaviest Syllable Is Stressed

अध़ार	[ə.'dɑ̀ɑ́ɾ] 'basis'	V.**'CVV(C)** [30]
कताब	[kə.'tɑɑb] 'book'	CV.**'CVV(C)**
समाप्त	[sə.'mɑɑpt] 'completed'	CV.**'CVVC(C)**
सबंह़ृद	[sə.'bə̂nd] 'relation'	CV.**'CVC(C)**
अंह़ृदर	['ə̂n.dəɾ] 'inside'	**'VC**.CV(C)
आखर	['ɑɑ.k^{h}əɾ] 'eventually'	**'VV**.CV(C)
न्युंदर	['njʊn.dəɾ] 'invitation'	**'CVC**.CV(C)

[29] Unlike other sections of this paper, vowels in this chapter which are bimoraic will be shown using a geminate pair of the corresponding IPA symbol (e.g. /ɑ/ will be shown as [ɑɑ]).
[30] The final mora is excluded here due to extrametricality (see §4.3.4).

Table 4-1 - Continued

काबल	['kɑɑ.bəl] ‘worthy’	**'CVV**.CV(C)
साइद	['sɑɑ.ɪd] ‘perhaps’	**'CVV**.V(C)
आत्मक	['ɑɑt.mək] ‘spiritual’	**'VVC**.CV(C)
फाल़तु	['pʰɑɑl̻.tʊ] ‘spare’	**'CVVC**.C(V)
अंगूर	[əŋ.'guuɾ] ‘grape’	VC.**'CVV(C)**
जरूरी	[d͡ʒə.'ɾuu.ɾii] ‘necessary’	CV.**'CVV**.CV(V)
अनुबाद	[ə.nʊ.'bɑɑd] ‘translation’	V.CV.**'CVV(C)**
बिगड़ैल	[bɪ.gə.'ɽæl] ‘truculent’	CV.CV.**'CVV(C)**

Notice in the examples in Table 4-1 that the heaviest syllable is the one that receives the primary word stress.

4.3.2 If All Syllables are LIGHT, then Stress the First Syllable

First, consider these examples which show initial stress when all syllables are LIGHT:

Table 4-2: All Syllables Light—Stress The First Syllable

कजो	['kə.d͡ʒoo] ‘why’	**'CV**.CV(V)
जिसम	['d͡ʒɪ.səm] ‘body’	**'CV**.CV(C)
निअम	['nɪ.əm] ‘regulation’	**'CV**.V(C)
अनिकि	['ə.nɪ.kɪ] ‘that is’	**'V**.CV.C(V)
गह़बरु	['gə̂.bə.ɾʊ] ‘young’	**'CV**.CV.C(V)
मरिअम	['mə.ɾɪ.əm] ‘Mary’	**'CV**.CV.V(C)
चिह़मड़िओ	['t͡ʃî.mə.ɻɪ.oo] ‘possessed’	**'CV**.CV.CV.V(V)

In terms of the acoustic/phonetic correlate of stress, as mentioned above, pitch is not a definitive correlate (at least, in Kangri). Notice in Table 4-2 that words which contain all light syllables have their first syllable stressed. However, when such a word

has tone (resulting from an underlying /ɦ/ in the word), the pitch of the stressed (first) syllable is primarily determined by the tone rather than stress. Consider these illustrating examples:

Table 4-3: Light Syllable Words With Tone

सहूबा	/səbɦɑɑ/ ['sə̂.bɑɑ] ‘meeting’	**'CV**.CV(V)
ध्रम	/dɦərəm/ ['də̌.rəm] ‘duty’	**'CV**.CV(C)

The first word, ['sə̂.bɑɑ] ‘meeting’, has a higher-than-normal pitch on the first syllable. However, it is due to a high-falling tone on that syllable. The second word, ['də̌.rəm] ‘duty’, has a low-rising tone on the first syllable (due to the underlying /ɦ/ in the onset). This gives an overall lower-than-normal pitch to the first syllable and yet it is the stressed syllable based on syllable weight (and based on the fact that the contour tone is on that syllable—see §3.4). Thus, for words with tone, the stressed syllable does not automatically have a higher pitch.[31]

4.3.3 Stress the Right-most Heavy Syllable

If a stem has multiple heavy syllables, then the right-most one will be stressed. Consider these words:

Table 4-4: Right-Most Heavy Syllable Is Stressed

कुतकी	['kʊt.kii] ‘lest’	**'CVC**.CV(V)
अखत्यार	[ək^{h}.'tjɑɑr] ‘authority’	VC.**'CVV(C)**
नासूर	[nɑɑ.'suur] ‘ulcer’	CVV.**'CVV(C)**
म्हाराज	[mɑɑ.'rɑ̀ɑ́d͡ʒ] ‘great king’	CVV.**'CVV(C)**
कंगाल़	[kəŋ.'gɑɑɭ] ‘poor’	CVC.**'CVV(C)**
तरकीब	[tər.'kiib] ‘plan’	CVC.**'CVV(C)**
संगमरमर	[səŋ.'mər.mər] ‘marble’	CVC.**'CVC**.CV(C)
रिस्तेदार	[rɪs.tee.'dɑɑr] ‘relative’	CVC.CVV.**'CVV(C)**
जबरदस्ती	[d͡ʒə.bər.'dəs.tii] ‘forcibly’	CV.CVC.**'CVC**.CV(V)
पक्किआई	[pək.kɪ.'ɑɑ.ii] ‘firmness’	CVC.CV.**'VV**.V(V)

These examples show that when a word has multiple heavy syllables, the right-most one in the stem of the word is stressed.

4.3.4 Factoring in Extrametricality

As mentioned above, the last mora of a word is excluded when calculating relative syllable weights. Most of the preceding examples, however, could be accounted for even without extrametricality. For example, it was suggested in the last section that [ək^{h}.'tjɑɑr] ‘authority’, has the final syllable stressed because after extrametricality, the two syllables in the word are the same weight (i.e. heavy), and in that case, the right-

[31] Though no analytical measurements of syllable length were made for this study, the author’s opinion is that if all syllables have the same weight (light or heavy), then effectively the word will have no primary stress. When all of the syllables in a word have the same weight, there is no significant weight differential to signal stress. It seems likely that if any syllable appears to be stressed (such as those in Table 4-2), it is rather due to sentence-level intonation or citation form elicitation reasons rather than bona fide word stress assignment. For example, the use of elicited citation forms (i.e. the approach used in this study) seems to favor initial syllable stress all other things being equal. Another study (M. Ohala 1977) used an unstressed position within a sentence frame for elicitation of Hindi words and concluded that the penultimate syllable was stressed. It is possible that these two languages differ in this respect, but it seems likely that they are the same and instead, it is the difference in syllable duration due to weight that is the phonetic correlate of stress to begin with (cf. Sluijter, van Heuven & Pacilly 1997).

most heavy syllable is stressed. However, if we do not exclude the final mora, then the final syllable of that word would be a super-heavy syllable, which according to §4.3.1 would still automatically be stressed.

The following words, however, show that the extrametricality requirement is needed, since otherwise, the preceding rules would result in a different outcome:

Table 4-5: Extrametricality Required

ध़रम	['də̌.ɾəm] ‘duty’	'**CV**.CV(C)
फ़िरी	['bǐ.ɾii] ‘again’	'**CV**.CV(V)
संगल़	['səŋ.gə⌊] ‘chain’	'**CVC**.CV(C)
मैह़मा	['mǽæ̀.mɑɑ] ‘glory’	'**CVV**.CV(V)
बरोबर	[bə.'ɾoo.bəɾ] ‘equivalent’	CV.'**CVV**.CV(C)
अणगिणत	['ə̃.gɪ.ɾ̃ət] ‘uncountable’	'**VC**.CV.CV(C)
असलिअत	['əs.lɪ.ət] ‘genuineness’	'**VC**.CV.V(C)
अपबित्तर	[ə.pə.'bɪt.təɾ] ‘unholy’	V.CV.'**CVC**.CV(C)

In each of these cases, if the last mora were not extrametrical, then the final syllable would either be the heaviest or the right-most heavy syllable of stem and therefore ought to have primary word stress. For example, with [bə.'ɾoo.bəɾ] ‘equivalent’, if the final mora is not excluded, then the final two syllables would both be heavy, in which case, the right-most heavy syllable should be stressed. Therefore, to get the correct result, the final mora must be excluded so that the penultimate syllable alone is heavy, and therefore, stressed. Similarly with ['də̌.ɾəm] ‘duty’: if the final mora is not excluded, then the final syllable alone would be heavy, and therefore ought to be

stressed. But by excluding the final mora, both syllables are light, in which case, the first syllable would be stressed.

4.3.4.1 Exceptions to Extrametricality

It should be noted, however, that there are two types of exceptions to the extrametricality requirement: in one case, a particular vowel (i.e. [uu]), and in another case, derivational affixes are not subject to extrametricality.

In the following examples, notice that both words have all light syllables once extrametricality is factored in.

12.	भ़िरी	[ˈbĭ.ɾii] ‘again’	**ˈCV**.CV(V)
13.	घ़िऊ	[gɪ.ˈùú] ‘clarified butter’	CV.**ˈV(V?)**

As discussed in §4.3.2, these two should have the same stress pattern as each other since the weight of each corresponding syllable is the same: both words have one mora for each syllable after factoring in extrametricality. This yields a word with two light syllables, which ought to produce stress on the initial syllable (as is the case for 12). However, note that in (13), the stress is in the second syllable (ending in [uu]) rather than on the first syllable as would otherwise be expected if both [ii] and [uu] are bimoraic and subject to extrametricality. Also notice that in (12), the tone is on the first (stressed) syllable, but in (13), it is on the second (stressed) syllable. The fact that the tone is located in different syllables further supports the argument that these syllables are stressed differently.

There are not many words in Kangri which end in final [uu] and there were no others in my corpus whose stress pattern was an exception like (13), so it is difficult to tell definitively. The most likely explanation is that a final /u/ is either, a) not subject to extrametricality (for perceptual reasons) or b) trimoraic (in which case, even ignoring the final mora would still result in a final heavy syllable attracting stress).

The other situation where there appears to be an exception to extrametricality has to do with causative (derivational) suffixes (cf. Losey 2002). Consider these Hindi examples:

14.	**करा**	[kə.'ɾɑɑ] 'cause to do'	CV.'**CVV**
15.	**करवा**	[kəɾ.'ʋɑɑ] 'cause (2) to do'	CVC.'**CVV**

The final, bimoraic vowel in both of these words is part of the 1st and 2nd causative suffixes, respectively (e.g. |kəɾ-ɑɑ| 'do-CAUS1'). If we exclude the final mora in these words, then (14) will have two light syllables, in which case the initial syllable should be stressed,[32] and the first syllable in (15) would alone be heavy and therefore should be stressed. But in both cases, it is the final syllable which is stressed.

Another pair of Hindi examples which demonstrate the issue is the following:

16.	**बहा**	['bə.hɑɑ] 'flowed'	'**CV**.CVV
17.	**बहा**	[bə.'hɑɑ] 'cause to flow'	CV.'**CVV**

[32] Or equivalently, the penultimate syllable, depending on whose stress assignment rules you choose—in this case, they have the same result.

This is one of the pairs of words used by Bailey (1933), Arun (1961), and Mehrotra (1965) to argue for phonemic stress in Hindi. Since these two words have the same segmental forms, there was thought to be no way to account for the difference in stress, except for phonemic stress assignment. However, there is a fundamental difference between these two words: the identical bimoraic vowels at the end of these two words are morphologically distinct: though they are both verbal suffixes, the /ɑɑ/ in (16) corresponds to the *inflectional* agreement suffix, 'masculine, singular' (MS), whereas the same vowel in (17) corresponds to the *derivational* suffix, '1st causative' (CAUS1). So, one way to account for the difference is to argue that the extrametricality requirement has a restricted domain of application and does not apply during the stratum in which derivational affixes are applied (i.e. stratum 1). This suggests that different conditions for stress assignment apply during different stratum of the lexicon (cf. Mohanan (1986:33) regarding syllabification differences in different strata). The following table shows a possible Lexical Phonology derivation for these two Hindi words (using the approach in Mohanan 1986):

Table 4-6: Derivation of ['bə.hɑɑ] ‘flowed’ and [bə.'hɑɑ] ‘cause to flow’

		‘flow’ + PERF + ms	‘flow’ + CAUS1
		[bəh] [0] [ɑɑ]	[bəh] [ɑɑ]
stratum 1	Derivational affixation	----	[[bəh] [ɑɑ]]
	Syllabification	----	[[bə.h] [ɑɑ]]
	Stress Assignment (-extrametricality)	----	[[bə.'h] [ɑɑ]]
	Bracket Erasure	----	[bə.'hɑɑ]
stratum 2	Compounding	----	----
stratum 3	Inflectional affixation	[[bəh] [ɑɑ]]	----
	Resyllabification [33]	[[bə.h] [ɑɑ]]	----
	Stress Assignment (+extrametricality)	[['bə.h] [ɑ(ɑ)]]	----
	Bracket Erasure	['bə.hɑɑ]	[bə.'hɑɑ]

In Table 4-6 notice that when a derivational suffix is attached (in the final column), then stress is assigned in stratum 1. In that case, the final mora is not excluded in the stress assignment process. Without the final mora excluded, stress is properly assigned to the heaviest final syllable. By contrast, when an inflectional suffix is adjoined to a word (as in the penultimate column), then stress assigment occurs in stratum 3, but only within the stem of the word.[34]

[33] The Resyllabification and other phonological processes are assumed to apply cyclically after each of these inflectional suffixes is adjoined (Kiparsky 1979). However, since the intermediate stages do not change anything, only the final cycle is shown here.

[34] In fact, while the cell in Table 4-6 for stress assignment in stratum 3 shows that the final mora is excluded here (i.e. [['bə.h] [ɑ**(ɑ)**]]), this is really unnecessary for this particular word, since the entire inflectional affix, [ɑɑ], is ultimately ignored, as discussed in §4.3.5. However, in words with no overt inflectional suffixation (e.g. ['dǎ.rə**(m)**]), the final mora must be excluded in order for the stress assignment rules to correctly predicate the form.

Consequently, the difference in stress between these two homophonous words can be accounted for—not by assuming phonemic stress—but rather by assigning stress within the lexicon differently for derivational suffixes vs. inflectional suffixes.

Finally, at a later stage of the derivation, any segments which were extrametrical during stress assignment have their extrametricality revoked so that the final mora is parsed as in the underlying form.

In Kangri, derivational affixes also attract stress due to being composed of bi-moraic vowels (e.g. [ɑɑ] ‘CAUS’), which end up forming the right-most heavy syllable of the stem. However, the exception-to-extrametricality for derivational affixes in Kangri is less problematic, because, unlike the Hindi examples in (14), (15) and (17), Kangri does not allow verb stems to surface without at least *some* non-null, inflectional suffix corresponding to one of the aspect/mode morphemes (see §5.3.4). This means that there is always some phonological material after the stem-final (derivational morpheme) vowel that can be excluded and still satisfy the extrametricality requirement. Consider this Kangri equivalent of (15):

18.	करुआह़	/kər-ʊɑɑ-ɦ/ [kə.ɾʊ.ˈɑ́à] ‘cause to do’	CV.CV.'**VV(C?)**

This word has an underlying /ɦ/ as the final segment of the word corresponding to the INTIMATE IMMEDIATE IMPERATIVE morpheme (i.e. IMP.IMM.INT; see §5.3.4.8). The final syllable of this word will still be the heaviest if the /ɦ/ is excluded due to

extrametricality, and therefore, the derivational suffix will be stressed by the existing stress rules with no need for the extrametricality exclusion that was needed for Hindi.

However, since the /ɦ/ phoneme eventually becomes a low tone (see §3.2), the question arises as to whether it is still a consonantal segment (and therefore capable of affecting syllable weight and/or being marked extrametrical) at the time the syllabification and stress assignment processes occur? The answer is 'yes'. Consider these two minimal pairs:

19.	**मैहमा**	/mææɦ.mɑɑ/ ['mǽæ̀.mɑɑ] 'glory'	**'CVV**.CV(V) or **'CVVC**.CV(V)
20.	**मैहमान**	/mææɦ.mɑɑn/ ['mǽæ̀.mɑɑn] 'guest'	**'CVV**.CVV(C) or **'CVVC**.CVV(C)

In both words, the /ɦ/ phoneme is the final consonant of the identical, first syllables. In (19), the extrametricality requirement will render the 2nd syllable light, and therefore whether the first syllable is super-heavy (if /ɦ/ is present) or just heavy (if /ɦ/ is not present) is irrelevant: in either case, the first syllable will be heavier than the second, and therefore it will be stressed. In (20), however, the situation is defining: if /ɦ/ is not still present adding to the syllable weight of the first syllable, then both syllables would be heavy, and therefore the second (right-most) syllable ought to be stressed. The fact that it is not, argues that the first syllable must still be super-heavy at the time stress is assigned, resulting in it being stressed. This argues that at the time of stress assignment, the underlying /ɦ/ is still present adding to the syllable weight (cf. Table

3-9 - Table 3-15 where it is also assumed to be present until after the syllabification and stress assignment processes have finished).

Nevertheless, the earlier argument about extrametricality not applying during stratum 1 in the lexicon (when derivational affixes are adjoined) is still required for a proper analysis of Hindi words, such as in (14), (15) and (17), and though this is not strictly required for Kangri, it also does not produce incorrect results, and so will be assumed to apply to Kangri as well.

4.3.5 Stress May Only Be Assigned to Stem Vowels

The analysis presented here for stress assignment differs most significantly with earlier accounts for Hindi by allowing stress to be assigned only to syllables in the stem of a word, excluding any inflectional affixation. As mentioned above, stress assignment is argued here to be done in the lexicon, rather than as a post-lexical process. This is because stress assignment is sensitive to the boundary between a word stem and any inflectional suffixes, which is otherwise not available post-lexically due to BRACKET ERASURE (Pulleyblank 1986). The reason this is perhaps clearer for Kangri (compared with Hindi, for example) is that there are several inflectional suffixes in Kangri which are composed of multiple bimoraic vowels in successive syllables that otherwise ought to attract stress in certain situations according to the other rules outlined above.

First, it will be shown why the notion of *single-mora* extrametricality (or even whole syllable extrametricality, as proposed by Goldsmith 1990:205) is not sufficient to account for the Kangri data.

Kangri has several inflectional suffixes which are made up of multiple bimoraic vowels in consecutive syllables. For example, consider the word /**करेआं**/ ['kə.ree.ãã] ‘do!’ (lexeme: /kər/ ‘do’) + (lexeme: /ee.ãã/ ‘IMP.INSTR.INT’). The syllabic breakdown of this word is shown in this figure:

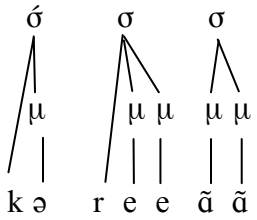

Figure 4-2: Syllable Breakdown for ['kə.ree.ãã] ‘do!’

Notice in Figure 4-2 that even if you excluded the final mora (or the whole final syllable) due to extrametricality, the stress then ought to fall on the penultimate syllable since it alone is heavy. Instead, stress falls on the first syllable, which is the only syllable wholly in the stem of the word. The only way to account for this, given the rules discussed above, is if stress is assigned to the stem ignoring the entire inflectional suffix.

Another example involves the RESULTATIVE aspect construction (see §5.3.4.3). When this morpheme co-occurs with the ‘masculine plural’ (mp) agreement suffix, the latter (inflectional) ending surfaces as: [ee.oo]. For example, consider the word /**चिहूमड़ेओ**/ [ˈt͡ʃî.mə.ɽee.oo] ‘possessed’, the syllabic breakdown of which is:

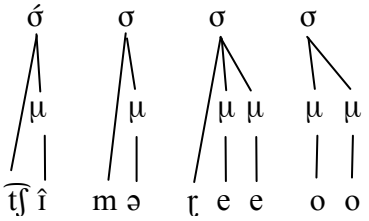

Figure 4-3: Syllable Breakdown for [ˈt͡ʃî.mə.ɽee.oo] ‘possessed’

Notice again in Figure 4-3 that excluding the final mora or whole syllable is not sufficient, because even then, the stress ought to fall on the penultimate syllable, since it alone is a heavy syllable. Instead, stress falls on the first syllable, which is what we would expect only if the entire inflectional suffix were excluded from the stress assignment determination (since then all the stem syllables would be light). So here again, ignoring the inflectional suffixes allows the same rules we developed above to account for words which have inflectional suffixation. Consider this Lexical Phonology derivation of /**चिह्नमड़ेओ**/ [ˈt͡ʃî.mə.ɽee.oo] ‘possessed’:

Table 4-7: Derivation of [ˈt͡ʃî.mə.ɽee.oo] ‘possessed’

		‘possess’ + RES + PERF + mp
		[t͡ʃɪməɽ] [ɦ] [0] [eeoo]
stratum 1	Derivational	----
stratum 2	Compounding	----
stratum 3	Aspect: Resultative	[[t͡ʃɪməɽ] [ɦ]]
	Agreement: mp	[[t͡ʃɪməɽ] [ɦ] [eeoo]]
	Resyllabification	[[t͡ʃɪ.mə.ɽ] [ɦ] [ee.oo]]
	Stress Assignment (+extrametricality)	[[ˈt͡ʃɪ.mə.ɽ] [ɦ] [ee.o(o)]]
	Tone rules	[[ˈt͡ʃî.mə.ɽ] [ee.o(o)]]
	Bracket Erasure	[ˈt͡ʃî.mə.ɽee.oo]

To show that this also applies for nominal affixes, consider the nominal (inflectional) suffix, [ee.ãã] ‘masculine oblique plural’ (MOP) on these words:

21.	पुज्याऱ्ेआं	[pʊ.'d͡ʒjɑɑ.ɭee.ãã] ‘priests’	CV.'**CVV**.C]VV.V(V) [35]
22.	कदेह्ऱएआं	[kə.déè.ee.ãã] ‘what kind (mop)’	CV.'**CVV**].VV.V(V)
23.	कपड़ेआं	['kə.pə.ɽee.ãã] ‘clothes’	'**CV**.CV.C]VV.V(V)

Notice in (21) and (22) that once the inflectional suffixes are ignored, the stress falls on the only heavy syllable in the stem. In (23), the stress falls on the initial syllable since all the other stem syllables are light.

Since this analysis only allows stress assignment within word stems, a question arises regarding prefixes: are they excluded (suggesting that they are inflectional) or not (suggesting that they are derivational)? The following table shows some examples of Kangri prefixes:

Table 4-8: Words with Prefixes

बेज्जत	/bee-/ ‘not’+/ɪd͡ʒd͡ʒət/ ‘honor’	['beed͡ʒ.d͡ʒət]	'**CVVC**.CV(C)
अणगिणत	/əɽ̃-/ ‘not’+ /gɪɽ̃ət/ ‘counting’	['əɽ̃.gɪ.ɽ̃ət]	'**VC**.CV.CV(C)
अपबित्तर	/ə-/ ‘not’+ /pəbɪttəɾ/ ‘holy’	[ə.pə.'bɪt.təɾ]	V.CV.'**CVC**.CV(C)
बदकिसमती	/bəd-/ ‘un’+ /kɪsmətii/ ‘luck’	[bəd.'kɪs.mə.tii]	CVC.'**CVC**.CV.C]V(V)

This table shows that these different prefixes behave as though they were part of the word stem. If the prefix forms the nucleus of a syllable that would otherwise be stressed based on the rules outlined above (e.g. the heaviest syllable), then it will be

[35] The ‘]’ symbol indicates the boundary beyond which the inflectional suffixes begin. All segments past the stem-final boundary (here, “VV.V(V)”) are ignored by the stress assignment rules.

stressed. The latter two examples show, however, that the prefix is not required to be stressed if its syllable weight is not sufficient. Since stress can be assigned to them, it suggests that these are derivational prefixes.

4.4 Coordination with the Gemination Rule

In §2.4, it was argued that derivational affixation was accomplished in stratum 1 of the lexicon, while inflectional affixes were adjoined in stratum 3. In §2.3.1, a phonological rule was discussed which doubles a stem-final consonant that precedes a vowel-initial, *inflectional* suffix. It was mentioned that this Consonant Gemination Rule operates only in stratum 3 of the lexicon to account for why it only affects stems with inflectional suffixes, but not derivational ones. Since the stress assignment process also operates in stratum 3, a question arises as to the relative order of the two processes. Does the gemination rule, which adds duration (which correlates with syllable weight), precede and therefore, potentially *feed* the stress assignment rules?

In my corpus of 5682 words forms, there are approximately 20 words that suggests the answer is *yes*. However, most of them are transliterations of Roman names (e.g. /पिलातुस्से/ [pɪ.lɑɑ.'tʊ**s**.se] 'Pilate') or cognate with Hindi words that also have the double consonant (e.g. /चकन्ना/ [t͡ʃə.'kə**n**.nɑɑ] 'alert').[36] Consequently, given the relatively low number (and nature) of these words, it is questionable whether the gemination is feeding the stress assignment rules.

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[36] Except that for Hindi, the double-consonant is presumably underlying, since Hindi does not have the gemination rule.

By contrast, the overwhelming majority of words in my corpus involve a situation where the final syllable would be stressed anyway due to its already greater weight even without the gemination. Here are a few examples that show this:

Table 4-9: Examples Showing Consonant Doubling

लम्मा	['ləm.mɑɑ] 'long'	**'CVC**.C]V(V)
छोट्टा	[ˈt͡ʃʰoo**ʈ**.ʈɑɑ] 'small'	**'CVVC**.C]V(V)
थिड़क्केआ	[ˈtʰɪ**ɽk**.kee.ɑɑ] 'rebuke'	**'CVCC**.C]VV.V(V)
कताब्बा	[kə.'tɑɑ**b**.bɑɑ] 'book' (obl)	CV.**'CVVC**.C]V(V)
चमकील्ला	[t͡ʃəm.'kii**l**.lɑɑ] 'sparkling'	CVC.**'CVVC**.C]V(V)
परमध्राम्मां	[pə.ɾəm.'dɑɑ**m**.mãã] 'heaven'	CV.CV.**'CVVC**.C]V(V)

In each of these words, the last syllable of the stem is already the heaviest, right-most heavy, or only syllable within the stem, and therefore it is already due to be stressed by the stress assignment rules even if the gemination didn't occur. Instead, the gemination seems to add even more weight to what is already the heaviest stem-final syllable.

With so many examples of the gemination occurring in the syllable already destined to be stressed, it seems more likely that the gemination can only occur when the stem-final syllable is already stressed. Because of this lop-sided distribution, therefore, it is argued that the gemination rule does not *precede* the stress assignment rules, but rather follows it. That is, for words in which the final syllable is stressed either for being the single heaviest or right-most heavy syllable, the gemination rule will then operate in those words making that final syllable even heavier.

Also note a side effect of the gemination rule: the stem-final/stressed syllable ends up being CLOSED rather than remaining OPEN. As discussed in §2.3.1, when a stem-final consonant is followed by a suffix-initial vowel (i.e. CVC+V), one might expect to it to syllabify as [CV.CV] due to the Maximal Onset Principle. However, the operation of the gemination rule results in the stem final syllable being closed (i.e. ['CVC.CV]) which it otherwise wouldn't have been. Therefore, another possible explanation is that the gemination occurs in the stem-final/stressed syllable in order to make sure that syllable is closed.

This chapter demonstrated that stress assignment in Kangri is primarily based on syllable weight as with recent Hindi accounts. However, it also added to the earlier analyses by arguing that stress assignment is not a post-lexical process, but rather is assigned within the lexicon, such that inflectional affixes are ignored during stress assignment determination.

Hindi does not have long, multi-moraic inflectional suffixes, so the analysis presented here would not have been possible to discover from the study of Hindi alone. However, the analysis presented for Kangri here not only covers the Hindi data, but also accounts both for the data thought to indicate phonemic stress in Hindi (Bailey 1933, Arun 1961; Mehrotra 1965), as well as for the caveat mentioned by Losey (2002) that derivational suffixes supersede the normal stress assignment rules. In this account, such a caveat is unnecessary, because derivational suffixes will be stressed by the straightforward application of stress assignment rules developed for Kangri.

CHAPTER 5

MORPHOLOGY

5.1 Morphological Typology

In terms of morphological typology, Kangri primarily exhibits FUSIONAL and *somewhat* POLYSYNTHETIC characteristics. It is polysynthetic in the sense that it is possible to express an entire sentence with just a single verb (see Payne 1997:46 for this rule-of-thumb). It is fusional in the sense that many of the affix morphemes in Kangri have multiple semantic components. Consider the following example sentence:

24. **गई।**
gə-0-i
go-PERF-fs
(She) went.

Notice in (24) that this single, three morpheme verb is a complete and grammatical sentence. It should be noted, however, that while this word fits Payne's rule-of-thumb, it is not as highly polysynthetic as languages like Eskimo or Quechua. In a sample narrative discourse of 326 words, there were 651 morphemes. Using Greenberg's (1959) qualitative measure, this gives a ratio of 2 morphemes per word—perhaps mid-way on the scale of synthesis.

Notice also that the verbal agreement morpheme contains both the ‘feminine’ and ‘singular’ semantic components; thus it is fusional as well. Consider these examples which show the fusional nature of Kangri affixes in pronouns and nouns.

25. **मैं रस्ते ते जांहूगा।**

m-ə̃	ɾəst-e	te	d͡ʒɑ-ɦŋg-ɑ
1s-N	road-MOS	by	go-FUT-ms

I will go by road.

In (25) the pronoun, /mə̃/ ‘I’, is composed of 3 semantic components: 1st person and ‘singular’ number fused in the first phoneme /m/, and nominative case in the remainder. Also notice the noun meaning ‘road’ with its obligatory suffix for gender (masculine), case (oblique), and number (singular) (i.e. MOS).

5.2 Morphological Processes

While Kangri primarily exhibits suffixation, it has the typical Indo-Aryan negation prefixes, as well as a few instances of stem modification and suppletive forms.

5.2.1 Prefixation

Negation Prefixation is considered a lexical operation due to the wide variety of allomorphs used to represent it (cf. Kamboj 2002 regarding Punjabi). Consider these examples:

Table 5-1: Negation Prefix Examples

ज्ञान	**अज्ञान**
gjɑn	ə-gjɑn
knowledge	not-knowledge
knowledge	*lack of knowledge*

अंत	**अनंत**
ənt	ən-ənt
end	not-end
end	*unending*

सुणी	**अणसुणी**
sʊɽ̃i	əɽ̃-sʊɽ̃i
heard	not-heard
heard	*unheard*

Notice from the examples in Table 5-1 that the negative prefix has one of three different shapes: |ə-| |ən-| |əɽ̃-|. It is not possible to predict the shape of the prefix on the basis of the phonology of the stem, nor the word category.[37] This suggests that this alternation is not phonologically-conditioned, but rather reflects lexical allomorphy. The discussion of stress patterns from §4.3.5 also argued for the derivational nature of these prefixes.

In fact, there many exceptions, but using Haspelmath's (2002) word schema syntax, this process can be characterized as follows:

Table 5-2: Haspelmath Word Formulas for Negative Prefixation

V	[/X/$_V$ 'x'] ⇔ [/əɽ̃X/$_V$ 'not x']	sʊɽ̃i 'heard' ⇔ əɽ̃-sʊɽ̃i 'unheard' [38]
N	[/X/$_N$ 'x'] ⇔ [/əX/$_N$ 'not x']	bɪsʊɑs 'belief' ⇔ əbɪsʊɑs 'unbelief'
ADJ	[/X/$_{ADJ}$ 'x'] ⇔ [/əX/$_{ADJ}$ 'not x']	səp^{h}əl 'successful' ⇔ əsəp^{h}əl 'unsuccessful'

[37] Compare /**असुहृद**/ [ə-sʊɦd] 'impure' with /**अनंत**/ [ən-ənt] 'unending' from Table 5-1 for a different allomorph that goes with an adjective, and with /**अणसुणी**/ [əɽ̃-sʊɽ̃i] 'unheard' for a different allomorph that goes with the same initial [s]). This shows that neither word class, nor phonology dictates the allomorph used.

[38] Punjabi has verbs which occur with the |ə-| allomorph (e.g. /**अचल**/ /ə͡ʧəl/ 'immoveable'; Kamboj 2002). In Kangri, the only allomorph of the negative prefix that occurs on a verb in my data is the |əɽ̃-| allomorph. However, since there are Kangri adjectives that also use the |əɽ̃-| allomorph (e.g. /**अणगिणत**/ /əɽ̃-gɪɽ̃ət/ 'innumerable'), the different allomorphs still do not definitively correlate with word class.

Notice from these examples that the negative prefix can be used with any word class, and there is no change of word category between the original and negated forms.

5.2.2 Stem Modification

Stem modification occurs only in verbs and is morphologically-conditioned. It is almost universal in short stemmed verbs (i.e. those with a V or CV syllable shape) and especially so with high frequency verbs (cf. Haspelmath 2002:247). For example, the verb 'come' has two allomorphs: one (i.e. the stem |ɔ|) when it occurs before certain tense-aspect-mode (TAM) morphemes and another (i.e. the stem |ɑ|) when it occurs before others:

Table 5-3: Suffix Morphemes With Different Allomorphs of 'come'

|ɔ| allomorph of 'come'				|ɑ| allomorph of 'come'		
औंह़गा	ɔ-ɦŋg-ɑ	come-FUT-ms		आया	ɑ-j-ɑ	come-PERF-ms
औंदा	ɔ-nd-ɑ	come-HAB-ms		आए	ɑ-0-e	come-PERF-mp
औणा	ɔ-ɽ̃-ɑ	come-INF-ms		आई	ɑ-0-i	come-PERF-fs
औआ	ɔ-ɑ	come-IMP.IMM.PL		आइआं	ɑ-0-ɪɑ̃	come-PERF-fp
औआ दा	ɔ-ɑ d-ɑ	come-PROG-ms		आई	ɑ-i	come-CPCL
औह़ण	ɔ-ɦɽ̃	come-pl:SUBJ		आह़	ɑ-ɦ	come-IMP.IMM.INT

It almost looks as though there could be a morphophonological explanation for the different allomorphs: the |ɔ| allomorph occurs when followed by a nasal or [ɑ], and the |ɑ| allomorph occurs when followed by any other vowel or [-j].[39] The final examples

[39] Though, the |-j| itself is an alternate allomorph of the null Perfective aspect morpheme which gets inserted between two non-high, non-front vowels (i.e. $Ø_{PERF} \rightarrow$ [j] / [-high, -front] _ [-high, -front]).

from each set potentially do not conflict with each other, because the /ɦ/ phoneme is ultimately realized as a tone and is otherwise transparent to most phonological rules (cf. §2.3.2). However, neither of these environments forms a very well-defined natural class, and so it is assumed that the allomorphs of ‘come’ are morphologically-conditioned.

Another productive stem alternation is a modification of the stem vowel (and sometimes initial consonant) affecting verb stems with a CV syllable shape. The following table shows an example for the verb |जा| |d͡ʒɑ| ‘go’:

Table 5-4: Suffix Morphemes With Different Allomorphs of ‘go’

|d͡ʒɑ| (regular) allomorph of ‘go’		
जांह़गा	d͡ʒɑ-ɦŋg-ɑ	go-FUT-ms
जांदा	d͡ʒɑ-nd-ɑ	go-HAB-ms
जाणा	d͡ʒɑ-ɳ̃-ɑ	go-INF-ms
जाआ	d͡ʒɑ-ɑ	go-IMP.IMM.PL
जाआ दा	d͡ʒɑ-ɑ d-ɑ	go-PROG-ms
जाह़ण	d͡ʒɑ-ɦɳ̃	go-pl-SUBJ
जाई	d͡ʒɑ-i	go-CPCL
जाह़	d͡ʒɑ-ɦ	go-IMP.IMM.INT

|g| (suppletive) allomorph of ‘go’		
गेआ	g-0-eɑ	go-PERF-ms
गै	g-0-æ	go-PERF-mp
गई	gə-0-i	go-PERF-fs
गइआं	gə-0-ɪɑ̃	go-PERF-fp

Notice in Table 5-4, that the regular stem of the verb ‘go’ (i.e. |d͡ʒɑ|) has been reduced to the single consonant |g| when it occurs before the Perfective aspect morpheme (and related variants—see §5.3.4.2 and 5.3.4.3).

The same process of stem alternation happens with these frequently occurring words that also have an underlying CV syllable shape:

Table 5-5: CV (mid-vowel) Stem Alternations

	/ _ PERF	/ elsewhere
|लै| |læ| ‘take’	|l|	|læ|
|पौ| |pɔ| ‘be forced to X’	|p|	|pɔ|

5.2.3 Suffixation and Compounding

By far the most productive type of morphological process in Kangri is suffixation. All word categories have suffixation processes. Kangri verbs distinguish between derivational and inflectional suffixation. The derivational suffixes in Kangri are valence changing operations. Inflectional suffixation is for Aspect, Mode, and Agreement.

5.2.3.1 Derivational Suffixation and Compounding—Lexical Strata 1 & 2

A VERB ROOT plus a derivational affix creates a VERB STEM (Payne 1997:41). According to Bybee (1985), valence adjusting operations, especially those that are non-obligatory, are best categorized as derivational, rather than inflectional operations. In Indo-Aryan languages generally, the morphology of causation falls into this category (Cardona & Jain 2007, Masica 1993). Kangri also has a passive (PASS) morpheme, which reduces the valance of a predication by one argument. This suggests that it also is best analyzed as a derivational suffix.

In §2.4, it was argued that derivational suffixation occurs in stratum 1 of the lexicon in order to account both for the order of suffixation (inside of the compounding

and inflectional suffixes for Aspect, Mood, and Agreement), and also for the phonological rules which apply only to fully formed stems (e.g. the stress assignment rules discussed in §4.3.5).

Verb compounding is also very productive in Kangri and is here argued to occur in stratum 2 of the lexicon to account for the ordering, which is after derivational affixation in stratum 1 and before inflectional affixation in stratum 3. Finally, as with most other Indo-Aryan languages, Kangri also allows the creation of verb stems from noun and adjective compounding. This is accomplished periphrastically by adding one of two verbalizers after the noun or adjective. In this present work, it is argued that this form of compounding represents a type of NOUN INCORPORATION.

The following figure shows what a Kangri verb stem looks like schematically:

<table>
<tr><th colspan="3">ROOT</th><th>DERIVATIONAL</th><th colspan="2">(COMPOUNDING)</th></tr>
<tr><td colspan="3">VERB ROOT</td><td rowspan="3">|-ɑ|-ʊɑ| ‘CAUS’
|-o| ‘PASS’</td><td rowspan="3">|-i| ‘CPCL’</td><td>INTRANSITIVE
|d͡ʒɑ| ‘go’
…</td></tr>
<tr><td colspan="3">NOUN INCORPORATION</td><td rowspan="2">TRANSITIVE
|læ| ‘take’
|de| ‘give’
…</td></tr>
<tr><td>N
ADJ</td><td></td><td>|ɦo| ‘be’
|kəɾ| ‘do’</td></tr>
</table>

Figure 5-1: Kangri Verb Stem Schema

Figure 5-1 shows the distinguishable parts of the Kangri VERB STEM. First is the VERB ROOT, which may either be a lexical item or a compound involving a noun or adjective. In the latter case, the noun or adjective is followed by either the ‘be’ or ‘do’ verb functioning as a verbalizer for intransitive or transitive construction formation,

respectively. Next comes one of the two possible valence-changing, derivational suffixes, causative (CAUS) or passive (PASS). If the resulting form is part of a verb-verb compound, then the main semantic verb is affixed by the compounding participle suffix |-i| 'CPCL'. This non-finite form is then followed by one of a small, closed set of auxiliary verb stems on which the inflectional morphology is carried. However, if the main semantic verb stem is not compounded, then the inflectional morphology attaches directly to the stem of the main semantic verb.

There are three facts that support the above claim that compounding is done in the lexicon at stratum 2: First, the closed class of auxiliary verbs which can function as the second verb of a verb-verb compound may add a different semantic nuance to the predication depending on the main semantic verb. For example, consider the different nuance of meaning added to the main verbs 'eat' and 'remain' when the auxiliary, which otherwise means 'go', is added: /खाई जा/ /kʰɑ-i d͡ʒɑ/ 'eat-CPCL go' (= 'to eat up', where the addition of 'go' indicates the completive aspect) vs. /रेहई जा/ /ɾeh-i d͡ʒɑ/ 'remain-CPCL go', where the addition of 'go' changes the meaning to 'be left alive'. Since one of the core tenets of Lexical Phonology is that only lexical rules may have exceptions (Mohanan 1982; Pulleyblank 1986:7), this suggests that compounding must be done in the lexicon in order to account for these differences in semantics.

Secondly, notice that the compounding participle suffix is a vowel. As discussed in §2.3.1, stem-final vowels trigger the Consonant Gemination Rule unless they are derivational (since that rule only applies when inflectional suffixes are adjoined). The

fact that the compounding participle vowel also does not trigger this rule, suggests that verb-verb compounding is accomplished prior to the stratum in which inflectional suffixes are adjoined.

Thirdly, verb-verb compounding always occurs after derivational affixation and before inflectional affixation, which an intermediate stratum for compounding could account for.

These three facts, therefore, suggest that compounding is done in stratum 2, between derivational affixation (in stratum 1) and inflectional suffixation (in stratum 3).

The following table shows some examples of the various possible permutations of verb stems:

Table 5-6: Verb Stem Examples

कट	kəʈ cut	verb root
मान कर	mɑɑn kər esteem do	incorporation: noun + 'do'
सुहृद हो	sûd ɦo pure be	incorporation: adjective + 'be'
कटा	kəʈ-ɑɑ cut-CAUS	verb root + derivational
सेबा करुआ	sebɑɑ kər-ʊɑɑ service do-CAUS	incorporation + derivational
घ़ली दे	gə̆l-i de send-CPCL give	verb root + compounding with intensifier [40]
सेबा करुआई दे	sebɑɑ kər-ʊɑɑ-i de service do-CAUS-CPCL give	incorporation + derivational + compounding with intensifier

[40] INTENSIFIER is (one of) the names given to the closed set of semantically bleached auxiliary verbs that follow the main semantic verb and carry the aspect/mood suffixes (see §5.3.3).

The final example shows a maximally specified verb stem, which includes noun incorporation, a causative derivational suffix, as well as verb-verb compounding. The following table shows how this stem would be derived in the lexicon (along with the intimate immediate imperative mood suffix):

Table 5-7: Derivation of |सेबा करुआई देह्| |sebɑɑ kərʊɑɑii deeɦ| ‘cause to serve’

		‘service’+‘do’+CAUS+CPCL+‘give’+IMP.IMM.INT
		[sebɑ] [kər] [ʊɑɑ] [ii] [dee] [ɦ]
stratum 1	Causative	[[kər] [ʊɑɑ]]
	Syllabification	[[kə.ɾ] [ʊ.ɑɑ]]
	Stress Assignment (-extrametricality)	[[kə.ɾ] [ʊ.'ɑɑ]]
	Bracket Erasure	[kə.ɾʊ.'ɑɑ]
stratum 2	Noun Incorporation	[[sebɑɑ] [kə.ɾʊ.'ɑɑ]]
	Compounding Participle	[[sebɑɑ] [kə.ɾʊ.'ɑɑ] [ii]]
	Compounding Aux. Verb	[[sebɑɑ] [kə.ɾʊ.'ɑɑ] [ii] [de]]
	Resyllabification	[[se.bɑɑ] [kə.ɾʊ.'ɑɑ.] [ii] [de]]
	Stress Assignment (+extrametricality)	[['se.bɑ(ɑ)] [kə.ɾʊ.'ɑɑ.] [ii] [de]]
	Bracket Erasure	['se.bɑɑ kə.ɾʊ.'ɑɑ.ii de]
stratum 3	Imperative Mood Suffix	[['se.bɑɑ kə.ɾʊ.'ɑɑ.ii de] [ɦ]]
	Tone rules	[['se.bɑɑ kə.ɾʊ.'ɑɑ.ii dê] []]
	Bracket Erasure	['se.bɑɑ kə.ɾʊ.'ɑɑ.ii dê]

Notice that Noun Incorporation is characterized as a compounding process and is therefore accomplished in stratum 2. One of the arguments for this is the fact that extrametricality is required for stress assignment in the noun that is incorporated. If incorporation were done in stratum 1 (when the extrametricality requirement is excluded—see §4.3.4.1), then the wrong stress pattern would be produced on the

incorporated noun. Also notice that once stress is assigned to a word (e.g. [kə.ɾʊ.ˈɑɑ] in stratum 1), the process does not reapply in a later stratum. This again is a convenience for Hindi, but not strictly required for Kangri. If the Stress Assignment process were reapplied in stratum 2 or 3 to a stem in Hindi that included a causative suffix, then it would reassign stress to an earlier syllable since the causative suffix would be extrametrical in those later strata. With Kangri, either the compounding participle (|-ii| CPCL) or another inflectional suffix would eventually be adjoined which could theoretically be excluded via extrametricality should the stress assignment rule be reapplied in a later strata, so it would not change the outcome regardless. Nevertheless, so that this account may apply for Hindi as well, the stress assignment rules are assumed to not reapply in a later stratum if they are applied during an earlier one.

5.2.3.2 Inflectional Suffixation—Lexical Stratum 3

Various Aspect and Mood morphemes can be adjoined to the verb stem complex described above. It is argued here that these suffixes are adjoined in the lexicon at stratum 3, which accounts for their occurrence after the derivational and compounding morphology described above, as well as accounting for the various morphophonemic alternations that were discussed in §2.3.

The following figure shows the schema for the Tense/Aspect/Mood (TAM) categories grammaticalized in Kangri:

<table>
<tr><th>VERB STEM</th><th>ASPECT, MOOD</th><th>AGREEMENT</th></tr>
<tr><td rowspan="4">from Figure 5-1</td><td>(RES) PERF
HAB
PROG
INF</td><td rowspan="2">ms
mp
fs
fp</td></tr>
<tr><td>FUT</td></tr>
<tr><td>SUBJ.FUT</td><td>1s
2s, 3s
p</td></tr>
<tr><td colspan="2">SUBJ.IMM</td></tr>
<tr><td colspan="2">IMP.IMM.INT
IMP.IMM.PL
IMP.INSTR.INT
IMP.INSTR.PL
IMP.URGE</td></tr>
</table>

<table>
<tr><th>TENSE</th><th>AGREEMENT</th></tr>
<tr><td>PAST
FUT</td><td>ms
mp
fs
fp</td></tr>
<tr><td>PRES</td><td>s
p</td></tr>
</table>

Figure 5-2: Kangri Verb TAM Inflection Schema

Notice in Figure 5-2 that Aspect and Mood suffixes attach to the verb stem complex schematized in Figure 5-1, which might be a single lexical item or multiple items compounded, including any potential derivational suffixes. For the three different aspect morphemes (i.e. (RES) PERF, HAB, and PROG), the infinitive morpheme (INF), and future tense morpheme (FUT), there is a set of Gender-Number agreement suffixes that obligatorily occurs in order to form a complete word. The subjunctive future morpheme (SUBJ.FUT) also occurs with an agreement suffix, though it is for Person-Number

agreement rather than Gender-Number. The immediate subjunctive (SUBJ.IMM) does not appear to inflect for agreement, but as will be discussed later, this may be due to the fact that it always occurs with a 1st person plural subject only. The imperative mood suffixes do not show agreement except to the extent that they distinguish different honorific levels of the second person subject: intimate (INT) forms correspond to a singular agreement pattern, and plural (PL) forms correspond to a plural agreement pattern.[41] Notice that Tense is encoded periphrastically via a tense auxiliary which can occur after any verb with one of the three aspectual suffixes (see Chapter 7 for a fuller treatment of the tense auxiliary forms) or the infinitive suffix (see §5.3.4.6).

5.3 Verb Morphology

In the following sections, we will look at the details of the different areas of Figure 5-1 and Figure 5-2. In each section, a brief example will be given followed by a word schema diagram (Haspelmath 2002) to account for the data.

5.3.1 Noun Incorporation

Noun incorporation is a very productive phenomenon in Kangri and many Indo-Aryan languages. It is accomplished by combining a noun or adjective with one of two verbs, |**हो**| |ɦo| 'be' or |**कर**| |kəɾ| 'do'. To form an intransitive predication, the 'be' verb is used; to form a transitive predication, 'do' is used.[42]

[41] Though, it is may more properly be thought of as honorific level agreement (i.e. polite), since the plural form could be used for a singular person to whom respect is due.

[42] In fact, since this phenomenon is restricted to these two verbs, it is possible that they are acting respectively as intransitive and transitive verbalizers. However, due to certain other syntactic requirements of these constructions, and because their behavior overlaps significantly with noun incorporation, this is the suggested analysis.

In terms of the effect of incorporation on the clause, Kangri falls in the CLASSIFYING INCORPORATION type, rather than COMPOUNDING INCORPORATION type (Gerdts 1998). The evidence against compounding is that noun incorporation is an analytic operation in Kangri—at least orthographically. There is no evidence (e.g. unique stress patterns, or an otherwise single domain for phonological processes) to suggest that the incorporated noun is phonologically part of the verb. Also, periphrastic adverbs and negatives can occur between the incorporated noun and the verb. This, in fact, suggests that it may be better characterized as NOUN STRIPPING (cf. Mithun 1984) rather than noun incorporation.

The evidence in favor of Classifying Incorporation is that: a) in most cases, the valence of the predication is not changed by the incorporation, b) *remainders* of the object NP can surface in object position, and c) the incorporated noun can determine agreement. These are demonstrated below.

The most compelling evidence that this is incorporation rather than just simple juxtaposition is due to certain syntactic requirements that come with these forms: the combination of certain nouns with the incorporating verbs determines specific case requirements on the argument NPs. Consider:

26. **(तू) असां कन्ने गल्ल-बात कर।**

(tu)	əsɑ̃	kənne	gəll-bɑt	kəɾ-0
2S:N	1P:O	ACCOMP	conversation	do-IMP.IMM.INT
{NP}	{	NPobj }	{ N	V }

(You) talk with us (lit: do conversation with us).

Notice in (26) that the object NP is in the accompaniment case. This is a requirement of the combination of the noun ‘conversation’ and ‘do’, but not with other nouns.

Consider this example which does not involve incorporation and the object of which is not case marked as above: [43]

27. **(तू) काम कर।**

(tu)	kɑm	kəɾ-0
2S:N	work	do-IMP.IMM.INT
{NP}	{NPobj}	{ V }

(You) do the work (or 'You work')

The other difference to notice between (26) and (27) is that the former sentence has three overt nominal constituents to account for. And it cannot be considered a case of DOUBLING (i.e. with a trace remaining), because the incorporated noun ‘conversation’ is not semantically related to the object. Furthermore, in unambiguous cases, ‘do’ is otherwise always a transitive verb (as in 27).

The other evidence for Classifying Incorporation is the fact that the incorporation examples can still determine agreement. Consider these two examples in which a masculine noun meaning ‘welcome’, and a feminine noun meaning ‘worship’ are incorporated with the verb ‘do’ to form transitive clauses:

[43] The combination of ‘work’ and ‘do’ gives the meaning ‘to work’, but there is no syntactic reason to suppose this involves incorporation.

28. **मैं तुसां दा सुआगत करदा।**

mæ̃	tʊsɑ̃	d-**ɑ**	sʊɑgət	kər-d-ɑ
1S:N	2P:O	GEN-**mns**	welcome	do-HAB-ms
{NP}	{	NPobj }	{ **N_M**	V }

I welcome you (lit: do your welcome)

29. … **तिसा दी पूजा करदे।**

tɪ-sɑ	d-**i**	puʤɑ	kər-d-e
DST.NV-3FS	GEN-**fns**	worship	do-HAB-mp
{	NPobj }	{ **N_F**	V }

Having considered her their family god, (they) worship her (lit: do her worship)

In (28) and (29), both examples require the object be in the genitive case. Notice, however, that the genitive case postpositions have different agreement suffixes: *masculine* in (28) vs. *feminine* in (29). This is due to the differences between the nouns that were incorporated (masculine vs. feminine). These examples show that even after a noun is incorporated, it can still govern the genitive case agreement in the original noun phrase. This also shows that Kangri incorporation involves MODIFICATION—the possibility of free-standing material remaining in the noun phrase whose head was incorporated (Gerdts 1998).

Compound Incorporation involves a change to the argument structure of a predication: when a noun is incorporated, the object (or subject) is lost. For example, the verb *babysit* is an intransitive verb derived from an originally transitive predication (i.e. *to watch a baby*). In the kind of Classifying Incorporation exhibited in Kangri, there is not necessarily a change of valance. Though one noun is incorporated into the verb, another one is added as the above examples show. In order to account for these differences, slightly modified versions of the word schemas that Haspelmath (2002:221)

suggested for expressing noun incorporation will be used. For example, (26) can be expressed by the following schema:

30. $$\begin{bmatrix} /X/_{N} \\ 'x' \end{bmatrix} \;\&\; \begin{bmatrix} /kar/_{VR} \\ \underline{SUBJ} \oplus \underline{OBJ} \\ agent_i \quad theme_j \\ 'A_i \text{ does } T_j' \end{bmatrix} \Leftrightarrow \begin{bmatrix} /X\ kar/_{VR} \\ \underline{SUBJ} \oplus \underline{(OBJ)_{ACCOMP}} \\ agent_i \quad patient_k \\ 'A_i \text{ does x with } P_k' \end{bmatrix}$$

This schema reads as follows: when a noun 'X' is incorporated (i.e. &) with the verb root (i.e. VR) |kər| 'do', which normally is a transitive verb involving a Subject Agent and an Object Theme, the result is an incorporated noun X, which results in a predication involving the same Subject Agent and a new Object Patient which is the accompaniment argument of the new verb compound.

Similarly, (28) and (29) can be accounted for by the following word schema:

31. $$\begin{bmatrix} /X/_{N} \\ 'x' \end{bmatrix} \;\&\; \begin{bmatrix} /kar/_{VR} \\ \underline{SUBJ} \;--\; \underline{OBJ} \\ agent_i \quad theme_j \\ 'A_i \text{ does } T_j' \end{bmatrix} \Leftrightarrow \begin{bmatrix} /X\ kar/_{VR} \\ \underline{SUBJ} \;--\; \underline{(OBJ)_{GEN\ -\ GENDER(x)}} \\ agent_i \quad patient_k \\ 'A_i \text{ does x to } P_k' \end{bmatrix}$$

In (31), the result of the incorporation is a predication involving the same Subject Agent and a new Object Patient which is the genitive case argument of the new verb compound, whose gender specification depends on the gender of the incorporated noun.

As mentioned above, the noun incorporation can also be done with the 'be' verb |**हो**| |ɦo|, resulting in an intransitive predication. This can be accounted for by:

32. $$\begin{bmatrix} /X/_{N} \\ 'x' \end{bmatrix} \;\&\; \begin{bmatrix} /ho/_{VR} \\ \underline{\text{SUBJ}} \\ \text{theme}_{i} \\ 'T_{i} \text{ happens}' \end{bmatrix} \Leftrightarrow \begin{bmatrix} /X \text{ ho}/_{VR} \\ \underline{\text{SUBJ}} \\ \text{theme}_{i} \\ 'x \text{ happens}' \end{bmatrix}$$

5.3.2 Derivational Morphology

There are two derivational suffixes in Kangri, both of which are valence-adjusting operations: the causative and the passive. However before looking at the Kangri data, it will be helpful to discuss the corresponding forms in Hindi as a point of comparison.

5.3.2.1 Hindi Causation

Hindi has two derivational suffixes and, like Kangri, they are both valence adjusting operations. However, both are valence *increasing* operations. The passive in Hindi is accomplished in one of two ways (Smith 1946): a syntactic passive (a.k.a. TRUE PASSIVE) and a lexical passive (a.k.a. NEUTER PASSIVE). The lexical passive in Hindi corresponds most closely with the passive morpheme in Kangri, so the following discussion will be limited to that form of the passive for comparison purposes.

These three valence adjusting operations in Hindi result in the following possible related constructions:

- ACTIVE: {AGENT, PATIENT}
- PASSIVE: {PATIENT}
- 1ST CAUSATIVE: {CAUSER, AGENT, PATIENT}
- 2ND CAUSATIVE: {CAUSER, AGENT, PATIENT, BENEFICIARY}

Compare these related examples:

33. **नाई ने बाल काटे।**

nɑi ne bɑl kɑʈ-0-e
barber ERG hair cut-PERF-mp
{ NP_{AGT} } {NP_{PAT}} { V }
The barber cut the hair.

34. **बाल (नाई से) कटे।**

bɑl (nɑi se) kəʈ-0-e
hair (barber INSTR) **be.cut**-PERF-mp
{NP_{PAT}} { NP_{AGT} } { V }
The hair was cut (by the barber).

35. **मैंने (नाई से) बाल कटाए।**

mæ̃-ne (nɑi se) bɑl kəʈ-ɑ-0-e
1S-ERG (barber INSTR) hair be.cut-**CAUS1**-PERF-mp
{NP_{CAUSER}} { NP_{AGT} } {NP_{PAT}} { V }
I had the barber cut the hair.

36. **मैंने नाई से बेटे के बाल कटवाए ।**

mæ̃-ne nɑi se beʈe kɑ bɑl kəʈ-wɑ-0-e
1S-ERG barber INSTR son GEN hair be.cut-**CAUS2**-PERF-mp
{NP_{CAUSER}} { NP_{AGT} } {NP_{BENE}} {NP_{PAT}} { V }
I had the barber cut (my) son's hair.

37. **मैंने आया से बेटे को बिस्कुट खिलवाया ।**

mæ̃-ne ɑjɑ se beʈe ko bɪskʊʈ k^{h}ɪl-wɑ-j-ɑ
1S-ERG nanny INSTR son DAT cookie eat-**CAUS2**-PERF-ms
{NP_{CAUSER}} { NP_{AGT} } { NP_{BEN} } {NP_{PAT}} { V }
I had the nanny feed (my) son.

The example in (33) represents the simple active sentence with an agent (i.e. the barber) and a patient (i.e. the hair being cut). In this construction, the verb has no special derivational affixes and its meaning is simply 'cut'. This example has a semantic and syntactic valence of two.

In the lexical passive construction of (34), notice that the root of the verb has undergone a shortening of its vowel. This is a somewhat productive stem alternation

pattern for forming lexical passive of active, transitive verbs.[44] Notice that the agent argument can optionally appear in the instrumental case. The net result is a predication with a semantic valence of two, but a syntactic valence of one, where the object of the underlying active sentence becomes the subject of the new passive construction. This can be expressed in a word schema formulation as follows:

38. $$\left[\begin{array}{l} /\text{XVVY}/_{\text{VR}} \\ \underline{\text{SUBJ}} \;--\; \underline{\text{OBJ}} \\ \text{agent}_{\,i} \qquad \text{patient}_{\,j} \end{array}\right] \Leftrightarrow \left[\begin{array}{l} /\text{XVY}/_{\text{VR}} \\ \underline{\text{SUBJ}} \;--\; \underline{(\text{OBL})_{\text{INSTR}}} \\ \text{patient}_{\,j} \qquad \text{agent}_{\,i} \end{array}\right]$$

In (35), the 1st causative suffix (CAUS1) is added to the stem of the lexical passive verb, 'be cut' rather than the active 'cut'. Though not universal, it is fairly common that causatives in Hindi are formed on the root of the lexical passive rather than the related active root. Regardless of whether the 1st causative suffix goes on an active or a lexical passive root, the result is a change in the argument structure by the addition of a CAUSER argument. The agent may still be expressed in the instrumental case. The net result is a predication with a semantic valence of three, and a syntactic valence of two.[45] This can be expressed in a word schema formulation as follows (where VST stands for verb stem):

[44] Other examples include /**मार**/ /mɑɾ/ 'kill' vs. /**मर**/ /məɾ/ 'die'; /**सी**/ /si/ 'sew' vs. /**सिल**/ /sɪl/ 'be sewn'.

[45] Hindi and Kangri are split-ergative languages, in which the subject of a transitive sentence is marked with the ergative case when the verb is in the Perfective aspect. So rather than reflecting the loss of an argument (cf. the agent in the instrumental case), the ERG morpheme here is evidence that the syntactic valence here is 2.

39. $$\left[\begin{array}{l}/X/_{VR} \\ \underline{SUBJ} \text{ -- } \underline{OBJ} \\ \text{agent}_i \quad \text{patient}_j\end{array}\right] \Leftrightarrow \left[\begin{array}{l}/Xaa/_{VST} \\ \underline{SUBJ} \text{ -- } \underline{(OBL)_{INSTR}} \text{ -- } \underline{OBJ} \\ \text{causer}_k \quad \text{agent}_i \quad \text{patient}_j\end{array}\right]$$

In (36), the 2nd causative suffix (CAUS2) is added to the verb, which results in a change in the argument structure by the addition of a BENEFICIARY participant. With this morpheme, there is a difference in behavior in how the beneficiary constituent is marked depending on whether the 2nd causative suffix is on the root of an active verb versus a lexical passive root. With lexical passive roots, the options are more limited. Notice in (36) that the beneficiary is marked in the genitive case and structurally functions as the possessor of the patient argument, resulting in a semantic valence of four, but a syntactic valence of two. This can be expressed in a word schema formulation as follows:

40. $$\left[\begin{array}{l}/X/_{VR(intrans)} \\ \underline{SUBJ} \text{ -- } \underline{OBJ} \\ \text{agent}_i \quad \text{patient}_j\end{array}\right] \Leftrightarrow \left[\begin{array}{l}/Xvaa/_{VST} \\ \underline{SUBJ} \text{ -- } \underline{(OBL)_{INSTR}} \text{ -- } \underline{(OBL)_{GEN}} \text{ -- } \underline{OBJ} \\ \text{causer}_k \quad \text{agent}_i \quad \text{beneficiary}_l \quad \text{patient}_j\end{array}\right]$$

As (37) shows, with the 2nd causative morpheme on an *active* verb root, the beneficiary generally occurs with the dative case marker (cf. indirect objects). Because an indirect object would be considered a syntactic argument of a ditransitive verb, similarly this beneficiary argument will be considered a syntactic argument. This results in a construction with a semantic valence of four and a syntactic valence of three. This can be expressed in a word schema formulation as follows:

41. $$\left[\begin{array}{c}/X/_{VR(trans)} \\ \underline{SUBJ} \;--\; \underline{OBJ} \\ \text{agent}_i \quad \text{patient}_j\end{array}\right] \Leftrightarrow \left[\begin{array}{c}/Xvaa/_{VST} \\ \underline{SUBJ} \;--\; \underline{(OBL)_{INSTR}} \;--\; \underline{(IO)_{DAT}} \;--\; \underline{OBJ} \\ \text{causer}_k \quad \text{agent}_i \quad \text{beneficiary}_l \quad \text{patient}_j\end{array}\right]$$

It is often the case that the CAUSER and the BENEFICIARY refer to the same participant (e.g. '*I* had the barber cut *my* hair', or '*I* had the tailor stitch *me* a suit'). In this situation, either the 1st or 2nd causative form can be used with equivalent meaning. But if the causer and the beneficiary are different referents, then only the 2nd causative forms are grammatical.

5.3.2.2 Kangri Causative and Passive

Kangri also has two derivational suffixes: a valence increasing causative (CAUS) morpheme, and a valence decreasing passive (PASS) morpheme. The two levels of causation in Hindi do not seem to exist in Kangri,[46] though sometimes the causative morpheme has an allomorph shaped like the Hindi 1st causative and sometimes like the 2nd. It is possible that at some earlier stage of the language these two distinct causative morphemes existed (as in Hindi), or it could be that the forms with the 2nd causative allomorph have diffused into Kangri through contact with Hindi.

These two valence adjusting operations in Kangri, then result in the following possible related constructions:

- ACTIVE: {AGENT, PATIENT}
- PASSIVE: {PATIENT}
- CAUSATIVE: {CAUSER, AGENT, PATIENT}

[46] Whenever I've tried to get a Kangri translation of these forms, native speakers report that they feel like they are using Hindi rather than Kangri. I interpret this reluctance to mean that the distinction does not exist in Kangri.

Compare these related examples:

42. **राम्मैं जाल़ी कट्टी।**

ɾɑmm-ɑ̃ d͡ʒɑl̪i kəʈ̪-0-i
Ram-ERG screen cut-PERF-fs
{NP$_{AGT}$} {NP$_{PAT}$} { V }
Ram cut the screen.

43. **जाल़ी (राम्मैं ते) कटोई।**

d͡ʒɑl̪i (ɾɑmm-ɑ̃ te) kəʈ-o-0-i
screen (Ram-MOS by) cut-**PASS**-PERF-fs
{NP$_{PAT}$} { NP$_{AGT}$ } { V }
The screen was cut (by Ram).

44. **मैं (राम्मैं ते) जाल़ी कटाई।**

mɑ̃ (ɾɑmm-ɑ̃ te) d͡ʒɑl̪i kəʈ-ɑ-0-i
1S:ERG Ram-MOS by screen cut-**CAUS**-PERF-fs
{NP$_{CAUSER}$} { NP$_{AGT}$ } {NP$_{PAT}$} { V }
I had Ram cut the screen.

45. **कुछ लोकां इक छोट्टा मंदुरू बणुआई दित्तेआ।**

kʊt͡ʃʰ lok-ɑ̃ ɪk t͡ʃʰoʈʈɑ məndʊru bəʈ̃-ʊɑ-i dɪ-0-tt-eɑ.
some people-ERG one small temple be.made-**CAUS**-CPCL give-RES-PERF-ms
{ NP$_{CAUSER}$ } { NP$_{PAT}$ } {VR VCR }
Some people had (someone) build a smallish temple (there)

The example in (42) represents the simple active sentence with an agent (i.e. Ram) and a patient (i.e. the screen being cut). In this construction, the verb has no special derivational affixes and its meaning is simply 'cut'. This example has a semantic and syntactic valence of two.

Though Kangri has lexical passive verbs also, the morphological way that a passive can be made with certain verbs is by adjoining the passive derivational suffix to an active, transitive verb stem. Notice in (43), the first suffix on the verb root is the PASS morpheme |-o|. Also notice that, as in Hindi, the agent argument can optionally appear

followed by a postposition. The net result is a predication with a semantic valence of two, but a syntactic valence of one, corresponding to the patient of the original active sentence. This can be expressed in a word schema formulation as follows:

46. $$\left[\begin{array}{l} /X/_{VR} \\ \underline{SUBJ} \;--\; \underline{OBJ} \\ agent_{\,i} \quad\; patient_{\,j} \end{array}\right] \Leftrightarrow \left[\begin{array}{l} /Xo/_{VST} \\ \underline{SUBJ} \;--\; \underline{(OBL)_{by}} \\ patient_{\,j} \quad\; agent_{\,i} \end{array}\right]$$

In (44), the causative suffix (CAUS) is added to the root of the same verb. The result is a change in the argument structure by the addition of a CAUSER argument. The agent may optionally be expressed followed by the postposition 'by'. The net result is a predication with a semantic valence of three, and a syntactic valence of two. This can be expressed in a word schema formulation as follows:

47. $$\left[\begin{array}{l} /X/_{VR} \\ \underline{SUBJ} \;--\; \underline{OBJ} \\ agent_{\,i} \quad\; patient_{\,j} \end{array}\right] \Leftrightarrow \left[\begin{array}{l} /Xaa/_{VST} \\ \underline{SUBJ} \;--\; \underline{(OBL)_{by}} \;--\; \underline{OBJ} \\ causer_{\,k} \quad\; agent_{\,i} \quad\; patient_{\,j} \end{array}\right]$$

The example in (45) is given to show an example where the causative suffix looks more like the form of the Hindi 2nd causative (Hindi: |-वा| |-ʊɑ| 'CAUS2', Kangri: |-उआ| |-ʊɑ| 'CAUS'). As mentioned, no native speaker confirmation was forthcoming as to whether this means something different from when the form that looks like the Hindi 1st causative suffix is used. This example also shows what the verb-verb compound construction looks like, which will be discussed in the next section. Notice in (45) that the agent is not actually indicated. The pragmatic effect of this sentence is to indicate

that some people had a small temple built, but that they did not do it themselves. This is clearly a way of attenuating the importance of the agent (who is already sidelined in terms of focus by occurring with the postposition 'by' if at all) and at the same time indicating that the causers were not the agents either.

5.3.3 Verb-Verb Compounding

Kangri has several different kinds of verb-verb constructions. Sometimes verb-verb juxtaposition is used to express aspectual distinctions. For example, the INCEPTIVE is expressed by having the main semantic verb in the infinitive form, followed by the verb, **लग** |ləg| 'be applied', which then carries the Aspect and Mood of the predication. For example:

48. **सैह़ घरे जो बापस औणा लग्गा।**

sæɦ	gʰər-e	d͡ʒo	bɑpəs	ɔ-ʈ̃-ɑ	ləgg-0-ɑ
3:N	house-MOS	DAT	return	come-INF-ms	INCPT-PERF-ms

He began to return home

Notice in (48) that the main semantic verb 'come' is inflected with the infinitive suffix (INF) and a gender-number agreement suffix.[47] This is followed by another verb that is also inflected for Aspect and Gender-Number agreement. This type of construction is not handled in the schemas of Figure 5-1 or Figure 5-2, because the main verb has finite inflection rather than just occurring as a non-finite verb stem. This particular INCEPTIVE construction is discussed later in §9.4.3 (see also Butt 1995).

[47] Most Indo-Aryan languages have what are known as INFLECTED INFINITIVES, where a gender-number agreement suffix is added to the infinitive suffix depending on the context (Smith 1946).

A clearer example of verb-verb compounding is when a finite, inflected auxiliary verb follows the non-finite main semantic verb stem with the consequent slight modification to the semantics of the predication. These auxiliary verbs are known in Hindi grammars as INTENSIFIERS (Kellogg 1938, Smith 1946) or VECTORS (Hook 1974). And like Hindi, there are three main intensifiers and a dozen or so others with stricter, lexically-based, co-occurrence restrictions that can be used in this way.

In order to form a compound with an auxiliary 'vector' verb, the main verb must be suffixed with the compounding participle |-i| 'CPCL' in Kangri. This is similar to the German interfix |-s-|, which is used in compounds such as *volk-s-wagen* 'people's car'. However, unlike German, every verb-verb compound in Kangri requires the compounding participial ending. This can be expressed by the following word schema (where VC stands for verb compound):

49. $\begin{bmatrix} /X/_{VST} \\ 'x' \end{bmatrix} \Leftrightarrow \begin{bmatrix} /Xi/_{VC} \\ 'x' \end{bmatrix}$

The three main intensifiers in Kangri (like Hindi) are in two groups: the word meaning 'go' is used when the main semantic verb is intransitive, and the words meaning 'take' and 'give' are used when the main verb is transitive. The exact semantic nuance added to the predication is lexically dependent (i.e. this type of compounding is most often EXOCENTRIC), but in general terms it can be described as follows. The intransitive intensifier adds the completive aspect to the construction. Consider these two minimal pairs:

50. **तिह़नां दा ब्याह़ अगले ह़फ्ते च हुंगा।**

tɪ-ɦnɑ̃	d-ɑ	bjɑɦ	əgəle	ɦəpʰte	t͡ʃə	**ɦʊ-ng-ɑ**
DST.NV-3P:O	GEN-mns	wedding	next	week	in	**be-FUT-ms**

Their wedding will be next week.

51. **तिह़नां दा ब्याह़ अगले ह़फ्ते च होई जांह़गा।**

tɪ-ɦnɑ̃	d-ɑ	bjɑɦ	əgəle	ɦəpʰte	t͡ʃə	**ɦo-i**	**d͡ʒɑ-ɦŋg-ɑ**
DST.NV-3P:O	GEN-mns	wedding	next	week	in	**be-CPCL**	**go-FUT-ms**

Their wedding will be (completed) next week.

As shown in the free translations, (51) has more of a focus on the completion of the event described by the verb as compared with (50), which has just the main semantic verb alone.

For the transitive intensifiers, the nuance added is normally related to who is going to be the beneficiary of the action associated with the verb. If it is for the benefit of the agent, then the 'take' intensifier is used. Otherwise, if it is for someone else's benefit, then the 'give' intensifier is used. Consider these three noun incorporation examples that provide minimal pairs with the two possible intensifiers:

52. **दरुआज्जा बंद करा।**

dərʊad͡ʒd͡ʒɑ	bənd	**kər-ɑ**
door	close	**do-IMP.IMM.PL**

(You) close the door.

53. **दरुआज्जा बंद करी लेआ।**

dərʊad͡ʒd͡ʒɑ	bənd	**kər-i**	**le-ɑ**
door	close	**do-CPCL**	**take-IMP.IMM.PL**

(You) close the door (you seem to be cold).

54. **दरुआज्जा बंद करी देआ।**

dərʊad͡ʒd͡ʒɑ	bənd	**kər-i**	**de-ɑ**
door	close	**do-CPCL**	**give-IMP.IMM.PL**

(You) close the door (I'm cold).

Notice in the free translation of (53) the implication that the addressee is going to be the beneficiary of the action. In (54), the implication is that someone else besides the addressee/agent will be the beneficiary.

As mentioned, the effect of the vector is lexically-dependent and will add a potentially different nuance to different main semantic verbs. Also, some verbs can only regularly take one or the other vector. For example, it is unusual for the ‘give’ vector to occur with the verb ‘eat’, except in the rare situation where someone else is benefiting from the agent’s eating:

55. **रोट्टी खाई दैं!**

ɾoʈʈ-i	kʰɑ-i	d-æ̃
bread-FNS	eat-CPCL	**give**-IMP.URGE

*(You) *eat* the bread! (for my sake)*

Finally, there are also a few situations where a transitive verb can take the normally intransitive vector meaning ‘go’, turning the transitive verb into an intransitive counterpart. For example, consider the verb ‘eat’ with ‘go’, which causes ‘eat’ to lose its agent/subject argument and becomes a lexical passive formation where the semantic patient ‘bread’ becomes the sentence subject:

56. **रोट्टी खाई गई ।**

ɾoʈʈ-i	kʰɑ-i	gə-0-i
bread-FNS	eat-CPCL	**go**-PERF-fs

The bread was eaten up

In (56), ‘go’ is functioning as a detransitivizer. Also notice that if verb-verb compounding occurs, then the main semantic verb occurs in a non-finite form (with ‘CPCL’) and the inflectional morphology of the predication attaches to the vector verb.

Hook (1974) has a good survey of the way these vector verbs have been analyzed by different scholars. The quote that seems most insightful to the present author is from Van Olphen (1970): “The [vectors] may have an effect similar to a verb particle (*give up*, *give out*, *give in*) or an adverb in English. However, in many conventional uses [they] are so commonly used that they no longer carry any meaning at all.”

5.3.4 Inflectional Categories

After derivational morphology and compounding, the suffixes which occur next involve inflectional morphology. Inflectional suffixation occurs on verb stems that were formed from noun incorporation, lexical selection of a verb root, the result of derivational affixation, and/or the result of compounding. To reflect these possibilities, the left-hand-side of all inflectional suffix word schemas shown here will take a word of class VST as input. In constructing a full verb form from the stem, there are two possible paths: Aspect or Mood.

Kangri (as with most Indo-Aryan languages) is primarily Aspect-based (see §8.3.1). That is, in terms of morphological operations, the primary grammatical categories expressed by different suffixes are aspectual. As was shown in Figure 5-2, the tense of a predication is expressed periphrastically by a tense auxiliary following the

verb. The following diagram illustrates the aspects which are grammaticalized in Kangri: [48]

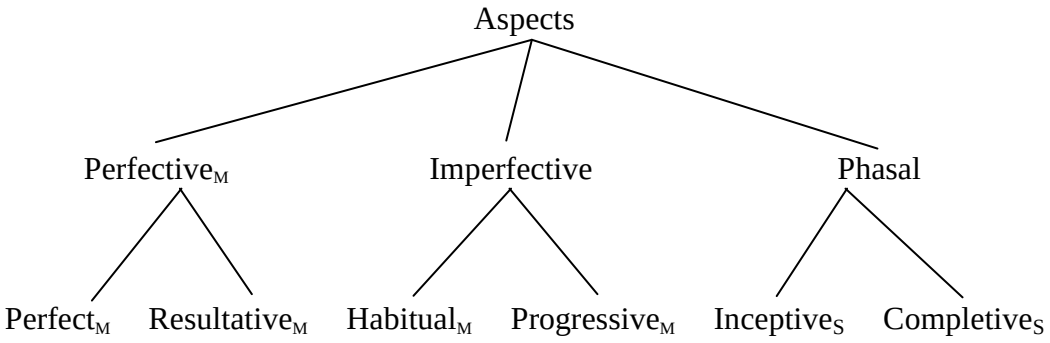

Figure 5-3: Aspects Grammaticalized in Kangri

The one exception to this characterization is the future tense, which is a morphological operation involving the FUT suffix as was shown in Figure 5-2. In fact, even though this morpheme is primarily used in future tense predications, it could also be analyzed as an IRREALIS mood suffix, which along with the subjunctive mood suffix (i.e. SUBJ—also irrealis) would make all morphological operations either aspect or mood. This analysis is especially relevant for Hindi because the same Person-Number agreement inflection is used for the Future tense (FUT) and Subjunctive (SUBJ) mood suffixes, which no other tense, aspect or mood morpheme shares. In any case, since the FUT morpheme is almost universally considered to be a tense suffix in Hindi, that label will be used in the following discussion for Kangri as well.

The following sections describe the different Aspects shown in Figure 5-3:

[48] The subscripts next to each aspect indicate whether it is a morphological operation (M) or a syntactic construction (S).

5.3.4.1 Perfective Aspect

Payne (1997) describes the perfective aspect as involving an event which is viewed in its entirety independent of tense. This is expressed by the following diagram:[49]

[--------] '*He wrote a letter.*'

In Kangri, the Perfective aspect morpheme has several allomorphs that are lexically-conditioned. Here are the possible forms and a few examples of each:

Table 5-8: Kangri Perfective Aspect (PERF) Allomorphs

|-0|	पिआ	pɪ-0-ɑ	'fall-PERF-ms'
	लग्गा	ləgg-0-ɑ	'be.applied-PERF-ms'
	रेह़आ	ɾeɦ-0-ɑ	'remain-PERF-ms'
	दौड़ा	dɔɽ-0-ɑ	'run-PERF-ms'
|-tt|	कित्ता	kɪ-tt-ɑ	'do-PERF-ms'
	दित्ता	dɪ-tt-ɑ	'give-PERF-ms'
	बित्ता	bɪ-tt-ɑ	'pass-PERF-ms'
	सुत्ता	sʊ-tt-ɑ	'sleep-PERF-ms'
	छुह़त्ता	t͡ʃʰʊɦ-tt-ɑ	'touch-PERF-ms'
|-ɦd|	खाह़दा	kʰɑ-ɦd-ɑ	'eat-PERF-ms'

Of these forms, the |-ɦd| allomorph has only a single verb it goes with (i.e. 'eat'), and the most frequent form by far is the zero alternation. This is likely due to the fact that the perfective aspect form is the aspect used for the mainline in narrative discourse, and languages tend to minimize phonology used to express the most frequent

[49] These diagrams are from Payne (1997) and use the following notations: > = unbounded time, | = a temporal boundary,]= completion, [= inception.

constructions (Payne 1997, Haspelmath 2002). The following example sentence shows the use of the Perfective aspect.[50]

57. **तुसां देआं मांपेआं अमरीका जाई नैं बड़ा ध़न कमाया ।**

tʊsɑ̃ deɑ̃ mɑ̃pe-ɑ̃ əmərikɑ d͡ʒɑ-i næ̃ bəɽɑ dɦən kəmɑ-**j**-ɑ
2P:O GEN parents-ERG America go-CPCL TS great wealth earn-**PERF**-MS
Your parents went to America and earned great wealth

Notice that the subject of this transitive sentence (i.e. 'parents') is marked with the Ergative case ending. As mentioned in footnote 45, Kangri has a split ergative agreement system. When a transitive verb occurs with the PERF morpheme, the subject will be marked Ergative. This case marking then cuts the subject off from agreement, and then the verb will agree with the unmarked object (see §9.3 for details). In (57), the object (i.e. 'wealth') is masculine and a count noun (which are always singular), so the verbal agreement is masculine singular (i.e. MS).

5.3.4.2 Perfect Aspect

Payne describes the Perfect aspect as involving a *state* brought about by the situation (normally an event) expressed by the verb. This is shown in the following diagram, where 'DC' stands for deictic center:

--------| DC '*He has come from Aqaba.*'

The Present Perfect is formed in Kangri (and Hindi) by the addition of the present tense auxiliary and the Past Perfect is formed by the addition of the past tense auxiliary. These two differ based on the deictic center around which the "state brought

[50] The |j| is a morphophonologically-conditioned variant of the zero allomorph between two non-front, non-high vowels (see footnote 39).

about by the situation" is located: either right *now*—where the 'DC' in the diagram above corresponds to the *present*—or the *past*, for which the diagram would be:

--------| DC --------- (now) '*I had entered a congested zone.*'

Most Indo-Aryan languages allow a Perfect formation that includes the future tense auxiliary, but as will be discussed in Chapter 8, that form is really more properly thought of as indicating PRESUMPTIVE mood. In that case, the deictic center is either the present or the future and involves some presumption on the part of the speaker (cf. the English: '*He must have reached Delhi* {*by now* | *by tomorrow morning*, etc…}').

Though it may not be universal, there is a close relationship in Kangri (and most Indo-Aryan languages) between the Perfective aspect and the Perfect aspect. The Perfect aspect construction is formed by the main semantic verb in the Perfective aspect form (see §5.3.4.1) followed by one of the tense auxiliaries (see Chapter 8). This can be expressed by the following formula:

58. V-PERF-agr TENSE-agr

The following shows an example of the Present Perfect construction:

59. **इन्नैं मिंजो कन्ने भ़लाई ई ता कित्ती है।**

ɪ-nn-æ̃	mĩ-d͡ʒo	kənne	bɦəlɑ-i		i	tɑ	kɪ-tt-i	ɦ-æ
PRX-ERG-3FS	1S-DAT	ACCOM	goodness-FNS		EMPH	FOC	do-**PERF**-fs	**PRES**-sg

She has done a goodness (for) me.

Notice here also that because the transitive verb has the PERF morpheme, the subject of the sentence is in the Ergative case and the verb agreement matches the object noun 'goodness', which is feminine.

5.3.4.3 Resultative Aspect

Resultatives are used to indicate that a state exists as the explicit result of a previous action (Bybee, Perkins, & Pagliuca 1994). Such forms are similar in aspect to the Perfect, but with a minor difference. Khokhlova & Singh (2007) discuss the three distinct stages that a process or action verb goes through: a) the process itself, b) the natural completion of the process and the beginning of the resulting state, and c) the resulting state. Stage (b) is known as the Perfect, [51] while stage (c) is the Resultative.

Hindi has an periphrastic construction which is considered to be a RESULTATIVE (Khokhlova 1999, Khokhlova & Singh 2007). For example:

60. **वह बाज़ार गई हुई है।**

ʊəh	bɑzɑr	gə-0-i	hʊ-0-i	h-æ
3S:N	bazaar	go-PERF-fs	be-PERF-fs	PRES-3s

She has gone to the bazaar.

The resultative construction in Hindi has the format:

61. V-PERF-agr be-PERF-agr TENSE-agr

[51] You could think of the second stage as the "Inceptive of the Perfect" as it focuses on the *beginning* of the new state resulting from the verb. Since Kangri distinguishes this *inceptive* part of the state from the *steady-state* of the state, the distinction they bring out here is useful.

This formula says that the main semantic verb (i.e. V) is in the Perfective aspect form (i.e. with PERF), followed by the 'be' verb also in the Perfective aspect form, followed by one of the inflectable tense auxiliaries, PRES, PAST or FUT.

The sentence in (60) contrasts with this Present Perfect aspect construction (which is similar in structure, but lacks the 'be' verb portion (cf. 58)):

62. **वह बाज़ार गई है।**

ʊəh bɑzɑr gə-0-i h-æ
3s:N bazaar go-**PERF**-fs **PRES**-3s
She has (just) gone to the bazaar.

Notice that (60) and (62) have very similar free translations. The only difference is the implied 'just' in the latter example. This is not so much because (62) has the meaning 'just' in it, but rather because compared with the Resultative in (60), the difference is in the focus on the initial phase of the resulting state: the Perfect is focused on the *beginning* of the state, whereas the Resultative is used to express the *steady-state* situation.

In contrast to this periphrastic construction used in Hindi, the Resultative in Kangri is a morphological operation. The morpheme for the Resultative (RES) may optionally occur in what is otherwise a Perfect Aspect construction. The following minimal pair demonstrates its use:

63. **सैह् बजारे जो गई है।**

sæɦ bəd͡ʒɑr-e d͡ʒo gə-0-i ɦ-æ
3:N bazaar-MOS DAT go-**PERF**-fs **PRES**-s
She has (just) gone to the bazaar [implied: but won't have arrived yet]

64. **सैह् बजारे जो गह्इओ (है)।**

sæɦ bəd͡ʒɑr-e d͡ʒo gə-ɦ-0-ɪo (ɦ-æ) [52]

3:N bazaar-MOS DAT go-**RES**-**PERF**-fs **PRES**-S

She has gone to the bazaar [implied: and will have arrived by now]

In comparing these two examples structurally, notice that the RES morpheme in (64) occurs after the verb stem and before the Perfective aspect morpheme. Since this is an intransitive sentence and since the subject is Nominative case (a.k.a. unmarked), the verb will agree with it; thus the 'fs' agreement suffix. However, notice that the allomorph of the agreement suffix on the main verb is different in the two constructions (i.e. |-i| vs. |-ɪo| for 'fs'). This difference is because the agreement suffixes used in these constructions differ depending on whether the RES morpheme is present or not.

The following table shows the different allomorphs of the Gender-Number agreement suffix used for the various aspect morphemes in Figure 5-2:

Table 5-9: Gender-Number Agreement Paradigm and Examples

	PERF HAB PROG INF FUT	RES	'do'		'move'	
			do-PERF-	do-RES-PERF-	move-PERF-	move-RES-PERF-
ms	|-ɑ|	|-eɑ|	kɪ-tt-**ɑ**	kɪ-0-tt-**eɑ**	t͡ʃəll-0-**ɑ**	t͡ʃəll-ɦ-0-**eɑ**
mp	|-e|	|-eo|	kɪ-tt-**e**	kɪ-0-tt-**eo**	t͡ʃəll-0-**e**	t͡ʃəll-ɦ-0-**eo**
fs	|-i|	|-ɪo|	kɪ-tt-**i**	kɪ-0-tt-**ɪo**	t͡ʃəll-0-**i**	t͡ʃəll-ɦ-0-**ɪo**
fp	|-ɪɑ̃|	|-ɪɑ̃|	kɪ-tt-**ɪɑ̃**	kɪ-0-tt-**ɪɑ̃**	t͡ʃəll-0-**ɪɑ̃**	t͡ʃəll-ɦ-0-**ɪɑ̃**

[52] The parentheses on the tense auxiliary indicate that it is optional in Kangri. If omitted, though, the present tense form is implied.

Notice in the examples for the word ‘do’ that when the |-tt| allomorph of PERF occurs, the RES morpheme surfaces as a null morpheme. In these forms, the existence of the RES morpheme is signaled by the co-occurrence of the second set of Gender-Number agreement morphemes. In the examples for the word ‘move’, notice that when the null allomorph of the PERF morpheme occurs, the |-ɦ| allomorph of the RES morpheme occurs.

A prototypical situation in which the Perfect and Resultative constructions contrast is the following: suppose it takes a woman 10 minutes to walk to her friend’s house and she leaves at 1pm. If someone comes by looking for her at 1:05pm, then her husband might use the form in (63): if it was only 5 minutes after she left, she won't have reached her friend’s house by that time (thus, “She has *just* gone”). Whereas, if it were 15 or more minutes after she left, he would use the form in (64), because he expects that she will have reached her destination by that time.

This highlights another factor that distinguishes these two constructions. When the optional Resultative aspect morpheme (RES) occurs, it signals the action is completed as intended (i.e. telic with intentionality).

Khokhlova & Singh (2007) point out that Resultatives are usually formed from telic verbs (i.e. verbs which have inherent endpoints). Depraetere (2007) discusses the central tenets of telicity as usually being defined by both lexical semantics and syntax. The lexical semantics part relates to the fact that certain (e.g. stative) verbs do not lend themselves to having an endpoint (e.g. *know*, *want*, etc.). And even when the verb itself

represents a more dynamic situation, it will often depend on the object (i.e. syntax) to define whether the construction is telic or atelic. For example, *to play a sonata* has a definite endpoint and is therefore telic. But *to play the piano* does not have a definite endpoint and is therefore atelic. He points out, however, that while the definition of telicity is always associated with the presence vs. absence of endpoints, the definition of *endpoints* is not always uniform. He argues that the pragmatic factor of intentionality must be taken into consideration in order to properly determine whether a sentence is telic or not.

It is argued here that these same issues underlie the distinction between the Resultative and what might be called the "Simple Perfect" construction. Simple Perfect is used when an event is not concluded as intended and the Resultative is used when the event is concluded as intended. Consider this additional example:

65. **सैह् तिस घ्रे जो आए, जिह्त्थु चेलेआं खाणे दी त्यारी कित्तिओ थी।**

sæɦ	tɪs	gɦəre	jo	ɑ-0-e,	d͡ʒɪ-ɦttʰʊ
they	that	home	DAT	come-PERF-mp	REL-LOC

t͡ʃel-eɑ̃	kʰɑɽ̃e	di	tjɑri	kɪ-**0**-tt-ɪo	tʰ-i.
disciple-mp:ERG	food	GEN	preparation	do-**RES**-**PERF**-fs	**PAST**-fs

They came to that house where the disciples had prepared food.

In (65), the second clause is in the Resultative Aspect form. This yields an interpretation that the "preparation of the food" by the disciples was completed as intended—everything was all set for the guests to arrive. Had the RES morpheme not been present, then the implication would have been that something was amiss: maybe they ran out of time, maybe they ran out of something needed to prepare the meal, or

maybe they had only *just* finished the preparation. In some way, the action of preparation is implied to not have been completed as intended if the RES morpheme is absent.

This Resultative grammatical category is also a morphological operation in Dogri (Gupta 1995), where the RES morpheme has the shape |-d|. The equivalent sentences in Dogri for (63) and (64) are:

66. **ओह़ बाज़ारै गी गेई ऐ।**

o-ɦ	bɑzɑr-æ	gi	ge-0-i	æ
DST-3:N	bazaar-MOS	DAT	go-**PERF**-fs	**PRES**:3s

She had (just) gone to the bazaar

67. **ओह़ बाज़ारै गी गेदी ऐ।**

o-ɦ	bɑzɑr-æ	gi	ge-d-0-i	æ
DST-3:N	bazaar-MOS	DAT	go-**RES**-**PERF**-fs	**PRES**:3s

She had gone to the bazaar

Finally, there is an adjectival use of a verb in Kangri that includes the Resultative aspect morpheme. Consider this example:

68. **क्या मह़रेओ लोक भ़िरी जींदे होई जांदे ह़न**?

kjɑ	mər-ɦ-0-eo	lok	bɦɪr-i
YNQ	be.die-**RES**-**PERF**-mp	people	again

d͡ʒinde	ɦo-i	d͡ʒɑ-nd-e	ɦ-ən?
alive	be-CPCL	go-HAB-mp	PRES-pl

Do dead people become alive again?

In (68), the second word is a (lexical passive) verb that has both the RES and PERF morphemes in exactly the form normally used for the sentence verb. However,

rather than being the predicate of the sentence, the word is functioning in this situation as a modifier for the following head noun ‘people’. This is similar to the English use of verbs in the Perfect Participle form as nominal modifiers (e.g. ‘The *beaten* man was dying’).

5.3.4.4 Habitual Aspect

The habitual aspect involves an event which occurs on a regular basis, though not necessarily at the present time. A habitual aspect event is viewed from the inside and is therefore a sub-type of imperfective aspect. This is shown in the following diagram:

<----------> ‘*He writes letters.*’

In Kangri, the habitual aspect is encoded morphologically by the suffix |-द| |-d| ‘HAB’. However, as discussed in §2.3.3, there is a phonologically-conditioned alternate when this morpheme is preceded by a vowel, when it surfaces as [nd]. This morpheme is followed by one of the standard set of Gender-Number agreement morphemes (see Table 5-9) and the agreement will always be with the subject of the sentence since the subject of a Habitual aspect sentence is always nominative case and therefore, available for agreement.

As will be discussed further in Chapter 8, the Habitual aspect can occur in any of the three tenses: past, present and future. The following example shows the past habitual construction:

69. **दूरा ते लोक लाज्जे ताईं तिह़नां बलह़ औंदे थे ।**

durɑ	te	lok	lɑd͡ʒd͡ʒe	tɑĩ	tɪɦnɑ̃	bələɦ	ɔ-nd-e	t^h-e
far	from	people	honor	for	him	near	come-**HAB**-mp	**PAST**-mp

From far away people used to come to him (hon) to honor (him).

In Hindi, the habitual aspect is also encoded morphologically but the suffix is |-**त**| |-t| 'HAB'. This is also followed by a Gender-Number agreement suffix, followed by a tense auxiliary. The Hindi equivalent of (69) is:

70. **दूर से लोग इलाज करने के लिए उनके पास आते थे ।**

dur	se	log	ɪlɑd͡ʒ kərne	ke lɪe	ʊnke pɑs	ɑ-t-e	t^h-e
far	from	people	to honor	for	him	come-**HAB**-mp	**PAST**-mp

From far away people used to come to him to honor (him).

5.3.4.5 Progressive Aspect

The Progressive aspect is also a sub-type of imperfective and involves an ongoing, dynamic event also viewed from the inside. It differs from the habitual in that the Progressive refers to a specific event. This is shown in the following diagram:

>----------> '*He is writing letters.*'

In Kangri, the progressive aspect is both a morphological and a periphrastic operation (at least orthographically). Here is an example of a Kangri progressive aspect sentence:

71. **जाह़लु असां एह़त्थु आए, ताह़लु बरखा होआ दी थी।**

d͡ʒɑɦlʊ	əsɑ̃	eɦtt^{h}ʊ	ɑ-0-e,	tɑɦlʊ	bərək^{h}ɑ	ɦo-**ɑ d**-i	t^h-i
when	1P:N	here	come-PERF-mp	then	rain	be-**PROG**-fs	**PAST**-fs

It was raining when we came here.

The example in (71) includes the 'be' verb in the Progressive aspect (PROG). Notice that the progressive aspect morpheme is actually a split morpheme: the main semantic verb stem is suffixed with |-ɑ| and another word follows it that begins with |d-|. This morpheme is suffixed by one of the standard set of Gender-Number agreement morphemes (see Table 5-9), and the agreement will always be with the subject of the sentence since the subject of a Progressive aspect sentence is always nominative case marked and therefore, available for agreement.

In Hindi, the progressive is strictly an analytic process with the main verb in the bare stem form followed by a form of the auxiliary verb |**रहा**| |ɾəh-ɑ| 'PROG', which also exhibits subject agreement for Gender-Number. The Hindi equivalent of (71) is:

72. **जब हम यहाँ आए, तब बारिश हो रही थी।**

d͡ʒəb	həm	jəhɑ̃	ɑ-0-e,	təb	bɑrɪʃ	ho	ɾəh-i	t^h-i.
when	1P:N	here	come-PERF-mp	then	rain	be	**PROG**-fs	**PAST**-fs

It was raining when we came here.

5.3.4.6 Infinitive Suffix (INF)

The infinitive suffix does not represent an aspectual or mood category, but since it is an inflectional suffix (see footnote 47), it will be mentioned briefly here. This morpheme is used in several different syntactic constructions including gerund formation, deontic constructions (a.k.a. INNER and OUTER COMPULSION, Smith 1946), the infinitive future tense form, and even an instructional imperative form.

The infinitive morpheme has the shape |-ण| |-ɽ̃| 'INF', and as shown in Figure 5-2, it must obligatorily be followed by a Gender-Number agreement suffix (see Table 5-9) and one of the Tense auxiliaries. Since this suffix is a flap consonant, it is subject to the Flap Reduction Rule (see §2.3.2), such that, whenever the verb stem ends in a flap consonant, this morpheme is changed to |-न| |-n|.

The instructional imperative based on this morpheme is discussed in §5.3.4.8, and the future tense syntactic construction is taken up further in §9.4.1.

5.3.4.7 Subjunctive Mood Suffixes

The term SUBJUNCTIVE as used in Indo-Aryan linguistics literature (cf. Kellogg 1938, Shapiro 1989) represents a grammatical category that covers a number of *residual* semantic or modal categories. It is used for the DESIDERATIVE construction (e.g. *I want…*), for deferential questioning (e.g. *Shall I make tea?*), for hypothetical declaratives (e.g. *Perhaps he went to Delhi*), for conditionals (e.g. *if you come tomorrow…*), for 3rd person imperatives (e.g. *May you be the mother of a hundred sons!*), for a deontic mood predications (e.g. *I should go*), and even for requests for permission (e.g. *May I go?*) and advice (e.g. *What shall I do?*).

The subjunctive future in Kangri (SUBJ.FUT) has these same uses and like Hindi comes with an agreement morpheme for Person-Number (rather than Gender-Number, as with all the other aspect suffixes—cf. Figure 5-2). However, the grouping of agreement suffixes is slightly different between Kangri and Hindi as this table shows:

Table 5-10: Subjunctive Future Person-Number Agreement

	Hindi		Kangri	
	sg	pl	sg	pl
1	|-ũ|	|-ẽ|	|-ã|	|-ɦɽ̃|
2	|-e| 'INT'	|-o| 'FAM' |-ẽ| 'POL'	|-e|	
3	|-e|	|-ẽ|		

There are 4 distinct agreement suffixes in Hindi and 3 in Kangri. Though the categories are similar between the two languages (i.e. a single form for 1sg vs. 2sg/3sg vs. pl), the Kangri forms do not distinguish honorific level in the 2nd person as Hindi does: the 2nd person intimate form in Hindi (which must be singular) is |-e|, the 2nd person familiar form (which involves plural agreement, even when talking with a single person) is |-o|, and the 2nd person polite form (which also shows plural agreement, even when talking with a single person) is |-ẽ|. The agreement morpheme always agrees with the Person and Number of the sentence subject since it is always nominative case in this construction.

Here are a few examples of the subjunctive future in Kangri:

73. **जे बजारे जो जाह़ण, तां रोट्टी लई औआ।**

d͡ʒe bəd͡ʒaɾe d͡ʒo d͡ʒa-ɦɽ̃, tã ɾoʈʈi lə-i ɔ-ɑ
if bazaar DAT go-**pl:SUBJ.FUT** then bread take-CPCL come-IMP.IMM.PL
If (you, pl) go to the bazaar, then bring some bread. (conditional)

74. **असां चांह़दे भ़ई तुसां कन्ने भ़िरी मिह़लण।**

əsã t͡ʃaɦ-nd-e bɦəi tʊsã kənne bɦɪɾi mɪl-ɦɽ̃
1P:N want-HAB-mp that 2P:O ACCOM again meet-**pl:SUBJ.FUT**
We want to meet with you again. (desiderative)

75. **मैं क्या करां?**

mæ̃ kjɑ kər-ɑ̃
1S:N what do-**1S:SUBJ.FUT**
What can/shall I do? (request for advice and/or rhetorical)

76. **एह़ जान्नी ते मारी दित्तेआ जाए!**

e-ɦ d͡ʒɑnni te mɑr-i dɪ-0-tt-eɑ d͡ʒɑ-e
PRX-3:N life from hit-CPCL give-RES-PERF-MS go-**3S:SUBJ.FUT**
May this one be killed! (lit: hit from life) (3rd person imperative)

Notice that there is not a specific isolated morpheme that means subjunctive future, but rather the co-occurrence with the set of Person-Number agreement morphemes is what signals this mood.

There is another subjunctive morpheme in Kangri that has no corollary in Hindi: the immediate subjunctive (SUBJ.IMM). The suffix for this morpheme does not vary for agreement as the subjunctive future morpheme does.[53] The immediate subjunctive morpheme always has the form |-ɪe| and can be used in the same semantic and pragmatic situations as the subjunctive future discussed above. Consider this example:

77. **असां जो चाह़इदा भ़ई परमेसरे कन्ने अपणे सारे तनैं-मनैं-ध़नैं कन्ने परेम करिए।**

əsɑ̃ d͡ʒo t͡ʃɑɦɪd-ɑ bɦəi pərəmesər-e kənne əpəʈ̃e
1P:O DAT ought.to-MS that God-MOS ACCOM self's

sɑre tənæ̃-mənæ̃-dɦənæ̃ kənne pərem kər-ɪe
whole body-mind-wealth ACCOM love do-**SUBJ.IMM**
We should love God with our whole body-mind-wealth. (deontic mood)

[53] This is perhaps because it always involves a 1st person plural subjects and so it is not clear if some portion of the suffix is an agreement morpheme or not.

This form may occur when a group of people are discussing some topic among themselves (so the subject of the sentence is always 1st person plural), and especially in hypothetical situations for which they have to come up with a solution. It reflects a greater sense of immediacy or urgency or confusion as compared with the subjunctive future form. Consider the following minimal pair:

78. **असां क्या कहूरन**?

əsɑ̃ kjɑ kəɾ-ɦɪ̃ɽ̃
1P:N what do-**1pl:SUBJ.FUT**
What can/shall we do?

79. **असां क्या करिए**?

əsɑ̃ kjɑ kəɾ-ɪe
1P:N what do-**SUBJ.IMM**
What do we do (now)?

A prototypical situation in which these two contrast is the following: suppose that a family were at the train station and missed their train. They might call their relative and use either form to request some advice (e.g. '*What shall we do?*'). If they are fairly phlegmatic or otherwise not too concerned about making a reconnection, they might use the form in (78). However, if they are very concerned and/or doubtful about being able to make new arrangements, then they are more likely to use the form in (79). On the other hand, if the cancelled train were due to leave in a week, then the form in (78) would more likely be used, since the action required is still far off in the future.

Here are a few more examples of its use:

80. **जे असां इस जो मारी देइए, तां एह़ सारी मलकीत म्हारी होई जाणी।**

d͡ʒe	əsə̃	ɪ-s	d͡ʒo	mɑr-i	de-ɪe,	tə̃
if	1P:N	PRX-3MS:O	DAT	hit-CPCL	give-**SUBJ.IMM**	then

e-ɦ	sɑri	mələk‍it	mɦɑri	ɦo-i	d͡ʒɑ-ʈ̃-i
PRX-3:N	all	estate	1P:GEN	be-CPCL	go-INF-fs

If we kill this one, then this whole estate will be ours

81. **असां कुह़त्थु जाई नैं खाणे दी त्यारी करिए?**

əsə̃	kʊɦttʰʊ	d͡ʒɑ-i	nə̃	kʰɑʈ̃e	di	tjɑri	kər-ɪe
1P:N	where	go-CPCL	TS	food	GEN	preparation	do-**SUBJ.IMM**

Where do we go and prepare the food?

82. **पुज्याल़े इसा ताड़ा च थे भ़ई असां तिस जो किंह़ां जान्नी ते मारी देइए।**

pʊd͡ʒjɑl̪-e	ɪ-sɑ	tɑɽɑ	t͡ʃə	tʰ-e,	bɦəi	əsə̃
priest-MNP	PRX-3FS:O	search	in	PAST-mp	that	1P:N

tɪ-s	d͡ʒo	kĩɦə̃	d͡ʒɑnni	te	mɑr-i	de-ɪe
DST.NV-3MS:O	DAT	how	life	from	kill-CPCL	give-**SUBJ.IMM**

The priests were in search of this: how might we kill him

The example in (80) is a conditional hypothetical statement in which the verb in the protasis clause is suffixed by the immediate subjunctive morpheme. The example in (81) is a deferential request for advice where the subject is 'we' and the verb is suffixed with the immediate subjunctive morpheme.

The example in (82) shows the immediate subjunctive morpheme used in an indirect narrative. The English for this sentence would express the complement clause in INDIRECT SPEECH (i.e. '*The priests were in search of how they* (the priests) *might kill him.*'). But in Kangri, the complement clause is expressed in a DIRECT SPEECH manner: '… how *we* might kill him.'

Just about any of these examples could have used the subjunctive future morpheme instead, but the use of the immediate subjunctive form heightens the urgency of the surrounding discourse and is especially used for present (tense) deliberations rather than future deliberations, for which the subjunctive future would more likely be used.

5.3.4.8 Imperative Mood Suffixes

Kangri has five different imperative mood suffixes (cf. Figure 5-2). They vary for honorific level of the 2nd person participant, as well as by the timeframe around which the request is expected to be carried out: now vs. the future. There is a fifth form (IMP.URGE) that is used when repeatedly urging someone to do something.

The two *immediate* imperatives distinguish between a singular agreement form (which corresponds to INTIMATE honorific level in Hindi) and a plural agreement form (which corresponds either to the FAMILIAR or POLITE honorific level in Hindi). Consider these examples of each, along with the Hindi equivalents:

Table 5-11: Immediate Imperatives in Kangri and Hindi

		Kangri	Hindi
2 INT	'do'	|**तू कर**| |tu kər-**0**|	|**तू कर**| |tu kər-**0**|
	'go'	|**तू जाह़**| |tu d͡ʒa-**ɦ̃**|	|**तू जा**| |tu d͡ʒa-**0**|
2 FAM	'do'	|**तुसां करां**| |tʊsã̃ kər-**ã̃**|	|**तुम करो**| |tʊm kər-**o**|
	'go'	|**तुसां जाआं**| |tʊsã̃ d͡ʒa-**ã̃**|	|**तुम जाओ**| |tʊm d͡ʒa-**o**|
2 POL	'do'	same as 2FAM	|**आप किजिए**| |ap kɪd͡ʒ-**ɪe**|
	'go'		|**आप किजिए** | |ap d͡ʒa-**ɪe**|
2 ULTRA-POL	'do'	no equivalent	|**आप किजिएगा**| |ap kɪd͡ʒ-**ɪe-ga**|
	'go'		|**आप किजिएगा**| |ap d͡ʒa-**ɪe-ga**|

Note from Table 5-11 that the suffix for the 2nd person intimate form in Kangri alternates between 0 and |-ɦ|. The null allomorph is used when the stem of the verb ends in a consonant and the |-ɦ| allomorph is used when the stem ends in a vowel. This can be expressed by the following rule:

83. IMP.IMM.INT → ɦ / V _
→ 0 / C _

Recall from Chapter 3 that a non-initial, underlying /ɦ/ surfaces as a tone in Kangri. So when a verb stem ending in a vowel has the IMP.IMM.INT morpheme attached, it will always have an inherent high-falling tone. However, a verb stem which ends in a consonant will not have this tone. It should be noted, however, that the tone resulting from this morpheme is distinct from the phrase-final, intonation pattern associated with imperative mood sentences, which is also a falling intonation pattern. [54]

Also note from Table 5-11, that whereas Hindi has four honorific levels (intimate, familiar, polite and ultra-polite), Kangri only has two: intimate and polite. Additionally, Hindi has three distinct 2nd person pronouns (2INT, 2FAM, and 2POL), whereas Kangri only has two: |तू| |tu| 2SG and |तुसां| |tʊsɑ̃| 2PL.

[54] When a verb lacks *word-level tone* (e.g. when a verb ends in a consonant and does not otherwise have an underlying /ɦ/ in the stem), then the overall intonation pattern of an imperative mood sentence will be falling at the end (as in English). However, if a verb ends with a high-falling tone (e.g. due to an underlying /ɦ/, such as is the case with this imperative mood suffix), this has the effect of increasing the amplitude of the sentence final intonation drop as compared with the no tone case. That is, both cases have a sentence-final falling intonation pattern, but if the verb also has word-level, high-falling tone, then the word-final decrease in pitch is much more pronounced.

What all of these forms have in common is that the 1st person interlocutor expects that the request or command will be carried out by the 2nd person interlocutor *now* (i.e. Present Tense). This is in contrast with the following set of *future* or *instructional* imperatives:

Table 5-12: Future (or Instructional) Imperatives in Kangri and Hindi

	Kangri	Hindi
2 INT	|**तू जाएंआं**| |tu d͡ʒɑ-**eɑ̃**| 'go'	
2 FAM	|**तुसां जाणा**| |tʊsɑ̃ d͡ʒɑ-**ɳ̍-ɑ**| 'go'	|**तुम जाना**| |tʊm d͡ʒɑ-**nɑ**| 'go'
2 POL	|**तुसां जाह़्न्यों**| |tʊsɑ̃ d͡ʒɑ-**ɲjõ**| 'go'	

Comparing Table 5-11 with Table 5-12 there are several differences: Kangri has only a two-way distinction in the *immediate* imperative set (based on Number or Honorific level of the 2nd person interlocutor), but it has a three-way distinction in the *instructional* imperative set. By contrast, Hindi has a four-way distinction for the *immediate* imperatives, but only a single form that functions as the *instructional* imperative. So, Hindi makes more distinctions for immediate imperatives than Kangri, but Kangri makes more distinctions for instructional imperatives than Hindi.

From Table 5-12 also notice that Kangri has two distinct imperative forms that occur with the same 2nd person plural pronoun |**तुसां**| |tʊsɑ̃| '2PL'. The verb form that is called 2FAM has the infinitive suffix with the form, |-**ण**| |-ɳ̍| (INF), which is followed by an agreement morpheme for Gender-Number (i.e. here, /-ɑ/ 'ms'). When this form of the verb occurs, the subject of this construction must be a 2nd person pronoun in the

Ergative case (see §6.3.4).[55] Since the subject is case marked, it will be cut off from agreement (see §9.3) and therefore, the Gender-Number agreement suffix will agree with any nominative case object in the sentence. Consider this minimal pair:

84. **तुसां एह़त्थु ई रैह़णा है।**

tʊsɑ̃	e-ɦɪtt^{h}ʊ	i	ɾæɦ-ʈ̃-ɑ	ɦ-æ
2P:ERG	PRX-LOC	only	remain-INF-**MS**	PRES-S

You are to stay here only.

85. **तुसां गरीब्बां दी मदत करनी है।**

tʊsɑ̃	gəɾibb-ɑ̃	d-i	mədət-0	kər-n-i	ɦ-æ
2P:ERG	poor-MOP	GEN-fns	help-**FNS**	do-INF-**fs**	PRES-S

You are to help the poor.

Notice in both examples that even with a plural subject, the verb agreement is singular. In (85) the verbal agreement is also feminine, which shows that the verb is in agreement with the feminine noun (object) |**मदत**| |mədət| 'help'.[56]

The Hindi equivalent of this form has two differences: 1) the verb never inflects for agreement (i.e. the instructional imperative suffix is always |-**ना**| |-nɑ| 'IMP.INSTR'[57]), and 2) the subject is always nominative case.

[55] However, as with imperatives in most languages, it may not be overt in certain contexts (e.g. when talking with someone as opposed to writing).

[56] In fact, as shown in §6.3.1 and §6.3.4, the 2nd person plural pronoun is the same for both nominative and ergative case. The reason for arguing that this is the ergative case form here is: a) because the verb is in agreement with the object, which only happens when the subject is cut off from agreement by a non-nominative case (see §9.3), and b) if the subject had been a 2nd person singular referent, then the ergative form of that pronoun would have been used, which is different from the nominative form (see §6.3.4).

[57] In fact, this imperative suffix looks like the infinitive in Hindi also (i.e. /**ना**/ /nɑ/ could also be interpreted as 'INF-ms'), but since it does not inflect for agreement with any nominal in the sentence, it is likely just a homophonous morpheme.

This form of imperative is common to a specific genre of hortatory discourse involving the explanation of instructions and expectations (Hindi: /**समझाने में**/ /səmd͡ʒʰɑne mẽ/ ‘in causing to understand’). It would be appropriate, for example, in a situation involving a boss instructing an employee or a parent with a child; thus the FAMILIAR form of the 2nd person pronoun. Notice in the free translation of these examples the parallel with the English infinitive form used as an imperative (i.e. *You are to X*…).

The final Kangri instructional imperative involves the |-**ह्न्यों**| |-ɦnjõ| ‘IMP.INSTR.PL’ suffix, which is considered more polite than the earlier form. It is also used when the expected duration of obedience involves a greater period of time. For example, ‘*Take this medicine for the next three weeks*’ (short duration) vs. ‘*Be a good person*’ (longer duration). The longer duration sentence is more likely to occur with this latter form of the imperative. It is also used especially in summing up various instructions that have come before. Consider the string of occurrences of this form used at the end of a hortatory text that mostly contained the 2FAM forms of the instructional imperative:

Table 5-13: Fragment of a Hortatory Text Showing the Use of IMP.INSTR.POL

Ref	PreS	Subject	Obj1	Obj2	Verb
1a	**जेह़ड़िआं** d͡ʒ-êɽ-ɪɑ̃ REL-3-fp	**मैं** mæ̃ 1S:ERG	**गल्लां** gəll-ɑ̃ thing-FNP		**ग्लाइआं** glɑ-0-ɪɑ̃ say-PERF-fp
1b	**तिह़नां जो,** tî-nɑ̃ d͡ʒo, NV-3P:O DAT,	**मैं** mæ̃ 1S:N	**संखेप्पे च दसी** sə̃kʰeppe t͡ʃə dəs-i brief in tell-TS	**एह़ ई** eɦ i this only	**ग्लाई सकदा** glɑ-i sək-d-ɑ say-CPCL can-HAB-ms
In brief, I can say this only about those things which I've said,					
1c	**कि** kɪ that	**(तुसां)** (tʊsɑ̃) (2P:ERG)	**परमात्मा जो** pərəmɑtmɑ d͡ʒo great.spirit DAT	**आद** ɑd memory	**रह़ुखन्यों** ɾəkʰ-ɦɲjõ keep-**IMP.INSTR.PL**
(You) remember God,					
1d		– – –	**खरे कम्म** kʰəɾ-e kəmm-0 good-mnp work-MNP		**कह़ुरन्यों** kəɾ-ɦɲjõ do-**IMP.INSTR.PL**
do good works,					
1e		– – –	**हक्क-हल्लाले दिआ कमाइआ** ɦəkk-ɦəllɑle dɪɑ kəmɑɪɑ justly GEN earning		**कह़ुरन्यों** kəɾ-ɦɲjõ do-**IMP.INSTR.PL**
make honest money,					
1f		– – –	**बुराइआं ते** bʊɾɑ-ɪɑ̃ te evil-FOP from	**दूर** dʊɾ far	**रैह़ुन्यों।** ɾæɦ-njõ. remain-**IMP.INSTR.PL**
stay away from evils.					

The final morphological imperative, IMP.URGE, also has no corollary in Hindi and has the form |-ऐं| |-æ̃|. A prototypical situation in which this form would be used is if a person requests someone to do something, but the person refuses. On subsequent appeals, the speaker might use this form of imperative to urge the person to agree. This form is used with 2nd person singular subjects only. Consider these examples:

86. **डरैं मत!**

ɖəɾ-æ̃ mət
fear-IMP.URGE not
Don't fear!

87. **एह् कम्म करैं!**

e-ɦ kəmm kəɾ-æ̃
PRX-3:N work do-IMP.URGE
Do this work!

This chapter dealt with the various morphological categories in Kangri verbs including valance changing derivational suffixes, compounding, noun incorporation, and inflectional aspect-mood categories. The next chapter deals with the other word classes and their inflection patterns.

CHAPTER 6

WORD CATEGORIES

"Here we say '**मिंजो-तिज्जो**' ([mĩd͡ʒo-tɪd͡ʒd͡ʒo] 'to me-to you'), but over there [in Nurpur], they say, '**मिकी-तुकी**' ([mɪki-tʊki])"
–Many, many Kangri wallahs

Kangri has all of the typical word categories found in Indo-Aryan languages generally. This chapter enumerates them and demonstrates their inflection patterns.

The final section also gives an overview of the common, productive Interrogative-Relative-Deixis (IRD) paradigm in Indo-Aryan languages that is argued here to be an important marker of language variety identification.

6.1 Nouns

6.1.1 Sub-classifications

As with most Indo-Aryan languages, Kangri nouns have INHERENT or lexical gender: MASCULINE vs. FEMININE. Also, each gender has two or three distinct, but semantically arbitrary sub-categories based on different inflection patterns. Syntactically, nouns also inflect for Number (singular vs. plural), and Case (nominative vs. oblique).[58] This results in four possible noun suffixes for each gender class. The

[58] Nouns are in the "oblique" case when followed by a post-position or case marker. See §6.4.

following figure shows the possible noun suffixes for masculine and feminine nouns of the 5 different sub-classes:

Masc I	Sg	pl
Nom	-ɑ	-e
Obl	-e	-eɑ̃

Masc II [59]	Sg	Pl
Nom	-0	-0
Obl	-e	-ɑ̃

Fem I	Sg	Pl
Nom	-i	-ɪɑ̃
Obl	-ɪɑ	-ɪɑ̃

Fem II	Sg	Pl
Nom	-0	-ɑ̃
Obl	-ɑ	-ɑ̃

Fem III	Sg	Pl
Nom	-0	-ĩ
Obl	-i	-ĩ

Figure 6-1: Kangri Masculine And Feminine Noun Class Suffixes

Notice in Figure 6-1 that the nominative singular suffixes of the class II and III nouns are null morphemes. This means that such words have no inflection for the nominative singular (a.k.a. LEXICAL CITATION) form and the entire word *is* the stem. However, with the class I nouns, the nominative singular suffix is not null. In these words, the final segment of the nominative singular form is an inflectional suffix which has consequences for stress assignment (see §4.3.5).

This fact also demonstrates the phonological correlate for the different sub-categories: the nominative singular form of masculine class I nouns always end in |-ɑ| and masculine class II nouns end in any other segment besides |-ɑ|. Similarly, feminine

[59] There are a few masculine class II nouns whose nominative singular forms end in the long vowels, /-ी/ /-i/ (e.g. /**पाणी**/ /pɑɽ̃i/ ‘water’) and /-ू/ /-u/ (e.g. /**कुंबलू**/ /kʊmbəlu/ ‘sprout’). The oblique singular and plural forms of such words (i.e. where there is an overt vowel suffix after the stem-final /-i/ or /-u/) involve a vowel shortening rule, such that when the overt oblique suffix is added, the stem-final long /-i/ or /-u/ is shortened to [-ɪ] or [-ʊ], resulting in the following word-final forms: [-ɪe]/[-ʊe] and [-ɪɑ̃]/[-ʊɑ̃] for singular and plural forms, respectively.

class I nouns always end in |-i| and feminine class II and III nouns always end in any other segment besides |-i|. The distinction between the latter two sub-classes is completely arbitrary. The only way to know the sub-class of a feminine noun that doesn't end in |-i| is to examine either the *nominative plural* or *oblique singular* form to see what its suffix is. For example, if the *oblique singular* form (i.e. a single referent noun followed by a postposition) ends in |-ɑ|, then the word is of feminine sub-class II; if it ends in |-i|, then the word is of feminine sub-class III.

The following tables show example words for each of these inflection patterns:

Table 6-1: Masculine Noun Class Examples

	Masc I		Masc II	
	/**रस्ता**/ /ɾəstɑ/ 'road'		/**हत्थ**/ /ɦətt^{h}/ 'hand'	
	Sg	Pl	Sg	Pl
Nom	**रस्ता**	**रस्ते**	**हत्थ**	**हत्थ**
	ɾəst-**ɑ**	ɾəst-**e**	ɦətt^{h}-**0**	ɦətt^{h}-**0**
Obl	**रस्ते**	**रस्तेआं**	**हत्थे**	**हत्थां**
	ɾəst-**e**	ɾəst-**eɑ̃**	ɦətt^{h}-**e**	ɦətt^{h}-**ɑ̃**

Table 6-2: Feminine Noun Class Examples

	Fem I		Fem II		Fem III	
	/**मंजी**/ /mənd͡ʒi/ 'bed'		/**उआज**/ /ʊad͡ʒ/ 'voice'		/**हाख**/ /hɑk^{h}/ 'eye'	
	Sg	Pl	Sg	Pl	Sg	Pl
Nom	**मंजी**	**मंजिआं**	**उआज**	**उआजां**	**हाख**	**हाखीं**
	mənd͡ʒ-**i**	mənd͡ʒ-**ɪɑ̃**	ʊad͡ʒ-**0**	ʊad͡ʒ-**ɑ̃**	hɑk^{h}-**0**	hɑk^{h}-**ĩ**
Obl	**मंजिआ**	**मंजिआं**	**उआजा**	**उआजां**	**हाखी**	**हाखीं**
	mənd͡ʒ-**ɪɑ**	mənd͡ʒ-**ɪɑ̃**	ʊad͡ʒ-**ɑ**	ʊad͡ʒ-**ɑ̃**	hɑk^{h}-**i**	hɑk^{h}-**ĩ**

6.1.2 Mass/Count Nouns

Syntactically, Kangri (as with most Indo-Aryan languages) makes a distinction between mass and count nouns, such that mass nouns always trigger singular agreement. An example of a mass noun is: /**पाणी**/ /pɑ̃i/ ‘water’.

Kangri also has a small set of nouns that are plural, in default usage. For example, when used in an adverbial expression of time, the noun /**तरकाल़**/ /tərəkɑɭ̇/ ‘evening’ occurs in the plural:

88. **तरकाल़ां दे बग्तैं चेले किस्तिआ च बैट्ठी नैं झ़ीला बिच जाआ दे थे।**

tərəkɑɭ̇-ɑ̃	d-e	bəgt-æ̃	t͡ʃel-e	kɪst-ɪɑ	t͡ʃə
evening-MOP	GEN-MOS	time-at	disciple-MNP	boat-FOS	in

bæʈʈʰ-i	næ̃	d͡ʒʰil-ɑ	bɪt͡ʃ	d͡ʒɑ-ɑ d-e	tʰ-e
sit-CPCL	TS	lake-FOS	in.the.middle	go-PROG-mp	PAST-p

At evenings’ time the disciples having sat in a boat were going in the middle of the lake.

Notice in (88) that the word for ‘evening’ is morphosyntactically marked plural, even though semantically, it is singular.

6.1.3 Proper Nouns

One difference between Kangri and Hindi/Dogri has to do with the syntactic treatment of proper nouns. In Hindi and Dogri, the form of a proper noun does not inflect.[60] In Kangri, if the proper noun is followed by a postposition, then it will inflect just like any other noun.

[60] There is some evidence that Hindi proper nouns inflect (e.g. /**पुने में**/ /pʊn-e mẽ/ ‘Puna-MOS in’), but many speakers consider this to be due to the influence of Marathi rather than native to Hindi.

For example, the proper name of a masculine referent that ends in a consonant, would inflect according to the masculine class II pattern, as in this example:

89. **मैं राम्मैं जो खिन्नू दित्ता ।**

mæ̃	ɾɑmm-æ̃	d͡ʒo	kʰɪnnu	dɪ-tt-ɑ
1s:ERG	Ram-**MOS**	DAT	ball	give-PERF-ms

I gave a/the ball to Ram.

Notice in (89) that the proper noun for ‘Ram’ is inflected masculine oblique singular (MOS) since it is followed by the dative postposition (DAT). This mean that Kangri does *not* have a special sub-category of noun for proper nouns, while Hindi and Dogri do (i.e. nouns which do not inflect for case).

6.1.4 Time Nouns

Finally, there is one more sub-category of nouns that have special syntactic behavior. Time nouns that are used in adverbial time phrases are always inflected oblique even if there is no overt postposition. Consider:

90. **तिस बेले कांगड़ा रिआसता दे राजे दा नां ‘बाण भ़ट्ट’ हुंदा था**

tɪ-s	bel-e	kɑŋgəɽɑ	ɾɪɑsət-ɑ	d-e	ɾɑd͡ʒ-e
DST.NV-3MS:**O**	time-**MOS**	Kangra	kingdom-FOS	GEN-mos	king-MOS

d-ɑ	nɑ̃	‘bɑʈ̃ bʱəʈʈ’	ɦʊ-nd-ɑ	tʰ-ɑ
GEN-mns	name	Ban Bhatt	be-HAB-ms	PAST-ms

At that time, the name of the king of the Kangra kingdom used to be ‘Ban Bhatt’.

Notice that the first two words in (90) are oblique case, but they are not followed by an overt postposition. Possibly there was an overt postposition in this construction at one time, which is normally not spoken or written now. Time nouns in

Hindi mostly follow this same pattern. However, Hindi also provides evidence for the posited non-overt postposition, because an overt dative postposition obligatorily occurs with the time noun 'afternoon' (i.e. /**उस दोपहर को**/ /ʊs dopəhəɾ ko/ 'that afternoon DAT').

6.2 Adjectives

Kangri has a class of adjectives—distinct from the class of nouns—that can be used to assign attributes to nominal elements. To be sure, Kangri has a very flexible attributive system where just about any adjective can be used as a noun (e.g. the word for 'tall' being used as 'the tall one'). The reason for assuming a separate class of adjectives has to do with the difference in the inflection pattern of the words which have been classified as adjectives in this study.

As with Hindi, Kangri has two types of adjectives: those that inflect and those that do not. However, unlike with nouns, even inflectable adjectives in Kangri do not have inherent gender. Instead, they inflect based on the gender of the head noun which they modify. They also inflect based on the number (singular vs. plural), as well as the case (nominative vs. oblique) of the head noun based on its syntactic situation. When an inflectable adjective modifies a masculine noun (of any sub-class), it has the same inflection pattern as a masculine class I noun. When it modifies a feminine noun (of any sub-class), it has the same inflection pattern as a feminine class I noun. Notice how the modifying word, /**लम्मा**/ /ləmm-ɑ/ 'long', changes in each the following masculine vs. feminine gender situations:

Table 6-3: Inflectable Adjective and Masculine Class I Noun Agreement [61]

	Sg	Pl
Nom	**लम्मा रस्ता** ləmm-**ɑ** ɾəst-**ɑ** long-**mns** road-**MNS** *The long road*	**लम्मे रस्ते** ləmm-**e** ɾəst-**e** long-**mnp** road-**MNP** *The long roads*
Obl	**लम्मे रस्ते च** ləmm-**e** ɾəst-**e** t͡ʃə long-**mos** road-**MOS** in *In the long road*	**लम्मेआं रस्तेआं च** ləmm-**eə̃** ɾəst-**eə̃** t͡ʃə long-**mop** road-**MOP** in *In the long roads*

Table 6-3 shows how the adjective and masculine class I noun inflect in each of the possible case and number permutations. Notice that the modifier and the noun have exactly the same inflection pattern. This would (mistakenly) suggest that modifier has the same word class as the noun. The following table shows the same inflectable adjective, but with a masculine class II noun:

[61] The glossing convention here involves using small upper case letters for morphemes which represent the gender, number, and case of the head noun in a noun phrase, and lower case to represent the *agreement* with that head noun. Thus, for example, '1SG' is the first person, singular pronoun, whereas '1sg' is the verbal *agreement* morpheme for a first person, singular referent. Or in this table, 'MNS' is the masculine, nominative, singular noun suffix, while 'mns' is the modifier's agreement with the gender, number, and case of that head noun.

Table 6-4: Inflectable Adjective and Masculine Class II Noun Agreement

	Sg	Pl
Nom	**लम्मा हत्थ** ləmm-**ɑ** ɦətt^{h}-**0** long-**mns** hand-**MNS** *The long hand*	**लम्मे हत्थ** ləmm-**e** ɦətt^{h}-**0** long-**mnp** hand-**MNP** *The long hands*
Obl	**लम्मे हत्थे च** ləmm-**e** ɦətt^{h}-**e** t͡ʃə long-**mos** hand-**MOS** in *In the long hand*	**लम्मेआं हत्थां च** ləmm-**eɑ̃** ɦətt^{h}-**ɑ̃** t͡ʃə long-**mop** hand-**MOP** in *In the long hands*

In comparing Table 6-3 and Table 6-4, notice that while the two nouns have different inflection patterns, the inflection pattern of the modifier is identical in both cases. This shows that the modifier is sensitive only to the gender of the head noun and not the distinction in sub-classification.

The following table shows that for feminine nouns, the inflection pattern of the modifier is totally different from above and identical with the feminine class I nouns:

Table 6-5: Inflectable Adjective and Feminine Class I Noun Agreement

	Sg	Pl
Nom	**लम्मी मंजी** ləmm-**i** mənd͡ʒ-**i** long-**fns** road-**FNS** *The long bed*	**लम्मिआं मंजिआं** ləmm-**ɪɑ̃** mənd͡ʒ-**ɪɑ̃** long-**fnp** road-**FNP** *The long beds*
Obl	**लम्मिआ मंजिआ च** ləmm-**ɪɑ** mənd͡ʒ-**ɪɑ** t͡ʃə long-**fos** road-**FOS** in *In the long bed*	**लम्मिआं मंजिआं च** ləmm-**iɑ̃** mənd͡ʒ-**ɪɑ̃** t͡ʃə long-**fop** road-**FOP** in *In the long beds*

Notice that compared with Table 6-3 and Table 6-4, the adjective has a completely different set of endings when it modifies a feminine noun. This shows that adjectives, rather than having inherent gender as nouns do, instead are sensitive to the gender of the noun that they modify. The fact that the overwhelming majority of nouns do not allow such changes in inflection pattern suggests that a separate Adjective word class is needed to account for these forms.

Most Indo-Aryan languages have a small set of special nouns (e.g. kinship terms), which can be used for referents of either gender. This includes words like /**चाचा**/ [t͡ʃɑ.t͡ʃ-ɑ] 'uncle-MNS' and /**चाची**/ [t͡ʃɑ.t͡ʃ-i] 'aunt-FNS'. For such words, the gender of the noun matches the gender of the referent: the word for a male relative would have the inflection pattern of a masculine class I noun and the word for a female relative would have the inflection pattern of a feminine class I noun. In fact, such words have the inflection pattern of what are called adjectives here since they can seemingly inflect for either gender in a class I manner. But of course, semantically, they are more like prototypical nouns.

6.3 Pronouns

Like Hindi, Kangri has distinct sets of pronouns for NOMINATIVE, GENITIVE and OBLIQUE cases. Unlike Hindi, Kangri has an additional set for the ERGATIVE case. Kangri also has a third deixis level for 3rd person pronouns/demonstratives compared with only two in Hindi.

6.3.1 Nominative pronouns

Nominative pronouns are used to refer to discourse entities typically when functioning as the subject of a sentence. The following table shows the nominative case pronouns for all Person/Number combinations:

Table 6-6: Nominative Case Pronouns

Nominative Pronouns		Kangri		Hindi		
		Sg	Pl	Sg	Pl	
1st		**मैं** m-æ̃	**असां** ə-sə̃	**मैं** m-æ̃	**हम** həm	
2nd		**तू** t-u	**तुसां** tʊ-sə̃	**तू** t-u	**तुम** tʊm	**आप** ɑp
3rd	proximate	**एह़** e-ɦ [62]		**यह** j-əh	**ये** j-e	
	distal (visible)	**ओह़** o-ɦ		**वह** ʊ-əh	**वे** ʊ-e	
	distal (non-visible)	**सैह़** sæ-ɦ				

Notice in Table 6-6 that there are only two second person forms in Kangri (compared with three for Hindi). Hindi makes a distinction in honorific level between a familiar form (i.e. /**तुम**/ /tʊm/ '2FAM') and a polite form (i.e. /**आप**/ /ɑp/ '2POL'). For 3rd person pronouns, Kangri does not distinguish between singular and plural Number (as Hindi does). Also notice that Kangri has a third level of deixis: there is a distinction between *visible* and *non-visible* 3rd person referents. The visible form is very seldom

[62] Unless otherwise indicated, the forms shown in the tables in this chapter are underlying representations. So, for example, in this form, notice that the final segment is /ɦ/, which surfaces as a tone (see Chapter 3). So this word, /eɦ/ is actually pronounced [ê].

used, and may only be used to disambiguate a situation in which the non-visible form already refers to someone else and another 3rd person referent pronoun is needed. Consequently, the non-visible form should be considered default for distal deixis.

6.3.2 Oblique pronouns

When a pronoun is followed by a postposition or case marker, then one of the following oblique case pronouns is used:

Table 6-7: Oblique Case Pronouns

<table>
<tr><td colspan="3" rowspan="2">Oblique Pronouns</td><td colspan="2">Kangri</td><td colspan="2">Hindi</td></tr>
<tr><td>Sg</td><td>Pl</td><td>Sg</td><td colspan="2">Pl</td></tr>
<tr><td colspan="3">1st</td><td>मिंजो
m-ɪn-d͡ʒo</td><td>असां
ə-sɑ̃</td><td>मुझ
m-ʊd͡ʒʰ</td><td colspan="2">हम
həm</td></tr>
<tr><td colspan="3">2nd</td><td>तिज्जो
tɪd͡ʒ-d͡ʒo</td><td>तुसां
tʊ-sɑ̃</td><td>तुझ
t-ʊd͡ʒʰ</td><td>तुम
tʊm</td><td>आप
ɑp</td></tr>
<tr><td rowspan="6">3rd</td><td rowspan="2">proximate</td><td>M</td><td>इस
ɪ-s</td><td rowspan="2">इहूनां
ɪ-ɦn-ɑ̃</td><td rowspan="2">इस
ɪ-s</td><td colspan="2" rowspan="2">इन
ɪ-n</td></tr>
<tr><td>F</td><td>इसा
ɪ-sɑ</td></tr>
<tr><td rowspan="2">distal (visible)</td><td>M</td><td>उस
ʊ-s</td><td rowspan="2">उहूनां
ʊ-ɦn-ɑ̃</td><td rowspan="4">उस
ʊ-s</td><td colspan="2" rowspan="4">उन
ʊ-n</td></tr>
<tr><td>F</td><td>उसा
ʊ-sɑ</td></tr>
<tr><td rowspan="2">distal (non-visible)</td><td>M</td><td>तिस
tɪ-s</td><td rowspan="2">तिहूनां
tɪ-ɦn-ɑ̃</td></tr>
<tr><td>F</td><td>तिसा
tɪ-sɑ</td></tr>
</table>

Notice in Table 6-7 that the 1st and 2nd person plural pronouns in Kangri have the same form as the *nominative* pronouns from Table 6-6. These oblique forms, however, do not participate in verbal agreement suggesting that there is a non-overt

suffix that is blocking agreement (see §9.3). Also notice that Kangri, unlike Hindi, makes a distinction in Gender (masculine vs. feminine) for oblique 3rd person singular pronouns and that again, it has a 3rd level of deixis that Hindi lacks.

6.3.3 Genitive pronouns

Genitive postpositions are declinable and have the following inflection patterns:

Table 6-8: Genitive Postposition Inflection Pattern

	Kangri				Hindi			
	Masculine		Feminine		Masculine		Feminine	
	Sg	Pl	Sg	Pl	Sg	Pl	Sg	Pl
Nom	दा d-ɑ GEN-mns	दे d-e GEN-mnp	दी d-i GEN-fns	दिआं d-ɪə̃ GEN-fnp	का k-ɑ GEN-mns	के k-e GEN-mnp	की k-i GEN-f	
Obl	दे d-e GEN-mos	देआं d-eə̃ GEN-mop	दिआ d-ɪɑ GEN-fos	दिआं d-ɪə̃ GEN-fop	के k-e GEN-mo			

Notice that the root of the genitive postposition in Kangri is |d| and in Hindi it is |k|. Also notice that there are eight possible forms for this postposition in Kangri (with two overlapping forms: mnp = mos and fnp = fop). In Hindi, there are only three distinct forms (i.e. 1. mns, 2. one for mnp and the oblique masculine forms, and 3. a single form for all possible feminine permutations).

It should be noted that the Gender, Case, Number triplets (GCN) in Table 6-8 correspond to the gender, case, and number of *following* noun; not the noun which the inflectable genitive postposition marks and follows. That is, when a noun phrase is

marked genitive case, it is followed by the genitive postposition (i.e. { NP PGEN }). However, the agreement of that genitive postposition is for a matrix noun phrase (i.e. between the indexed constituents in this formula: {{NP GEN-GCN_i}$_{PP}$ NP_i}). Notice also that the inflections on the genitive postposition are identical to the adjective inflective pattern discussed in §6.2 above. This suggests that this agreement pattern is more properly known as *modifier agreement*, since adjectives and genitive case marked NPs are both modifiers and sensitive to the Gender, Case, and Number of the following head noun in a noun phrase.

A Genitive case pronoun may be used in place of a full nominal referent followed by the Genitive postposition. The following table shows the lexical citation form (corresponding to the 'mns' form) of the various genitive case pronouns:

Table 6-9: Genitive Case Pronouns in Kangri and Hindi

<table>
<tr><td colspan="3" rowspan="2">Genitive Pronouns</td><td colspan="2">Kangri</td><td colspan="2">Hindi</td></tr>
<tr><td>Sg</td><td>Pl</td><td>Sg</td><td colspan="2">Pl</td></tr>
<tr><td colspan="3">1st</td><td>मेरा
m-eɾ-ɑ</td><td>असांदा
ə-sɑ̃-d-ɑ</td><td>मेरा
m-eɾ-ɑ</td><td colspan="2">हमारा
həm-ɑɾ-ɑ</td></tr>
<tr><td colspan="3">2nd</td><td>तेरा
t-eɾ-ɑ</td><td>तुसांदा
tʊ-sɑ̃-d-ɑ</td><td>तेरा
t-eɾ-ɑ</td><td>तुम्हारा
tʊm-hɑɾ-ɑ</td><td>आपका
ɑp-k-ɑ</td></tr>
<tr><td rowspan="6">3rd</td><td rowspan="2">proximate</td><td>M</td><td>इसदा
ɪ-s-d-ɑ</td><td rowspan="2">इहूनांदा
ɪ-ɦn-ɑ̃-d-ɑ</td><td rowspan="2">इसका
ɪ-s-k-ɑ</td><td colspan="2" rowspan="2">इनका
ɪ-n-k-ɑ</td></tr>
<tr><td>F</td><td>इसादा
ɪ-sɑ-d-ɑ</td></tr>
<tr><td rowspan="2">distal (visible)</td><td>M</td><td>उसदा
ʊ-s-d-ɑ</td><td rowspan="2">उहूनांदा
ʊ-ɦn-ɑ̃-d-ɑ</td><td rowspan="4">उसका
ʊ-s-k-ɑ</td><td colspan="2" rowspan="4">उनका
ʊ-n-k-ɑ</td></tr>
<tr><td>F</td><td>उसादा
ʊ-sɑ-d-ɑ</td></tr>
<tr><td rowspan="2">distal (non-visible)</td><td>M</td><td>तिसदा
tɪ-s-d-ɑ</td><td rowspan="2">तिहूनांदा
tɪ-ɦn-ɑ̃-d-ɑ</td></tr>
<tr><td>F</td><td>तिसादा
tɪ-sɑ-d-ɑ</td></tr>
</table>

As can be seen in Table 6-9, the Kangri genitive case morpheme has several different allomorphs: |d| (cf. Table 6-8 above) for most forms, and |-er| for the 1st and 2nd person singular pronouns. Also notice that these latter two forms are identical to the corresponding forms in Hindi. The rest of the forms are created by adding the |-d| allomorph (or |-k| for Hindi) of the genitive postposition to the stem of the oblique form of the pronouns as a suffix (cf. Table 6-7).

6.3.4 Ergative pronouns

Kangri also has a partially distinct set of pronouns for the Ergative case:

Table 6-10: Kangri Ergative Case Pronouns [63]

Ergative Pronouns			Sg	Pl
1st			**मैं** m-æ	**असां** ə-sɑ̃
2nd			**तैं** t-æ	**तुसां** tʊ-sɑ̃
3rd	proximate	M	**इन्नी** ɪ-nn-i	**इहूनां** ɪ-ɦn-ɑ̃
		F	**इन्नैं** ɪ-nn-æ̃	
	distal (visible)	M	**उन्नी** ʊ-nn-i	**उहूनां** ʊ-ɦn-ɑ̃
		F	**उन्नैं** ʊ-nn-æ̃	
	distal (non-visible)	M	**तिन्नी** tɪ-nn-i	**तिहूनां** tɪ-ɦn-ɑ̃
		F	**तिन्नैं** tɪ-nn-æ̃	

These pronouns are used for the Subject occurring with either a transitive verb in the Perfective aspect (see §5.3.4.1) or the Infinitive Future construction (see §9.4.1).

Comparing these forms with the Nominative and Oblique case forms discussed above shows some similarities. For example, the 1st person singular Ergative case form is the same as the corresponding Nominative case form (cf. Table 6-6) and all the Ergative plural pronouns are the same as the corresponding Oblique case forms (cf. Table 6-7). However, even though these forms are identical, there are syntactic differences between them. For example, when the Nominative form of the 1st person

[63] The equivalent of these Ergative forms in Hindi is the nominative form of the pronoun (cf. Table 6-6) followed by the ergative postposition /**ने**/ /ne/.

singular pronoun is used as the subject in a Habitual aspect sentence, the verb will agree with the gender and number of the subject pronoun referent. When the Ergative form is used (e.g. as the subject of a transitive sentence in the Perfective aspect), then the verb will agree with the object (if it is unmarked). The facts of agreement will be discussed later in §9.3. However, the point here is that though the forms of these pronouns are sometimes the same in these different situations, they behave differently on a syntactic level, suggesting a grammatical difference.

Similarly with the plural (Ergative and Oblique) pronouns: when a form functions as an Oblique case pronoun, it must be followed by a postposition (see §6.4), which triggers the oblique case. When the same form functions as an Ergative case pronoun, it is not followed by anything. In both cases, it is as if some null morpheme representing the Ergative case is present, which: a) blocks the verbal agreement, and b) triggers the Oblique case form.

6.4 Postpositions

As with most Indo-Aryan languages and SOV languages in general (Greenberg 1966), Kangri has postpositions rather than prepositions. A postposition triggers Oblique case in the noun phrase it follows (see §9.1.2). The following table lists all the postpositions in Kangri, Dogri and Hindi.

Table 6-11: Postpositions in Kangri, Dogri and Hindi

Function	Kangri	Dogri	Hindi
Dative (DAT)	**जो** d͡ʒo	**गी** gi	**को** ko
Genitive (GEN)	**दा** d-ɑ	**दा** d-ɑ	**का** k-ɑ
Location ('in')	**च** t͡ʃə	**च** t͡ʃə	**में** mẽ
Location ('on')	**पर** pəɾ	**पर** pəɾ	**पर** pəɾ
Ablative ('from')	**ते** te	**शा/चा/कोला/थमां** [64] ʃɑ/t͡ʃɑ/kolɑ/tʰəmɑ̃	**से** se
Instrumental (INSTR) Accompaniment (ACCOM)	**कन्ने** kənne	**कन्ने** kənne	**से** se
Comparative (COMP)	**ते** te	**सा** sɑ	**से** se

Aside from the Genitive postposition (discussed in §6.3.3), the rest are not inflectable.

In Kangri, there is also a Location postposition with the meaning 'at', which functions as a suffix on nouns. Consider:

91. **इक्की कनारैं इक नालू है,**

ɪkk-i	kənɑɾ-æ̃	ɪk-0	nɑlu-0	ɦ-æ
one-o	side-**at**	one-n	canal-MNS	PRES-s

There is a canal at one side.

[64] It is not clear to the present author what the difference is between these forms. Perhaps they are regional variants.

In (91), the word on which the postpositional suffix attached is a masculine class 1 noun (i.e. lexical citation form, /कनारा/ /kənɑɾ-ɑ/ ‘side-MNS’). Notice that the postposition totally replaces the regular gender, case, and number suffix. Also notice that like with the unbound postpositions, this one also has phrase scope in that it also inflects the pre-head quantifier to the oblique case (i.e. ‘o’—see §6.5).

6.5 Cardinal Numbers

Cardinal numbers have a different behavior in Kangri and Dogri vs. Hindi. In Hindi, the words for numbers are non-declinable. In Kangri and Dogri, when functioning as quantifiers, cardinal numbers inflect based on the case of the head noun that they modify, nominative (i.e. ‘n’) vs. oblique (i.e. ‘o’). Notice in (91) above that when the number ‘one’ modifies an oblique case head noun (i.e. /kənɑɾ-ɛ̃/ ‘side-at’), it is also inflected oblique (i.e. /इक्की/ /ɪkk-i/ ‘one-o’), but when it modifies a nominative case head noun (i.e. /nɑlu-0/ ‘canal-MNS’), it is not inflected.

The following table gives the various forms of the first 10 numbers in Kangri, Dogri and Hindi:

Table 6-12: Cardinal Numbers 1-10 in Kangri, Dogri, and Hindi

	Kangri		Dogri		Hindi
	Nominative	Oblique	Nominative	Oblique	
1	**इक** ɪk	**इक्की** ɪkki	**इक** ɪk	**इक्कै** ɪkkæ	**एक** ek
2	**दो** do	**दूंहई** dû̃i	**दो** do	**द'ऊं** də̂ũ	**दो** do
3	**त्रै** træ	**तिन्नां** tɪnnã	**त्रै** træ	**त्र'ऊं** trə̂ũ	**तीन** tin
4	**चार** t͡ʃar	**चौंहूई** t͡ʃɔ̂̃i	**चार** t͡ʃar	**च'ऊं** t͡ʃə̂ũ	**चार** t͡ʃar
5	**पंज** pə̃d͡ʒ	**पंज्जां** pənd̪͡ʒd͡ʒə̃	**पंज** pə̃d͡ʒ	**पञ्जें** pəɲẽ	**पाँच** pə̃t͡ʃ
6	**छे** t͡ʃʰe	**छींह्** t͡ʃʰî	**छे** t͡ʃʰe	**छें** t͡ʃʰẽ	**छः** t͡ʃʰe
7	**सत्त** sətt	**सत्तां** sətt̪ã	**सत्त** sətt	**सत्तें** sətt̪ẽ	**सात** sat
8	**अठ** əʈʰ	**अट्ठां** əʈʈʰə̃	**अट्ठ** əʈʈʰ	**अट्ठें** əʈʈʰẽ	**आठ** aʈʰ
9	**नौ** nɔ	**नौआं** nɔə̃	**नौ** nɔ	**नमें** nəmẽ	**नौ** nɔ
10	**दस** dəs	**दस्सां** dəssə̃	**दस** dəs	**दस्सें** dəssẽ	**दस** dəs

6.6 The Interrogative-Relative-Deixis (IRD) Paradigm

Indo-Aryan languages have a very productive paradigm that equates third person pronouns with interrogative and relative pronouns. It involves a parallelism between the following operations on a nominal or adverbial constituent: a) questioning it (i.e. interrogative), b) saying something else about it (i.e. relative), and c) pointing it

out (i.e. deixis). There are two distinct types of words that fit this paradigm: a) 3rd person pronouns (or demonstratives [65]) and b) adverbs.

These Interrogative-Relative-Deixis (IRD) forms vary from language-to-language and dialect-to-dialect in South Asia. For comparison purposes, the IRD adverbs for Kangri, Hindi (Shapiro 1989), and Dogri (Gupta 1995) are listed here:

Table 6-13: Paradigm of Interrogative-Relative-Deixis Adverbs

		Kangri	Dogri	Hindi
Location (LOC)	INTR 'where'	**कुह़त्थु** |kʊ-ɦttʰʊ|	**कु'त्थै**[66] |kʊɦ-ttʰæ|	**कहाँ** |k-əhɑ̃|
	REL 'where'	**जिह़त्थु** |d͡ʒɪ-ɦttʰʊ|	**जित्थै** |d͡ʒɪ-ttʰæ|	**जहाँ** |d͡ʒ-əhɑ̃|
	PRX 'here'	**एह़त्थु** |e-ɦttʰʊ|	**इत्थै** |ɪ-ttʰæ|	**यहाँ** |j-əhɑ̃|
	DST.V 'there'	**उह़त्थु** |ʊ-ɦttʰʊ|	**उत्थै** |ʊ-ttʰæ|	**वहाँ** |ʊ-əhɑ̃|
	DST.NV 'there'	**तिह़त्थु** |tɪ-ɦttʰʊ|		
Direction (DIR)	INTR 'which way'	**कुतांह़** |kʊ-tɑ̃ɦ|	**कुद्धर** |kʊ-ddɦəɾ|	**किधर** |kɪ-dʰəɾ|
	REL 'way which'	**जतांह़** |d͡ʒə-tɑ̃ɦ|	**जिद्धर** |d͡ʒɪ-ddɦəɾ|	**जिधर** |d͡ʒɪ-dʰəɾ|
	PRX 'this way'	**तांह़** |0-tɑ̃ɦ|	**इद्धर** |ɪ-ddɦəɾ|	**इधर** |ɪ-dʰəɾ|
	DST.V 'that way'	**उतांह़** |ʊ-tɑ̃ɦ|	**उद्धर** |ʊ-ddɦəɾ|	**उधर** |ʊ-dʰəɾ|
	DST.NV 'that way'	**ततांह़** |tə-tɑ̃ɦ|		
Time (TIME)	INTR 'when'	**काह़लु** |k-ɑɦlʊ|	**कदूं** |k-ədũ|	**कब** |k-əb|
	REL 'when'	**जाह़लु** |d͡ʒ-ɑɦlʊ|	**जदूं** |d͡ʒ-ədũ|	**जब** |d͡ʒ-əb|
	PRX 'now'	**हुण** |ɦʊt̪|	**हुन** |ŭn|	**अब** |0-əb|
	DST.V 'then'	**ताह़लु** |t-ɑɦlʊ|	**तदूं** |t-ədũ|	**तब** |t-əb|
	DST.NV 'then'			

[65] The same word (e.g. /**सैह़**/ /sæɦ/ '3:N') can either be a 3rd person *pronoun* (e.g. when it replaces a full noun phrase—cf. *he*, *she*, or *it*) or a 3rd person *demonstrative* (e.g. when it is used to modify an existing head noun—cf. *that* or *those*).

[66] The orthographic symbol that looks like an apostrophe is used to represent tone in Dogri when following short vowels. Dogri also uses the same symbol as Kangri for tone (i.e. the orthographic symbol for /ɦ/) when following long vowels.

Table 6-13 — Continued

Manner (MNR)	INTR ‘how’	**किंहूआं** |kĩ-ɦã|	**कि’यां** |kɪ-ɦjã|	**कैसे** |k-æse|
	REL ‘way which’	**जिंहूआं** |d͡ʒĩ-ɦã|	**जि’यां** |d͡ʒɪ-ɦjã|	**जैसे** |d͡ʒ-æse|
	PRX ‘this way’	**इंहूआं** |ĩ-ɦã|	**इ’यां** |ɪ-ɦjã|	**ऐसे** |0-æse|
	DST.V ‘that way’	**उंहूआं** |ʊ̃-ɦã|	**उ’यां** |ʊ-ɦjã|	**वैसे** |ʊ-æse|
	DST.NV ‘that way’	**तिंहूआं** |tĩ-ɦã|		
Quantity (QNTY)	INTR ‘how many’	**कितणा** |kɪ-tɽ̃-ɑ|	**किन्ना** |kɪ-nn-ɑ|	**कितना** |kɪ-tn-ɑ|
	REL ‘amt. which’	**जितणा** |d͡ʒɪ-tɽ̃-ɑ|	**जिन्ना** |d͡ʒɪ-nn-ɑ|	**जितना** |d͡ʒɪ-tn-ɑ|
	PRX ‘this many’	**इतणा** |ɪ-tɽ̃-ɑ|	**इन्ना** |ɪ-nn-ɑ|	**इतना** |ɪ-tn-ɑ|
	DST.V ‘that many’	**उतणा** |ʊ-tɽ̃-ɑ|	**उन्ना** |ʊ-nn-ɑ|	**उतना** |ʊ-tn-ɑ|
	DST.NV ‘that many’	**तितणा** |tɪ-tɽ̃-ɑ|		
Compar-ative (CMPR)	INTR ‘what kind’	**कदेहूआ** |kə-deɦ-ɑ|	**कनेहूा** |kə-neɦ-ɑ|	**कैसा** |kæ-s-ɑ|
	REL ‘kind which’	**जदेहूआ** |d͡ʒə-deɦ-ɑ|	**जनेहूा** |d͡ʒə-neɦ-ɑ|	**जैसा** |d͡ʒæ-s-ɑ|
	PRX ‘this kind’	**देहूआ** |0-deɦ-ɑ|	**इ’यै नेहूा** |ɪɦjæ neɦ-ɑ|	**ऐसा** |æ-s-ɑ|
	DST.V ‘that kind’	**तदेहूआ** |tə-deɦ-ɑ|	**उ’ऐ नेहूा** |ʊɦæ neɦ-ɑ|	**वैसा** |ʊæ-s-ɑ|
	DST.NV ‘that kind’			

Notice that in all three languages, the interrogative forms always begin with |**क**| |k| ‘INTR’, the relative forms always begin with |**ज**| |d͡ʒ| ‘REL’, the proximate forms (‘PRX’) begin with a front vowel or semivowel (e.g. |**ए**| |e|, |**इ**| |ɪ|, |**य**| |j|, etc), the visible distal forms (‘DST.V’) begin with a back vowel or semivowel (e.g. |**ओ**| |o|, |**उ**| |ʊ|, |**व**| |ʊ|, etc), and the non-visible distal forms, begin with |**त**| |t| ‘DST.NV’. Notice that only Kangri makes a distinction for visible vs. non-visible distal deixis; Hindi and Dogri do not.

The final two adverbial forms in Table 6-13 (i.e. Quantity and Comparative) are noun modifiers and occur prior to a head noun (e.g. “*how many* boys?”, “*What kind of* boy?”). These modifiers inflect for the Gender, Case, and Number of the head noun (cf.

adjectives and the genitive case postposition discussed above in §6.2 and §6.3.3 above). The forms in Table 6-13 for these words are the lexical citation forms, whereby the final |-ɑ| corresponds to the 'mns' agreement suffix.

Though there are exceptions, [67] looking down the columns for a particular adverb, notice that—within a language—these words are clearly morphologically-related. For example, the interrogative, relative, and deixis words related to LOCATION in Kangri all contain the suffix |-**ह़ुत्थु**| |-ɦttʰʊ| 'LOC'. For Hindi, they all contain |-**हाँ**| |-əhɑ̃| and for Dogri, they all contain |-**त्थै**| |-ttʰæ|.

The following example sentences show how these words are used:

92. **राम कुह़ुत्थु गेआ** ?

ɾɑm	kʊ-ɦttʰʊ	ge-0-ɑ
Ram	**INTR-LOC**	go-PERF-ms

***Where** did Ram go?*

93. **राम एह़ुत्थु आया ।**

ɾɑm	e-ɦttʰʊ	ɑ-j-ɑ
Ram	**PRX-LOC**	come-PERF-mp

*Ram came **here**.*

94. [**राम जिह़ुत्थु गेआ**], **तिह़ुत्थु बरखा होई ।**

[ɾɑm	d͡ʒɪ-ɦttʰʊ	ge-0-ɑ]$_{\text{RelCl}}$	[tɪ-ɦttʰʊ	bərəkʰɑ	ɦo-0-i]$_{\text{MatrixCl}}$
Ram	**REL-LOC**	go-PERF-ms	**DST.NV-LOC**	rain	be-PERF-fs
	RelPro		CorelPro		

*It rained where Ram went. (lit: **Where** Ram went, **there** it rained).*

[67] For e.g., the Kangri form /**हुण**/ /ɦʊɳ̃/ PRX:TIME (a.k.a. 'now') seems unrelated to the interrogative and relative forms.

Example (92) shows the use of the interrogative morpheme to question a location. Note the interrogative root morpheme (INTR) is suffixed by the location adverb morpheme (LOC). A (full) answer to the question in (92) is given in (93), which shows how the proximate deictic pronoun root (PRX) can be used to point to a location using the same common morpheme as the question (i.e. LOC). The example in (94) shows the relative pronoun root morpheme (REL) suffixed by the same location adverb morpheme to relativize a location. The location adverb in the matrix clause that is co-referential with the relativized location in the relative clause is expressed by the distal, non-visible CORRELATIVE pronoun |**तिहूत्थु**| |tɪ-ɦɪtt^{h}ʊ| 'DST.NV-LOC'. This type of adverbial relative clause construction will be discussed further in Chapter 10.

The other situation in which this Interrogative-Relative-Deixis paradigm holds is for 3rd person pronouns/demonstratives. The following table shows these forms:

Table 6-14: Paradigm of Interrogative-Relative-Deixis Pronouns/Demonstratives

		Kangri	Dogri	Hindi
3rd Person (NOM)	INTR 'who' (+ANIM)	**कुण** |k-ʊɽ̃|	**कु'न** |k-ʊɦn|	**कौन** |k-ɔn|
	INTR 'what' (-ANIM)	**क्या** |k-jɑ|	**केह्** |k-eɦ|	**क्या** |k-jɑ|
	REL 'one which'	**जेह्ड़ा** |d͡ʒ-eɦɽ-ɑ|	**जेह्ड़ा** |d͡ʒ-eɦɽ-ɑ|	**जो** |d͡ʒ-o|
	PRX 'this one'	**एह्** |e-ɦ|	**एह्** |e-ɦ|	**यह** |j-əh|
	DST.V 'that one'	**ओह्** |o-ɦ|	**ओह्** |o-ɦ|	**वह** |ʋ-əh|
	DST.NV 'that one'	**सैह्** |sæ-ɦ|		
3rd MS OBL	INTR 'whom'	**कुस** |kʊ-s|	**कुस** |kʊ-s|	**कुस** |kʊ-s|
	REL 'one whom'	**जिस** |d͡ʒɪ-s|	**जिस** |d͡ʒɪ-s|	**जिस** |d͡ʒɪ-s|
	PRX 'this'	**इस** |ɪ-s|	**इस** |ɪ-s|	**इस** |ɪ-s|
	DST.V 'that'	**उस** |ʊ-s|	**उस** |ʊ-s|	**उस** |ʊ-s|
	DST.NV 'that'	**तिस** |tɪ-s|		

Table 6-14 — Continued

3rd FS OBL	INTR ‘whom’	**कुसा** |kʊ-sɑ|	**कुस** |kʊ-s|	**कुस** |kʊ-s|
	REL ‘one whom’	**जिसा** |d͡ʒɪ-sɑ|	**जिस** |d͡ʒɪ-s|	**जिस** |d͡ʒɪ-s|
	PRX ‘this’	**इसा** |ɪ-sɑ|	**इस** |ɪ-s|	**इस** |ɪ-s|
	DST.V ‘that’	**उसा** |ʊ-sɑ|	**उस** |ʊ-s|	**उस** |ʊ-s|
	DST.NV ‘that’	**तिसा** |tɪ-sɑ|		
3rd PL OBL	INTR ‘whom’	**कुह़नां** |kʊ-ɦn-ɑ̃|	**कु’नें** |kʊ-ɦnẽ|	**किन** |kɪ-n|
	REL ‘ones whom’	**जिह़नां** |d͡ʒɪ-ɦn-ɑ̃|	**जि’नें** |d͡ʒɪ-ɦnẽ|	**जिन** |d͡ʒɪ-n|
	PRX ‘these’	**इह़नां** |ɪ-ɦn-ɑ̃|	**इ’नें** |ɪ-ɦnẽ|	**इन** |ɪ-n|
	DST.V ‘those’	**उह़नां** |ʊ-ɦn-ɑ̃|	**उ’नें** |ʊ-ɦnẽ|	**उन** |ʊ-n|
	DST.NV ‘those’	**तिह़नां** |tɪ-ɦn-ɑ̃|		
3rd MS AGT	INTR ‘who’	**कुन्नी** |kʊ-nn-i|	**कु’न्ने** |kʊ-ɦnne|	**किसने** |kɪ-s-ne|
	REL ‘one who’	**जिन्नी** |d͡ʒɪ-nn-i|	**जि’न्ने** |d͡ʒɪ-ɦnne|	**जिसने** |d͡ʒɪ-s-ne|
	PRX ‘this’	**इन्नी** |ɪ-nn-i|	**इ’न्ने** |ɪ-ɦnne|	**इसने** |ɪ-s-ne|
	DST.V ‘that’	**उन्नी** |ʊ-nn-i|	**उ’न्ने** |ʊ-ɦnne|	**उसने** |ʊ-s-ne|
	DST.NV ‘that’	**तिन्नी** |tɪ-nn-i|		
3rd FS AGT	INTR ‘who’	**कुन्नैं** |kʊ-nn-æ̃|	**कु’न्ने** |kʊ-ɦnne|	**किसने** |kɪ-s-ne|
	REL ‘one who’	**जिन्नैं** |d͡ʒɪ-nn-æ̃|	**जि’न्ने** |d͡ʒɪ-ɦnne|	**जिसने** |d͡ʒɪ-s-ne|
	PRX ‘this’	**इन्नैं** |ɪ-nn-æ̃|	**इ’न्ने** |ɪ-ɦnne|	**इसने** |ɪ-s-ne|
	DST.V ‘that’	**उन्नैं** |ʊ-nn-æ̃|	**उ’न्ने** |ʊ-ɦnne|	**उसने** |ʊ-s-ne|
	DST.NV ‘that’	**तिन्नैं** |tɪ-nn-æ̃|		
3rd PL AGT	INTR ‘whom’	**कुह़नां** |kʊ-ɦn-ɑ̃|	**कु’नें** |kʊ-ɦnẽ|	**किनने** |kɪ-n-ne|
	REL ‘ones whom’	**जिह़नां** |d͡ʒɪ-ɦn-ɑ̃|	**जि’नें** |d͡ʒɪ-ɦnẽ|	**जिनने** |d͡ʒɪ-n-ne|
	PRX ‘these’	**इह़नां** |ɪ-ɦn-ɑ̃|	**इ’नें** |ɪ-ɦnẽ|	**इनने** |ɪ-n-ne|
	DST.V ‘those’	**उह़नां** |ʊ-ɦn-ɑ̃|	**उ’नें** |ʊ-ɦnẽ|	**उनने** |ʊ-n-ne|
	DST.NV ‘those’	**तिह़नां** |tɪ-ɦn-ɑ̃|		

Notice that the 3rd person nominative forms in the first two rows of Table 6-14 make a distinction between animate and inanimate referents for interrogative pronouns. For all other nominative forms, the same pronoun is used for both animate and

inanimate referents. Also, notice that the nominative interrogative and relative pronouns do not have a common morpheme with the deixis forms, but since the different deixis forms are related (specifically, the /ɦ/ could be said to represent nominative case), these forms were added to the table as well.

The two sections related to 3rd person oblique singular forms (MS vs. FS) show that Kangri makes a distinction for Gender, while the Hindi and Dogri pronouns in those two different sections have the same forms. Also notice that the 3rd person masculine singular oblique pronouns are the same in all three languages (e.g. |किस| |kɪ-s| 'INTR-3MS:O', etc). As with the previous table, note that Kangri has a unique form for non-visible distal referents in most of these categories as well.

One area of overlap in Table 6-14 is in the plural pronouns for Oblique and Ergative case, which have the same forms in Kangri (and Dogri). The difference is that the Oblique forms must be followed by a postposition, whereas the Ergative forms are not. The corresponding Hindi forms are the same in the two categories also, except that the Ergative forms are suffixed with the Ergative case postposition |-ने| |-ne|.

The following example sentences show how these words are used:

95. **तैं कुस जो खिन्नू दित्ता**?

t-æ̃ kʊ-s d͡ʒo kʰɪnnu dɪ-tt-ɑ
2S-ERG **INTR-3MS:O** DAT ball give-PERF-MS
To whom did you give the ball?

96. **मैं इस जो खिन्नू दित्ता ।**

m-æ̃ ɪ-s d͡ʒo kʰɪnnu dɪ-tt-ɑ
1S-ERG **PRX-3MS:O** DAT ball give-PERF-MS
I gave the ball to him (this one).

97. [**जिस (माहूणुऐं) जो खिन्नू दित्ता**], **तिसदा नां राम है ।**

[d͡ʒɪ-s (mɑhɰ̃ʊ-æ̃) d͡ʒo kʰɪnnu dɪ-tt-ɑ],
REL-3MS:O person-MOS DAT ball give-PERF-MS
{ RELPRO N_{REL} }$_{RELCL}$

tɪ-s-d-ɑ nɑ̃ ɾɑm ɦ-æ
DST-3MS:O-GEN-MNS name Ram PRES-S
{ CORELPRO }$_{MATRIXCL}$
The name of (the person) to whom (I) gave the ball is Ram.

Example (95) shows the use of the interrogative pronoun to question a nominal constituent—in this case, the indirect object of the sentence. Since the participant being questioned is the indirect object of the sentence, it will appear in the dative case.[68] Thus, the interrogative morpheme root (INTR) is suffixed by an oblique form of the 3rd person pronoun (i.e. 3MS:O). The (full) answer to the question is given in example (96), which shows how a deictic pronoun can be used to point to a referent using the same common morpheme as the question (i.e. 3MS:O); here, with the proximate (PRX) root morpheme. The example in (97) shows both the relative pronoun root morpheme (REL) with the same person-number-case suffix (i.e. 3MS:O) to relativize such a constituent. The reference to the relativized NP in the matrix clause is filled by the distal, non-

[68] Indirect objects in Kangri, Dogri, and Hindi are always marked dative case in all situations.

visible CORRELATIVE pronoun. The parentheses in (97) show that the existence of the head noun in the relative clause—while normally present—is optional and may be omitted. If omitted, the relativized noun phrase (NP_{REL}) is GAPPED in the relative clause, and the relative pronoun shows the position of the gap. Thus, the relative pronoun does not replace the head noun, but rather only indicates its position in the relative clause; immediately following the relative pronoun itself. When the head noun is not in the left-adjoined relative clause, then the interpretation of a bare relative pronoun is the indefinite 'one who'.

6.6.1 IRD Forms as a Marker of Language Variety Identification

In Table 6-13 and Table 6-14, notice how the IRD forms differ between the different language varieties. For one thing, they often have the same beginning root, but different suffixes. No formal analysis of these forms was done for this study, but there has been significant anecdotal evidence to suggest that it is these type of FUNCTOR words which largely define a language variety in Pahari speakers' minds.

That is, many of the word roots are the same across different Indo-Aryan languages. For example, the verb root, |जा| |d͡ʒɑ|, means 'go' in all the languages discussed in this study. But what changes from location to location (or "every 12 km", as they say) are the inflection patterns, and especially the pronouns (§6.3) and these IRD words. Speakers of Kangri from Palampur could be given a text that was written by someone from the town of Nurpur (on the western edge of the Kangri-speaking area) and after reading a few sentences, they will remark, "This is what they speak over in Nurpur." Then they will follow up with a quote like that given at the beginning of this

chapter, referring to one of the pronouns or IRD words and indicating how they pronounce those words here (in Palampur) vs. over there.

This suggests that to some extent, the IRD words and the pronouns are what signals a different language variety in speakers' minds.

CHAPTER 7

PREDICATE NOMINAL CONSTRUCTIONS

Predicate nominal constructions are important to investigate early on in the process of analyzing the syntax of a language because other clause structures are often based on them (Gildea 1992). Having a fuller understanding of the predicate nominal constructions can lead to a more straightforward analysis of such related constructions. For example, in many Indo-Aryan languages, the copula used in a predicate nominal construction also functions as a tense auxiliary in other aspectual construction types. A comparative analysis of the formal characteristics of copulas in different languages can also be used as an indicator of language relatedness (Eaton 2003).

This chapter describes the predicate nominal and related family of constructions for the Kangri language. It will be shown that all of these constructions are expressed by coupling two constituents with a sentence-final copula.

In Kangri, PROPER INCLUSION and EQUATION are expressed by predicate nominal constructions. ATTRIBUTION is expressed by a predicate adjective construction. EXISTENTIAL and LOCATIONAL constructions are expressed by coupling a noun phrase (NP) and a postpositional phrase (PP) in different constituent orders, and finally, POSSESSION is expressed in several ways depending on the type of possession (e.g. alienable, inalienable, etc.). Here is a summary of the predicate type constructions:

Table 7-1: Summary of Kangri Predicate Nominal and Related Constructions

Proper Inclusion	Equation	Attribution	Location	Existential	Possession
NP NP COP		NP AP COP	NP PP_{LOC} COP	(PP_{LOC}) NP COP	{PP_{GEN} N} COP NP PP_{GEN} COP PP_{near} NP COP

7.1 Proper Inclusion

An important concept in the following discussion is the distinction between the structure (i.e. syntax) and the expressed meaning (i.e. semantics) of various constructions. The primary semantic effects of the predicate nominal constructions discussed here are the notions of EQUATION and PROPER INCLUSION. First, here is a brief overview of these constructions in English.

English predicate nominal constructions can be expressed by this formula (where NP is a noun phrase and COP is the copular element that joins the two noun phrases together):

98. NP COP NP Predicate Nominal Construction (SVO)

Consider these examples:

99. *He is a doctor*. Proper Inclusion
100. *He is the doctor*. Equation

Proper Inclusion signifies the membership of one entity (here, *He*) in a class of entities (here, *doctors*). Note from the formula in (99) that Proper Inclusion is expressed in English by coupling the two noun phrases (representing the entity and the class) by a

copula (here, *is*), and that the class constituent is preceded by the indefinite article *a*. Equation signifies the equality of one entity with another, the latter of which usually involves a social role of some sort (e.g. *doctor*, *teacher*, *king*, etc). Note in (100) that Equation is expressed in English by the same structure as Proper Inclusion, but rather than the indefinite article, the definite article *the* is used.

In Kangri, Proper Inclusion is also expressed by a predicate nominal construction, but for Kangri (an SOV language), the syntactic structure can be expressed by the formula:

101. NP NP (NEG) COP Predicate Nominal Construction (SOV)

Notice in the following example the present tense morpheme at the end of the sentence, which couples the two noun phrases—in this case, where the first NP is predicated as being among the class of nouns characterized by the second NP.

102. **तुसां मेरे बड़के दी संतान हन।**

tʊsɑ̃	m-eɾ-e	bəʈək-e	d-i	səntɑn	ɦ-ən
2P:N	1S-GEN-mos	eldest-MOS	GEN-fns	offspring	PRES-p
{NP}	{	NP		}	COP

You are offspring of my eldest (child)

The copula in Kangri always agrees with the left-most NP constituent in terms of Number (*singular* or *plural*). In (102), the copula has the ‘p’ (plural) agreement suffix showing agreement with the first constituent, 2P ‘you (pl)’.

In the following example, the copula shows singular agreement:

103. **एह् जणास कोई रूह् है।**

e-ɦ	d͡ʒəʈas-0	koi	ɾuɦ	ɦ-æ
PRX-3:N	woman-FNS	some	spirit	PRES-s
{ NP }		{ NP }		COP

This woman is a spirit.

In addition to the present tense examples above, proper inclusion with a past time reference can be expressed using a different copula:

104. **घ्राटे दा पुड़ ज्यादा ताकती बाल़ा था।**

gɦəraʈ-e	d-a	pʊʈ	d͡ʒjada	takəti	baʈ-a	tʰ-a
mill-MOS	GEN-mns	grinding.stone	many	strong	REL:one-MNS	PAST-ms
{ NP }			{ NP }			COP

The mill's stone was a strong one.

105. **एह् गड्डी नौई गड्डी थी।**

e-ɦ	gəɖɖ-i	nɔ-i	gəɖɖ-i	tʰ-i
PRX-3:N	vehicle-FNS	new-fns	vehicle-FNS	PAST-fs
{ NP }		{ NP }		COP

This car was a new car

Notice that the copulas in (104) and (105) are inflected for gender and number. This is in contrast to the present tense copula shown above which inflected for number only. Consider the following slight change to (105) where the copula shows plural agreement:

106. **एह् गड्डिआं नौइआं गड्डिआं थिआं।**

e-ɦ	gəɖɖ-ɪã	nɔ-ɪã	gəɖɖ-ɪã	tʰ-ɪã
PRX-3:N	vehicle-FNP	new-fnp	vehicle-FNP	PAST-fp
{ NP }		{ NP }		COP

These cars were new cars

For the future time reference, there is a different morpheme that is used obligatorily for the copula in predicate nominal constructions. [69] Notice in the following example that the copula is glossed as the "be" verb.

107. **राम खरा मास्टर हुंगा।**

ɾɑm	kʰəɾ-ɑ	mɑsʈəɾ-0	ɦʊ-ŋg-ɑ
Ram	good-mns	teacher-MNS	**be**-FUT-ms
{NP}	{	NP	} COP

Ram will (prsmt) be a good teacher

In (107), notice that the future tense morpheme, FUT, is suffixed to the stem of the "be" verb to give the future time orientation. In this construction, the verb agrees with the left-most constituent in terms of gender and number; thus masculine and singular.

Notice also that as with the past tense copula forms, the future tense copula shows agreement in terms of Gender and Number of the constituent with which it agrees (i.e. the left-most, unmarked NP constituent).[70]

Finally, besides the time reference distinctions shown above, another distinction made in predicate nominal constructions in Kangri is with respect to affirmative versus negative predications. As shown in (101), a predicate nominal construction can be negated by adding the negative word /नी/ [ni] 'not' immediately before the copula:

[69] It is perhaps disingenuous to call this third form the *future tense* form, since its primary nuance is PRESUMPTIVE MOOD. Nevertheless, these examples are future tense in form and at least as a secondary nuance.

[70] It is somewhat difficult to prove that the copula in these examples is agreeing with the left-most NP constituent since both NPs should agree with each other in terms of number and gender (esp. for proper inclusion predications). Nevertheless, other aspects of the Kangri grammar show this clearly and in any case, the exact nominal with which the copula is agreeing is not relevant to the topic at hand.

108. **राम खरा मास्टर नी है।**

ɾɑm	kʰəɾ-ɑ	mɑsʈəɾ-0	ni	ɦ-æ
Ram	good-mns	teacher-MNS	**not**	**PRES**-s
{NP}	{	NP	} NEG	COP

Ram is not a good teacher

The presence of the negative word negates the predication that the first NP is included in the class described by the second NP (i.e. Proper Exclusion).

Although the present tense copula may occur in negative predicate nominal (and related) constructions, as in (108), it is possible (and typical) to drop the copula when the negative word is present. Thus, (108) could also be spoken as the following with no change in meaning:[71]

109. **राम खरा मास्टर नी।**

ɾɑm	kʰəɾ-ɑ	mɑsʈəɾ-0	ni
Ram	good-mns	teacher-MNS	**not**
{NP}	{	NP	} NEG

Ram is not a good teacher

The functional motivation of the presence or absence of the copula in this construction is not clear.

The full paradigm of possible forms for the copulas based on subject-agreement and tense are given in the following figure:

[71] The absence of the copula in negative constructions is only allowed for the present time reference. Since the time reference is implicit in the copula form, allowing the past and/or future tense copula to also be absent results in unacceptable ambiguity. Since the present is conceptually closer than the past or future, it makes sense that the present tense copula is the one of the three that is allowed to be absent.

/**है**/ /ɦ-æ/	sg
/**हन**/ /ɦ-ən/	pl

(a) Present Tense

/**था**/ /t^h-ɑ/	msg
/**थे**/ /t^h-e/	mpl
/**थी**/ /t^h-i/	fsg
/**थिआं**/ /t^h-ɪɑ̃/	fpl

(b) Past Tense

/**हुंगा**/ /ɦʊ-ŋg-ɑ/	msg
/**हुंगे**/ /ɦʊ-ŋg-e/	mpl
/**हुंगी**/ /ɦʊ-ŋg-i/	fsg
/**हुंगिआं**/ /ɦʊ-ŋg-ɪɑ̃/	fpl

(c) Future Tense

Figure 7-1: Kangri Copula Summary

These same copulas are used throughout the following sections for the other related predicate type constructions.

7.2 Equation

Equation is also accomplished in Kangri by a predicate nominal construction (cf. 101). Consider:

110. **मैं इस छोट्टा देह्आ जीऊ है।**

mæ̃	ɪ-s	t͡ʃʰoʈʈ-ɑ	deɦ-ɑ	d͡ʒi-u	ɦ-æ
1S:N	PRX-3MS:O	small-mns	-ish-mns	creature-MNS	PRES-S
{NP}	{		NP	}	COP

I am this smallish creature.

In (110), the left-most constituent, /**मैं**/ [mæ̃] 'I' is predicated as being identical with the second NP meaning 'this smallish creature'. As with Proper Inclusion above, the present tense auxiliary is used to couple the two NPs in an Equative construction. Unlike the definite vs. indefinite articles used in English, there is no formal syntactic distinction between the Equative and Proper Inclusion constructions in Kangri.

It is possible to predicate equivalence with the past tense copula as well, as in the following example:

111. **सैह् पैह़ली बड्डी गल्ल थी।**

sæ-ɦ	pæɦl-i	bəɖɖ̤-i	gəll-0	tʰ-i
DST.NV-3:N	first-fns	great-fns	thing-FNS	PAST-fs
{ NP }	{	NP	}	COP

That was the first big thing.

A related construction that is possible in Kangri is NEGATIVE EQUATION. This is where the equation of two NPs is predicated to not hold. Consider the following example where 'our birth' is declared as not being equivalent with 'only this (one life)':

112. **असां दा जन्म एह़ ई नी है।**

əsɑ̃	d-ɑ	d͡ʒənm	e-ɦ	i	ni	ɦ-æ
1P:N	GEN-mns	birth	PRX-3:N	only	not	PRES-s
{	NP	}	{	NP	}	NEG	COP

Our birth (life) is not this (one life) only.

As above, although the present tense copula may occur in such constructions, it is again possible and typical to omit it when the non-inflectable 'not' morpheme is present: [72]

113. **मैं ता कुछ भी नी।**

m-ɑ̃	tɑ	kʊt͡ʃʰ	bɦi	ni
1s-N	FOC	something	also	not
{ NP }	{	NP	}	NEG

I am nothing!

7.3 Attribution

Attribution is expressed in Kangri by a Predicate Adjective (phrase) construction. This construction is formed by a noun phrase, which is headed by the

[72] The particle /**तां**/ [tɑ̃] 'FOC' is used for contrastive focus and is not relevant to the discussion.

nominal element being modified, followed by another phrase which is headed by an adjective, followed by one of the copulas discussed earlier, and can be expressed by the following formula:

114. NP AP (NEG) COP Predicate Adjective Construction

Notice that, unlike with attributive adjectives (cf. §6.2), in the Predicate Adjective construction, the adjective comes after the noun phrase which it modifies. Here is an example where the post-nominal adjective is followed by the present tense copula:

115. **एह् रस्ता लम्मा है।**

e-ɦ	ɾəst-ɑ	ləmm-ɑ	ɦ-æ
PRX-3:N	road-MNS	long-mns/MNS?	PRES-s
{ NP }		{ AP/NP? }	COP

This path is long (or 'the long one').

A question arises here, however, as to whether the modifying phrase is actually functioning as an adjective phrase or not? Especially since (as was mentioned in §6.2) just about any adjective is capable of functioning as the head of a noun phrase as well. That is, if the adjective in (115) is really functioning as the head of a noun phrase, then Attribution is, in fact, expressed by a Predicate Nominal construction rather than a Predicate Adjective construction, which is exactly the case with other South Asia languages, such as Telugu (Penny p.c.).

First, to show that adjectives can function as the head of a noun phrase, consider the following example:

116. **उसा लम्मिआ जो 'सीत्ता' ग्लांदे।**

ʊ-sɑ	ləmm-ɪɑ	d͡ʒo	'sittɑ'	glɑ-nd-e
DST.V-3FS:O	long-FOS	DAT	Sita	say-HAB-fp
{ NP }		P	{NP}	V

(*People) call that tall one (fem.) 'Sita'.*

Syntactically, the adjective 'long' in (116) is behaving as the head of a noun phrase (i.e. "that tall one") rather than just an adjective (i.e. "tall"). This can be seen by the fact that it is followed by a postposition and preceded by a demonstrative pronoun, both of which can only otherwise occur with noun heads. Thus, when no other, more appropriate nominal is present in the phrase, this example shows that an adjective can function as the head of a noun phrase.

Returning to (115), then, notice the ambiguity regarding the nature of the modifying phrase. On the one hand, since it was argued in §6.2 that a distinct class of adjectives exists on the basis of their inflection pattern, it is reasonable to suppose that (115) represents a Predicate Adjective construction formed as: NP AP COP. However, given that adjectives can also function as the head of a noun phrase (as shown in 116), it is also possible to argue that this construction is, in fact, just another predicate nominal construction (i.e. NP NP COP).

To see that the Predicate Adjective interpretation is better, note that while it is possible for the adjective in (116) to be preceded by a demonstrative pronoun, it is not possible in (115). That is, if a demonstrative pronoun was added to the modifying phrase in (115) (i.e. *This path is <u>that</u> long (one)*), then the sentence would be grammatical. But, it would be an Equation rather than an Attribution sentence. In fact,

(104) is just such an example. Notice in (104) that the second noun phrase does function to modify the subject noun phrase using a predicate nominal construction. However, in that case, the modifying word is followed by the relativizing/nominalizing pronoun /**बाल़ा**/ /bɑlɻɑ/ 'REL:one'. The use of this nominalizing word functions to turn an adjective (or verb) into a nominal element.

So, there is a grammatical way to make a modifying attribute into a nominal, but that is not what (115) represents. Since these two are distinct syntactically and semantically, it suggests that Attribution expressed by a Predicate Adjective is a distinct construction as well.

7.4 Location

The Predicate Locative construction in Kangri has the following form:

117. NP PP_{LOC} (NEG) COP Predicate Locative Construction

Notice in the following example that the noun phrase "our houses" precedes the location postpositional phrase "on a hill", followed by the present tense copula:

118. **असां दे घर इक्की प्हाड़िआ पर हन।**

əs-ɑ̃	d-e	gɦər-0	ɪkk-i	pɦɑʈ-ɪɑ	pər	ɦ-ən
1P:O	GEN-mnp	house-MNP	one-o	hill-FOS	on	**PRES**-p
{	NP	}	{{	NP	}	P}PP$_{LOC}$	COP

Our houses are on a hill.

7.5 Existential

Existential predications in Kangri are expressed in the same manner as Predicate Locatives except that the order of the noun phrase and location postpositional phrase is reversed:

119. (PP_{LOC}) NP (NEG) COP Existential Construction

Consider the following examples where the location post-positional phrases are followed by the noun phrase, the existence of which is being predicated, followed by the present tense copula:

120. **इस च बड़ी म्हानता है।**

ɪ-s	ʧə	bəɽ-i	mɦɑntɑ	ɦ-æ
PRX-3MS:O	in	very-fns	greatness	PRES-S
{{ NP }	P}PPLOC	{	NP	} COP

There is much greatness in this.

121. **इक्की कनारैं इक नालू है।**

ɪkk-i	kənɑɾ-ɛ̃	ɪk-0	nɑlu	ɦ-æ
one-O	side-at	one-N	canal	PRES-S
{{ NP }	P}PPLOC	{ NP	}	COP

There is a canal at one edge.

As the formula in (119) suggests, the location postposition in an Existential construction is optional. That is, the predication of Existence does not also require a location (as a Predicate Locative does):

122. **परमेसर है!**

pərəmesəɾ	ɦ-æ
God	PRES-S
{ NP }	COP

There is a God! (or 'God exists')

As with the related constructions above, the past tense copula can also be used in Existential clauses:

123. **घराटे कन्ने दो बड्डे बड्डे पत्थर थे।**

gʰərɑʈ-e	kənne	do	bəɖɖ-e	bəɖɖ-e	pətt^{h}ər-0	t^{h}-e
mill-MOS	by	two	big-mnp	big-mnp	stone-MNP	PAST-mp
{{ NP }	P }$_{PP}$	{		NP		} COP

There were two very big stones by the watermill.

This particular (i.e. past tense) Existential construction type is used extensively in the background/setting sections of narrative discourse.

7.6 Possession

Possessive constructions in Kangri can be expressed in several ways. Inalienable Possession (e.g. '*I have four children*', '*I have two hands*') is expressed like the Existential construction without the locative post-positional phrase (i.e. just "NP COP"). However, the "possessed" noun (i.e. the *children* or the *hands*) must be possessed by a genitive case marked constituent representing the possessor. Or as a formula:

124. {PP$_{GEN}$ N}$_{NP}$ (NEG) COP Inalienable Possession

Notice in the following example that only the single possessed noun phrase occurs before the present tense auxiliary copula.

125. **मेरे चार बच्चे हन।**

m-er-e	t͡ʃɑr	bət͡ʃt͡ʃ-e	ɦ-ən
1s-GEN-mnp	four	child-MNP	PRES-p
{{ PP$_{GEN}$ }		N	}$_{NP}$ COP

I have four children (lit: my four children are/exist).

Comparing this example with the formula for the Existential construction in (119) shows that Inalienable Possession is expressed in Kangri as an Existential predication; as the literal rendering of the free translation suggests. Further, notice that the copula is agreeing with that single NP in terms of number.

Another possible formulation for Possession is a Predicate Possessive construction. This is similar to the Predicate Adjective construction, where the attributive adjective is moved out of the noun phrase and into the predicate (cf. the formula for the Predicate Adjective construction in 114). Similarly, with the Predicate Possessive construction, the modifying genitive postposition phrase is moved out of the NP and occurs between it and the copula (i.e. from {{**PP**$_{GEN}$ N}$_{NP}$ COP} to: {{NP} {**PP**$_{GEN}$} COP}). Consider the following example in which the past tense copula is used:

126. **एह् गड्डी राम्मैं दी थी।**

e-ɦ	gəɖɖ-i	ɾɑmm-ɑ̃æ	d-i	t^{h}-i
PRX-3:N	vehicle-**FNS**	Ram-MOS	GEN-**fns**	PAST-fs
{ NP }		{{ NP }	P}PP$_{GEN}$	COP

This vehicle was Ram's.

Notice in (126) that the possessive postpositional phrase occurs outside of and following the noun phrase that it is modifying. That it is modifying the initial noun phrase can be seen in that the agreement on the genitive case postposition is feminine, nominative, and singular, which matches the gender, case, and number of the head noun in question.

This construction has a corollary with one of the English genitive constructions. There are two types of genitive constructions in English: 1) one involving the word 'of',

where the possessor *follows* the head noun, and 2) one where the possessor occurs before and modifies the head noun (cf. the way an attributive adjective does); shown orthographically with an apostrophe followed by 's'. Compare:

127. *Word of God* Based on the 'of' genitive formation
128. *God's word* Based on the 's formation

When the possessor in the latter construction is replaced by a pronoun, one of the following set of genitive pronouns in English is used: *my*, *your*, *his*, *her*, *their*, and *our*. However, there is another set of genitive pronouns in English (i.e. *mine*, *yours*, *ours*, *his*, *her*, and *theirs*). This other set of genitive pronouns occurs in the Predicate Possessive construction (i.e. NP COP PP_{GEN}). Consider:

129. *This book is mine* (Predicate Possessive construction)

Notice the similarity of this construction with the Predicate Adjective (i.e. NP COP AP; e.g. She is *tall*) and the Predicate Locative constructions (i.e. NP COP PP_{LOC}; e.g. She is *in the kitchen*), where the modifiers and/or locative constituent occur after the copula rather than adjacent to the noun phrase being modified.

The example of the Predicate Possessive construction in Kangri (shown in (126)) has the same arrangement: the possessor is taken out of the noun phrase and moved to the predicate, forming a Predicate Possessive construction.

A final formulation of Possession in Kangri is where the possessor occurs in the oblique case, followed by a postposition that means 'near', followed by the possessed

noun phrase and the copula. This is used for alienable possession. Consider this example:

130. **मिंजो बहूला गड्डी थी।**

mĩ-d͡ʒo	bəɦilɑ	gəɖɖ-i	tʰ-i
1s-**O**	near	vehicle-FNS	**PAST**-fs
{{NP} P }PP	{ NP }		COP

I had a vehicle.

Notice in (130) that the possessor occurs in the oblique case form (cf. Table 6-7), rather than the genitive case, as in (125). In this construction, the copula shows agreement with the possessed noun phrase; not the possessor.

The alienable possession construction in Kangri (shown in 130) is slightly different from the related Hindi construction. Though it is also formed by the possessor noun phrase followed by a word which means ‘near’, in the Hindi construction, the possessor is in the genitive case (cf. Table 6-9):

131. **मेरे पास गाड़ी थी।**

m-eɾ-e	pɑs	gɑɽ-i	tʰ-i
1s-**GEN**-mos	near	vehicle-FNS	**PAST**-fs
{{ NP } P }PP	{ NP }		COP

I had a vehicle.

Notice in (131) that the possessor (i.e. 1S) is in the genitive case (GEN) and is followed by the postposition ‘near’. This is followed by the possessed constituent noun phrase.

These two constructions for alienable possession can be expressed by the following formulas:

132. <possessor:**OBL**>$_{PP}$ ‘near’ <possessed>$_{NPi}$ COP-agr$_i$ Kangri alienable possession

133. <possessor:**GEN**>$_{PP}$ ‘near’ <possessed>$_{NPi}$ COP-agr$_i$ Hindi alienable possession

Having looked in some detail at the full range of predicate nominal and related constructions for the Kangri language, the next chapter will examine the nature of the copulas used in these constructions.

CHAPTER 8

IS ‘BE’ A VERB?

Phoebe: “I'll have [an omelet], please. Plus my money.”
Monica: “Oh, well, I didn't realize that you needed it back right away. I mean, you told me to go and be a caterer. So I went. I be***ed***.”
–Friends (Episode 4.06)

An outstanding theoretical question involving predicate nominal constructions is what valid, cross-linguistic generalization can be made regarding the nature of copulas (Pustet 2003). When overt, a copula can be categorized as an affix, particle, or verb based on its morphosyntactic properties (Payne 1997). If a copula inflects on the basis of tense, aspect, and/or mood, this suggests it is a verb.

The copula in English, for example, is thought to be a verb since it varies for tense, subject-agreement, and most neutrally occurs in clause-medial position as other verbs do (Payne 1997:162). The same is true of the copulas in Hindi (Kachru 1968) and Kangri (Eaton 2003). However, based on certain formal characteristics, there appears to be some motivation for making a distinction between the copula of present and past tense predications as against future tense predications in many languages.

English verbal morphology is limited and therefore it is difficult to make a definitive conclusion. But Indo-Aryan languages generally have a richer verbal

inflectional pattern and a wider range of tense/aspect morphological categories, and therefore, they can help illuminate the question at hand.

The focus of this chapter is to examine the data from Kangri to see what conclusions can be made regarding the nature of its copulas. The results are then compared with similar structures in English to demonstrate the striking parallel in behavior between the two languages. It will be shown that in both languages, the present and past tense copula forms (i.e. the English equivalents of *am, is, are,* and *was, were*, respectively) do not behave like more prototypical verbs and are more properly categorized as INFLECTABLE TENSE AUXILIARIES. By contrast, the future tense copula form (e.g. the English equivalent of *will be*) functions as a verb.

8.1 Introduction

In Kangri (and Indo-Aryan languages generally), the same words which function as copulas in simple nominal predicates occur in other aspectual constructions as well. In such constructions, the copular word functions as the tense bearing unit, indicating the time reference of the predication: past, present, and (presumptive[73]) future. The result is a matrix of tense-aspect permutations (Shapiro 1989, 2003). The following table demonstrates this relationship: the first row shows simple nominal predicates, where the copular element is in bold at the end of the sentence, and the subsequent rows show the related tense/aspect permutations, where the same word is functioning as the tense bearing unit:

[73] See endnote 69.

Table 8-1: Kangri Predicate Nominal and Related Constructions

	Present	Past	Future
Predicate Nominals	**सैहू लाड़ा है** sæɦ laɽa ɦ-æ 3:N groom PRES-S *He **is** a groom*	**सैहू लाड़ा था** sæɦ laɽa t^h-a 3:N groom PAST-MS *He **was** a groom*	**सैहू लाड़ा हुंगा** sæɦ laɽa ɦʊ-ŋg-a 3:N groom be-FUT-MS *He **will** (prst) **be** a groom*
Progressive	**करा दा है** kər-a_d-a ɦ-æ do-PROG-MS PRES-S *(He) is doing*	**करा दा था** kər-a_d-a t^h-a do-PROG-MS PAST-MS *(He) was doing*	**करा दा हुंगा** kər-a_d-a ɦʊ-ŋg-a do-PROG-MS be-FUT-MS *(He) will (prst) be doing*
Perfect	**कित्ता है** kɪ-tt-a ɦ-æ do-PERF-MS PRES-S *has done*	**कित्ता था** kɪ-tt-a t^h-a do-PERF-MS PAST-MS *had done*	**कित्ता हुंगा** kɪ-tt-a ɦʊ-ŋg-a do-PERF-MS be-FUT-MS *will (prst) have done*
Habitual	**करदा है** kər-d-a ɦ-æ do-HAB-MS PRES-S *(He) does*	**करदा था** kər-d-a t^h-a do-HAB-MS PAST-MS *(He) used to do*	**करदा हुंगा** kər-d-a ɦʊ-ŋg-a do-HAB-MS be-FUT-MS *(He) will (prst) do (hab)*

A theoretical question arises as to the word category of these copula-cum-tense bearing words: are they verbs or something else? This question is addressed by Payne (1997:161ff) where he lists the various ways in which languages are known to accomplish Proper Inclusion and Equation. Applying his list to Indo-Aryan languages results in three main approaches for copular elements:

- copula-as-verb
- copula-as-invariant particle
- copula-as-inflectable tense auxiliary

This final category is not actually in Payne's list, but is included as part of the copula-as-verb strategy. However, because of their: a) unique inflection pattern, and b) distinct syntactic distribution, it is argued here that copulas in Kangri are more insightfully described as inflectable tense auxiliaries rather than verbs. Furthermore, while the facts of the English copular system are difficult to analyze due to its meager morphological system, when compared with the results from Kangri, a new and strikingly similar interpretation of the English copular system becomes possible.

8.2 English Copulas

A brief overview of English Predicate Nominal constructions was given in §7.1. Examining the English copular system, we find the following distinct copula forms:

am	1sg
is	3sg
are	1pl, 2, 3pl

(a) Present Tense

was	1sg, 3sg
were	1pl, 2, 3pl

(b) Past Tense

will be	1, 2, 3

(c) Future Tense

Figure 8-1: English Copula Summary

At first glance, these forms do seem to exhibit verbal behavior. As Payne points out, "Although [the verb 'be'] is very irregular, it exhibits all the essential properties of verbs in English: 1) it varies for person (*He is*, *you are*), 2) it varies for tense (*I am*, *I was*), and 3) it most neutrally occurs in clause-medial position." (1997:162). Before discussing the analysis of these forms, it will be instructive to examine the corresponding data in Kangri, which has a richer morphological system.

8.3 Kangri Copulas

The details of Kangri Predicate Nominal constructions were also given in Chapter 7, where it was shown that copulas are: a) overt, and b) located at the end of the sentence fitting the pattern in (101). Three of the examples from Chapter 7 are reproduced here showing Predicate Nominal constructions for the present, past and future time reference:

134. **तुसां मेरे बड़के दी संतान हन।**

tʊsã	m-eɾ-e	bəʈək-e	d-i	səntɑn	ɦ-ən
2P:N	1S-GEN-MOS	eldest-MOS	GEN-FNS	offspring	PRES-P
{NP}	{	NP		}	COP

You are the offspring of my eldest

135. **एह् गड्डी नौई गड्डी थी।**

e-ɦ	gəɖɖ-i	nɔ-i	gəɖɖ-i	t^h-i
prx-3:N	vehicle-FNS	new-fns	vehicle-FNS	PAST-fs
{	NP	} {	NP	} COP

This car was a new car

136. **राम खरा मास्टर हुंगा।**

ɾɑm	k^həɾ-ɑ	mɑsʈəɾ-0	ɦʊ-ŋg-ɑ
Ram	good-mns	teacher-MNS	be-FUT-ms
{NP}	{	NP	} COP

Ram will (prsmt) be a good teacher

The first thing to notice is the three distinct roots used for the copulas in the different tenses:

- |ɦ|—Present tense
- |t^h|—Past tense
- |ɦu|—(Presumptive) future

While it is not unusual that a morpheme may have different allomorphs in different tenses, it is instructive to note that in each of these cases, not only are the shapes of the root morphemes different, but the inflectional possibilities are also distinct—a situation which occurs with no other verb in Kangri. The present tense copula agrees with the subject only in terms of number: singular vs. plural. And while the past and future copulas have the same subject-agreement pattern (i.e. the four permutations of number *and* gender, masculine vs. feminine), they have different aspectual infection patterns: the presumptive future root can take aspectual suffixes, while the past tense root cannot.

Next the Kangri data will be evaluated according to Payne's three criteria for verb*hood* to see if any conclusions can be made regarding the nature of these copula forms.

8.3.1 Varies for Tense

The expression "verbs vary for tense" means that a verb undergoes either a morphological or periphrastic operation to reflect differences in the time reference of a predication. The productive tense affixes in English include *–ed* for past tense and *–0* for simple present tense. Future tense in English is expressed by the periphrastic addition of the auxiliary *will*. Consider the following figures that show the forms of the verb *walk* in different tenses and with different subject-agreement patterns: [74]

[74] Many scholars (Bair 1999, Farbman 1989) refer to the "four forms" of English verbs. In fact, there are 5 distinct forms: the simple (or present or infinitive) form (e.g. *drink*), the "-s" form (e.g. drinks), the past tense form (e.g. drank), the present participle form (e.g. drinking), and the past participle form (e.g. drunk) (Gordon 1997). Since I am only dealing with tense at the moment, I will limit myself to just the tense-related forms. The other forms will be discussed below.

walk	1, 2, 3pl
walks	3sg

(a) Present Tense

walked	1, 2, 3

(b) Past Tense

will walk	1, 2, 3

(c) Future Tense

Figure 8-2: English Verb Tense Summary

Notice from Figure 8-2 that English verbs (normally) only vary for subject agreement in the present tense. For the past and future tense permutations, there is only one form used regardless of the person-number of the subject.

Kangri verbs, on the other hand, do not primarily vary based on tense. Instead, the most basic alternations—i.e. those that are grammaticalized morphologically—are aspectual rather than tense-oriented (see §5.3.4). The tense of a Kangri predication is expressed by the copula-cum-tense bearing unit, which occurs at the end of the verb phrase (cf. Figure 5-2 and Table 8-1).[75]

Therefore, in order to compare Kangri with the English above, we will look at the morphological variation of Kangri verbs in terms of Aspect. From the final three rows of Table 8-1, we see that Kangri verbs vary morphologically for progressive (PROG), perfective (PERF) and habitual (HAB) aspect.

Consider these various permutations, along with the morphological future tense form (FUT), inflected for the full range of gender and number agreement possibilities for the Kangri verb /कर/ [kəɾ] ‘do’:

[75] The exception is the future tense form, which is also a morphological operation. But as discussed in §5.3.4, this form could equally well be considered IRREALIS mood rather than a tense form.

Table 8-2: Kangri Tense/Aspect Verbal Morphology Summary for /**कर**/ /kəɾ/ ‘do’

	Gender-Number Agreement			
	ms	mp	fs	fp
Progressive	**करा दा** kəɾ-ɑ d-ɑ do-PROG-ms	**करा दे** kəɾ-ɑ d-e do-PROG-mp	**करा दी** kəɾ-ɑ d-i do-PROG-fs	**करा दिआं** kəɾ-ɑ d-ɪ̃ɑ do-PROG-fp
Perfective	**कित्ता** kɪ-tt-ɑ do-PERF-ms	**कित्ते** kɪ-tt-e do-PERF-mp	**कित्ती** kɪ-tt-i do-PERF-fs	**कित्तिआं** kɪ-tt-ɪ̃ɑ do-PERF-fp
Habitual	**करदा** kəɾ-d-ɑ do-HAB-ms	**करदे** kəɾ-d-e do-HAB-mp	**करदी** kəɾ-d-i do-HAB-fs	**करदिआं** kəɾ-d-ɪ̃ɑ do-HAB-fp
Future	**कहूरगा** kə̂ɾ-g-ɑ do-FUT-ms	**कहूरगे** kə̂ɾ-g-e do-FUT-mp	**कहूरगी** kə̂ɾ-g-i do-FUT-fs	**कहूरगिआं** kə̂ɾ-g-ɪ̃ɑ do-FUT-fp

Table 8-2 shows the inflection pattern of a prototypical verb in Kangri. Although these are not the only morphological alternations of Kangri verbs, they represent the main alternations related to tense and aspect. It can be seen that Kangri exhibits a rich morphological system: four distinct aspect/tense suffixes as well as four distinct agreement suffixes. Notice in the Perfective aspect forms (row 2) that even when a particular form is suppletive, the suppletion is in the root rather than the affixes (i.e. /kɪ/ vs. /kəɾ/ vs. /kə̂ɾ/), so that the subject-agreement affixes always remain the same: /ɑ/ ‘ms’, /e/ ‘mp’, /i/ ‘fs’, and /ɪ̃ɑ/ ‘fp’.

Having looked at the inflection pattern of a more prototypical verb, let us examine the ‘be’ verb, /**हो**/ /ɦo/, to see whether it has these same inflectional possibilities. Here is the same information as in Table 8-2 for the Kangri ‘be’ verb:

Table 8-3: Kangri Tense/Aspect Verbal Morphology Summary for /**हो**/ /ho/ 'be'

	Gender-Number Agreement			
	ms	mp	fs	fp
Progressive	**होआ दा** ɦo-ɑ d-ɑ be-PROG-ms	**होआ दे** ɦo-ɑ d-e be-PROG-mp	**होआ दी** ɦo-ɑ d-i be-PROG-fs	**होआ दिआं** ɦo-ɑ d-ɪə̃ be-PROG-fp
Perfective	**होया** ɦo-j-ɑ be-PERF-ms	**होए** ɦo-0-e be-PERF-mp	**होई** ɦo-0-i be-PERF-fs	**होइआं** ɦo-0-ɪə̃ be-PERF-fp
Habitual	**हुंदा** ɦo-nd-ɑ be-HAB-ms	**हुंदे** ɦo-nd-e be-HAB-mp	**हुंदी** ɦo-nd-i be-HAB-fs	**हुंदिआं** ɦo-nd-ɪə̃ be-HAB-fp
Future	**हुंगा** ɦo-ŋg-ɑ be-FUT-ms	**हुंगे** ɦo-ŋg-e be-FUT-mp	**हुंगी** ɦo-ŋg-i be-FUT-fs	**हुंगिआं** ɦo-ŋg-ɪə̃ be-FUT-fp

Table 8-3 shows that the 'be' verb does indeed have the same inflection pattern as other prototypical verbs.[76] So, the answer is *yes*: 'be' is a verb according to the criteria of variation for tense/aspect.

However, the interesting thing to note is that, while it is possible to form a regularly inflecting verb from the 'be' verb root, these are not the forms used in the predicate nominal constructions discussed above. Rather in each case, these various forms are used to express some alternate, primary nuance. For example, the habitual aspect form of the 'be' verb followed by one of the tense bearing units expresses the GNOMIC aspect (Taj 2004 for the parallel construction in Hindi):

[76] The allomorph of the 'be' verb root used with the Progressive and Perfective aspect morphemes is |**हो**| [ho], which is also the base or underlying form. The allomorph used with the habitual aspect and future tense forms has a reduced vowel: |**हु**| [hʊ].

137. **इक कने इक दो हुंदे हन।**

ɪk	kəne	ɪk	do	ɦʊ-nd-e	ɦ-ən
one	and	one	two	be-HAB-mp	PRES-pl

One and one are two.

Although in English, the free translation of this sentence is a simple EQUATIVE predicate nominal construction, in Indo-Aryan languages this gnomic aspect construction is used to express predications that are considered beyond questioning or that have widespread acceptance. Also notice in (137) that both the fully-inflected 'be' verb and the supposed 'be' copula-cum-tense auxiliary (i.e. PRES) occur simultaneously in the predication. The semantic nuance of the gnomic aspect distinguishes this form from the simple predicate nominal constructions discussed above. [77]

Likewise, the Perfective aspect form of 'be' can occur as the main verb of a sentence, but not with two nominal constituents (cf. the formula for Predicate Nominal Constructions in (101)). Consider these examples:

138. **तिस जो तसल्ली नी होई।**

t-ɪs	d͡ʒo	təsəll-i	ni	ɦo-0-i
DST.NV-3MS:O	DAT	contentment-FNS	not	be-PERF-fs
{(NP) P }$_{PP}$		{ NP }	NEG	V

He wasn't satisfied (lit: to him satisfaction didn't happen).

139. **तिसा जो बड़ा दुख होया।**

tɪ-sɑ	d͡ʒo	bəɽ-ɑ	dʊkʰ-0	ɦo-j-ɑ
DST.NV-3FS:O	DAT	great-mns	sorrow-MNS	be-PERF-ms
{(NP) P}$_{PP}$		{ NP }		V

She became very sad (lit: to her great sorrow happened).

[77] The iconic nature of these examples should be noted: to express the more complex predication requires more structural information (in this case, the addition of "be" as the main semantic verb).

Notice in (138) and (139) that when this form of the verb is used and the main semantic content of the predication is embodied in a nominal constituent, then the subject of the sentence is expressed as a post-positional phrase (PP) with the dative case marker indicating a semantic role of EXPERIENCER.[78]

The main point here, however, is that although the perfective aspect form of the 'be' verb can be the main verb of a predication, it is not the form used in simple predicate nominal constructions as formulated in (101).

For the Progressive aspect form in Table 8-3, consider this example:

140. **झाड़ी भसम नी होआ दी थी।**

d͡ʒʰɑɽi	bʰəsəm	ni	ɦo-ɑ d-i	tʰ-i
shrub	cinders	not	**be**-CONT-fs	PAST-fs

The bush was not becoming cinders.

Notice that this construction also has both the fully-inflected 'be' verb as the main semantic verb of the predication, as well as the supposed 'be' auxiliary (i.e. PAST) functioning as the tense bearing unit. As with the habitual aspect example in (137), this is not a simple predicate nominal construction. Instead the primary semantic nuance here is a change of state (INCHOATIVE) as expressed by the Progressive aspect (or rather, due to the negative word, the contrary-to-expectation unchanging state).

The final row of Table 8-3 shows the 'be' root with the future tense suffix. This is precisely the form used for the future tense copula and tense auxiliary in the last

[78] Semantically, the subject may be a nominal-like entity, but syntactically, a marked subject has several characteristics indicating it is not a nominal constituent: a) the nominal itself is inflected in the oblique case, and b) the postposition effectively cuts off agreement with the verb. When the left-most constituent

column of Table 8-1, which is argued to be the one copular form that actually behaves like a verb. Not surprisingly, then, we find that like all of the other forms in this section, this form has a special function. As mentioned in footnote 69, the primarily use of this form is to express PRESUMPTIVE MOOD. This calls into question whether this form can even be called a simple predicate nominal construction. If not, then we find a dichotomy at precisely the place it has been argued to exist: the past and present tense copulas are fundamentally different from the future tense copula; the former are used exclusively for predicate nominal constructions and the latter for presumptive mood predications.

The examples in this section have demonstrated the 'be' verb occurring with the various aspect suffixes to form predications with specialized semantic nuances (e.g. gnomic aspect, perfective aspect with *experiencer* subjects, inchoative, presumptive mood, etc). By contrast, the forms of the present and past tense copulas from Figure 7-1 never occur with any of these aspectual suffixes. So while every other verb in the language—including the 'be' verb—can take such affixes, the copulas for past and present tense predicate nominal constructions cannot. As discussed, they express the tense of the predication; not the aspect. So while the examples in this section have shown that there is a 'be' verb, which *varies for aspect* as more prototypical verbs do, the copulas of the predicate nominal constructions are distinct forms with distinctly non-prototypical verbal behavior.

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is followed by a postposition, the verb agrees with the left-most, *unmarked* nominal constituent. This can be seen in (138) and (139) in that the verb agrees with the nominal just to the right of the marked subject.

Returning to English, then, several questions arise: 1) do English verbs most fundamentally *vary for tense,* and 2) do the copulas of predicate nominal constructions follow the inflection pattern of more prototypical verbs? Restating the first question in light of the Indo-Aryan data, is it possible to reinterpret English as fundamentally varying for Aspect rather than Tense? That is, do morphological variations (as opposed to less fundamental periphrastic variations) represent differences in Aspect rather than Tense? The progressive aspect morpheme, |*–ing*| (a.k.a. the PRESENT PARTICIPLE) provides a clear example for this hypothesis: comparing the English predicate nominal and progressive aspect constructions gives a striking parallel with the Kangri data above. Consider this parallel to Table 8-1 for English:

Table 8-4: English Predicate Nominal and Related Constructions

	Present	Past	Future
Predicate Nominals	*he is a man* 3MS **PRES**:3s IND man	*he was a man* 3MS **PAST**:3s IND man	*he will be a man* 3MS **FUT** **be** IND man
Prog-ressive	*he is walk-ing* 3MS **PRES**:3s walk-PROG	*he was walk-ing* 3MS **PAST**:3s walk-PROG	*he will be walk-ing* 3MS **FUT** **be** walk-PROG

The first thing to notice in Table 8-4 is that the forms of the copulas in the predicate nominal constructions are identical to the tense bearing units in the progressive aspect construction. This demonstrates that English also has tense auxiliaries that are related to the copulas of predicate nominal constructions.

The second thing to notice is that—again, as with Kangri—the future tense form of the copula-cum-tense auxiliary seems to be formed in exactly the same manner as more prototypical verbs (i.e. the periphrastic addition of *will* along with the verb in its

bare stem form—cf. Figure 8-2(c)). In this regard, it is interesting to note that the only situation in which the copula-cum-tense auxiliary actually surfaces with the form *be* is in the future tense.

With regard to tense/aspect suffixes, once again we see a parallel with the Kangri data: while the progressive aspect *–ing* suffix can attach to the *be* verb root (i.e. *being*), it cannot attach to the roots of the past and present tense auxiliaries (i.e. **is-ing*, **was-ing*, etc). Rather, as with Kangri, the past and present copula-cum tense auxiliaries provide the tense of the predication and do not inflect for aspect like more prototypical verbs. This further supports the hypothesis that the future tense copula is formed by the *be* verb, while the past and present tense copulas are formed by tense auxiliaries.

What about the other morphological variations of English verbs? Do they reflect differences of Tense—as traditionally held—or Aspect? The following table shows the traditional view of the "five forms" of the two English verbs, *fall* and *walk*:

Table 8-5: The "5 forms" of English Verbs

"Simple" or "Present" or "Infinitive" or "Base" form	"-s" form	Past Tense form	Past Participle form	Present Participle or "*-ing*" form
fall	*falls*	*fell*	*fallen*	*falling*
walk	*walks*	*walked*	*walked*	*walking*

Looked at from the point of view of Indo-Aryan languages, nearly all of these traditional labels are unfortunate and completely miss the potential tense/aspect combinations available in English. For example, the left-most form (i.e. the SIMPLE PRESENT) usually expresses, not something that occurs at the time of speaking, but

rather something which happens habitually (e.g. *I fall on this step, I shop in this store, I go to this school*). The second form (i.e. the "-s" form) is really the same (habitual) aspect as the first form and the difference has to do with subject person-number agreement rather than a difference in tense or aspect (e.g. *He fall**s** on this step, He shop**s** in this store, He goe**s** to this school*).

The PRESENT PARTICIPLE label is likewise unfortunate, because there is nothing in the |-*ing*| suffix related to tense—Present or otherwise. Instead, the tense comes from the co-occurring copula-cum-tense auxiliaries, as in: *is falling*, *was falling*, vs. *will be falling*. In these examples, the morpheme |-ing| clearly represents the Progressive Aspect.

Similarly the PAST PARTICIPLE form is not related to the *Past Tense* so much as to the *Perfect* Aspect. When this form of the verb is used, the tense comes—not from a morpheme in the verb—but from the co-occurring periphrastic tense auxiliary *have,* as in: *had fallen, has fallen, will have fallen*. Since the tense in these phrases arguably comes from the forms of the word '*have*', it suggests that the |ed|/|en| morphemes do not signal Past Tense, but rather the Perfective Aspect (cf. PERF in Kangri/Hindi). If so, then the Perfect Aspect construction in English is formed in exactly the same way as with Indo-Aryan languages: the Perfective aspect form of the verb (i.e. the verb with the

PERF morpheme, as discussed below) along with a tense auxiliary providing the tense of the deictic center of the predication.[79]

Looking at the English forms from the perspective of Indo-Aryan languages then, suggests a different organization:

Table 8-6: English Verbs from an Aspect-Based Language Perspective

Habitual aspect	Perfective aspect	Perfect aspect	Progressive aspect
I fall *He falls*	*fell*	*fallen*	*falling*
I walk *He walks*	*walked*	*walked*	*walking*

The Perfective aspect form in most Indo-Aryan languages is generally considered to be unspecified for tense. In fact, if you add one of the tense auxiliaries to a verb in the Perfective aspect form, it becomes the Perfect aspect (see §5.3.4.2). That is, the form of the verb is the same (in many Indo-Aryan languages) between the Perfective aspect and Perfect aspect, and the only difference is the absence or presence of a tense auxiliary. Interestingly, in English, while a few verbs do exhibit differences in form between the Perfective and Perfect aspects (e.g. *fell* vs. *fallen*), for the majority of verbs, these two likewise have an identical form, and what distinguishes them is the presence or absence of one of the tense auxiliaries based on *have* (i.e. *he walked* (Perfective) vs. *he has walked* (Perfect), where it should be noted that, in both cases, the form of the verb is the same and might be called the Perfective aspect form).

[79] For English, the "tense auxiliary" for the Perfect aspect is based on the verb '*have*', whereas in Kangri/Hindi, it is based on the forms derived from '*be*', though it is interesting to note that Old English used *be*-related auxiliaries (rather than *have*) for tense in certain perfect constructions (Traugott 1965).

Thus looking at English from an Indo-Aryan perspective gives an interesting, and no doubt useful, analysis with regard to pedagogical applications of teaching English to speakers of aspect-based languages.

8.3.2 Varies for Person

The next criterion that Payne mentions to suggest that the English copula is a verb is the fact that the copula varies for person.[80] It was mentioned that, in Kangri, the present tense copula has a subject-agreement inflection pattern that is unique: no other verb inflects only for number (cf. Figure 7-1). And while the past tense copula form has the same subject-agreement pattern as verbs generally, as was pointed out in the last section, the past tense copula never takes aspectual suffixes, so in that, at least, it is unique.

In English, we find a similar situation: as mentioned above, aside from the copulas in question, all other verbs in English have subject-agreement only in the present tense (or what is argued above to be the habitual aspect); the past and future tense forms do not exhibit subject-agreement variation (cf. Figure 8-2(b) and (c)). In contrast to this, Figure 8-1(b) shows that the past tense copula also varies for subject agreement. In this, it is unique in English: no other verb varies for subject-agreement in the past tense besides the supposed verb *be*.

In addition to this, even in the present tense where verbs normally have subject-agreement (*I walk* vs. *He walks*), there is a difference between the copula and verbs generally. More prototypical verbs have only two forms: the 3rd person singular form,

and the form for all other person-number combinations (i.e. *walk* vs. *walks*—cf. Figure 8-2(a)). However, for the present tense *copula*, there are three distinct forms: 3rd person singular, 1st person singular, and all the rest (cf. Figure 8-1). And once again, this is a subject-agreement pattern that is shared by no other word in the language.

While this is not definitive proof that the past and present tense copulas in English and Kangri are not verbs, there are differences. And it is equally interesting, in this regard, that both languages exhibit the same pattern: the future tense copula behaves just as a prototypical verb, while the past and present tense copulas behave differently and uniquely.

8.3.3 Occurs most neutrally in clause-medial position

The final criterion that Payne uses to suggest that the English copula is a verb has to do with its syntactic position in a sentence: "it most neutrally occurs in clause-medial position." (1997:162).

Applying this to Kangri, we find similarly that the most pragmatically neutral position of the copula is at the end of a sentence, which is what we would expect for an SOV language. In looking at predicate nominal constructions then, there does not appear to be any reason to question this conclusion. However, given the argument that the copulas are related to the tense auxiliaries of other aspectual constructions, it will be helpful to look at these other constructions to see whether this conclusion holds there as well.

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[80] In fact, it varies for person and number, since it is only the 3rd person, *singular* form which has a different suffix (cf. Figure 8-2).

Consider the data in Table 8-1. In each case, the final word of the phrase or sentence is the copula-cum-tense bearing auxiliary. The three different tense copulas are in complementary distribution with respect to each other. That is, they can never co-occur at the same time in the same sentence. Furthermore, these forms may not be used in any other slot within the verb phrase; for example, you cannot have the tense auxiliary come before the main semantic verb.

This shows that while the copula-cum-tense auxiliary is located in the verb phrase, it is in a unique position of that phrase. It has a specific location in which it can occur, which is in complementary distribution with more prototypical verbs. In fact, as seen in (137) and (140), the copula-cum-tense auxiliary can co-occur with the *be* verb when the latter is the main semantic verb of the predication. This fact lends further support to the argument that there is a syntactic difference between the tense bearing units (derived from copulas) and verbs, which a distinct word category would usefully differentiate.

In English, it has long been known that auxiliaries such as *am*, *is*, *are*, and *was*, *were* have a distinct syntactic position (Akmajian, Steele and Wasow 1979; Reuland 1983; Schmerling 1983; Schachter 1983; Warner 1985). So while these copulas do occur sentence-medially in predicate nominal constructions, the same words functioning as tense auxiliaries in other aspectual constructions are in complementary distribution with the main semantic verb. The copula-cum-tense auxiliaries co-occur rather than replace the main semantic verbal constituent, adding tense to the predication. Consider

the following minimal triple showing the copula-cum-tense auxiliary in the progressive aspect construction:

141.	*he*	*is*	*eat-ing*	*toast*
	3MS	PRES:3S	eat-PROG	toast
142.	*he*	*was*	*eat-ing*	*toast*
	3MS	PAST:3S	eat-PROG	toast
143.	*he*	*will be*	*eat-ing*	*toast*
	3MS	FUT be	eat-PROG	toast

In this construction there is a unique position in the verb phrase where the tense auxiliaries occur, which is in complementary distribution with the main verb of the predication. The tense auxiliaries cannot occur in the verbal slot in English either. In fact, the *be* verb can occur in the verbal slot while being distinct from the tense auxiliaries, as these examples shows:

144.	*he*	*is*	*be-ing*	*silly*
	3MS	PRES:3S	be-PROG	silly
145.	*he*	*was*	*be-ing*	*silly*
	3MS	PAST:3S	be-PROG	silly
146.	*?he*	*will be*	*be-ing*	*silly*
	3MS	FUT be	be-PROG	silly

The example in (146) is of questionable grammaticality. But in any case, it reflects an unusual situation where the *be* verb is functioning as the future tense auxiliary, as well as the main semantic verb of the predication. Nevertheless, the other

examples show how the present and past tense auxiliaries are syntactically distinct from verb of the predication.

With English, there are additional tests which clearly demonstrate that the copula-cum-tense auxiliary does not function as a verb. First, English auxiliaries occur before the subject in Yes-No questions (a.k.a. SUBJECT-AUXILIARY INVERSION Bach 1983; Dorgeloh 1997). This operation is not allowed with verbs (cf. **Walks he?*).

If the copulas of predicate nominal constructions are auxiliaries rather than verbs, then we should see them participating in this process as well:

147.	*is*	*he*		*a*	*groom?*
	PRES:3S	3MS		IND	groom
148.	*was*	*he*		*a*	*groom?*
	PAST:3S	3MS		IND	groom
149.	*Will*	*he*	*be*	*a*	*groom?*
	FUT	3MS	be	IND	groom

Notice in (147) and (148) that the copula occurs at the beginning of the sentence when a simple predicate nominal construction is turned into a Yes-No question in English. In (149), while the auxiliary *will* is inverted, the verb *be* is not; remaining instead in the neutral, clause-medial verbal position. This is exactly what we would expect if the present and past tense copulas were, in fact, auxiliaries rather than verbs, while the future tense copula was functioning as a verb.

The distinct syntactic position for English tense auxiliaries can also be seen by the fact that the negative word '*not*' can occur after them, but not after more prototypical verbs (e.g. "*He is/was* not *the groom*" and "*He is/was* not *eating toast*" vs.

"**He is/was walking* not"). Also, the tense auxiliaries can occur in Yes-No Tag questions, but more prototypical verbs cannot (e.g. "*He is/was the groom,* is*n't*/was*n't he?*" and "*He is/was eating toast,* is*n't*/was*n't he?*" vs. "**He walks, walks not he?*"). Heny & Richards (1983) contains many such arguments showing the distinct syntactic behavior of the copula-cum-tense auxiliaries cross-linguistically.

8.4 Auxiliary Verb or Inflectable Tense Auxiliary?

There is one more detail about this topic that the Kangri data brings out, which has to do with the labels "INFLECTABLE TENSE AUXILIARY" vs. "AUXILIARY VERB". In Kangri (at least) the distinction between these two labels is significant. There is a class of words that is usefully described as "auxiliary verb", which are nevertheless distinct from the copula cum tense auxiliaries. Recall from §5.3.3 that there is a small, finite class of words which can function as part of a verb-verb compound in Kangri. These words occur following the main semantic verb (which is in a non-finite form) and carry the aspect, mood and agreement suffixes for the predication. They have bleached semantics and their co-occurrence slightly modifies to the semantics of the main verb (e.g. the abilitative, deontic constructions, inceptive and completive aspects, etc). Though their distribution is restricted to verb-verb compounds, they have exactly the same inflection pattern as more prototypical verbs. In fact, it is their bleached semantics and restricted distribution which suggests their categorization as an *auxiliary,* and yet they inflect like any other *verb*. Consequently, these words can insightfully be described as *auxiliary verbs*. However, the copula cum tense bearing words have a distinct inflection pattern and syntactic distribution even from these words. Furthermore, since

they function cross-linguistically as both the copula of predicate nominal constructions as well as the tense bearing units in related constructions, it is argued here that a distinct category for copulas of "*inflectable tense auxiliary*" would be usefully justified.

CHAPTER 9

SYNTAX

This chapter discusses different issues related to syntax within Kangri sentences, including default constituent order, case assignment for grammatical relations, verbal agreement patterns, and other syntactic formations of tense, aspect and mood.

9.1 Constituent Order

This section deals with constituent order for the various phrase types in Kangri and compares them with correlations noted for constituent orders by Greenberg (1966) for languages of the same type (i.e. OV).

9.1.1 Main Clause: APV/SV (SOV)

Since there are Ergative aspects to Kangri syntax, the notation for sentence arguments developed by Comrie (1978) will be used in the following discussion, where "A" stands for the most agent-like argument of a transitive sentence, "P" stands for the most patient-like argument of a transitive sentence, and "S" stands for the single argument of an intransitive sentence.

Although considerable variability is allowed in the order of the constituents in Kangri for reasons of contrastive focus, backgrounding, prominence, etc., the most pragmatically neutral constituent order for the main clause is APV/SV. This makes

Kangri an “OV” language according to Greenberg’s (1966) typology. Consider the order of the main constituents in the following sentences:

150. **कई लोक तिसा जो अपणी कुल़ज मनदे ।**

kəi	lok	tɪsɑ	d͡ʒo	əpə̃-i	kʊl̩əd͡ʒ	mən-d-e
many	people	her	DAT	self’s-nfs	family.deity	consider-HAB-mp
{	A	}	{ IO }	{	P	} { V }

Many people consider her as their own family's deity.

151. **एह़ मिंजो कुसी बग्त भ़ी नकसान पुजाई सकदी।**

e-ɦ	mɪn-d͡ʒo	kʊsi	bəgt	bɦi	nəksɑn	pʊd͡ʒ-ɑ-i	sək-d-i
PRX-3:N	1S-DAT	any	time	also	harm	arrive-CAUS-CPCL	can-HAB-fs
{ A }	{ IO }	{	ADV	}	{ P }	{ V }	{ AuxV }

She could harm me at any time.

In all these examples, the order of the constituents is A-P-V. The pragmatically neutral location for an indirect object is immediately after the subject and before the object (cf. T. Mohanan 1994:12 for Hindi). Now consider these intransitive verb sentences:

152. **इक जनाणी तिह़त्थु आई,**

ɪk	d͡ʒənɑ̃i	tɪ-ɦɪtt^{h}ʊ	ɑ-0-i
one	woman-FNS	DST.NV-LOC	come-PERF-fs
{	S	}	{ ADV } { V }

A woman came there,

153. **असां दा इक बजुर्ग भ़्यागा चल्ला जांदा था,**

əsɑ̃	d-ɑ	ɪk	bəd͡ʒʊrg	bɦjɑgɑ	t͡ʃəll-0-ɑ	d͡ʒɑ-nd-ɑ	t^{h}-ɑ
1P:O	GEN-mns	one	elder	morning	move-PERF-ms	go-HAB-ms	PAST-ms
{	S	}	{ ADV }	{	V	}	{ AuxV }	{TNS }

One of our elders used to go early in the morning,

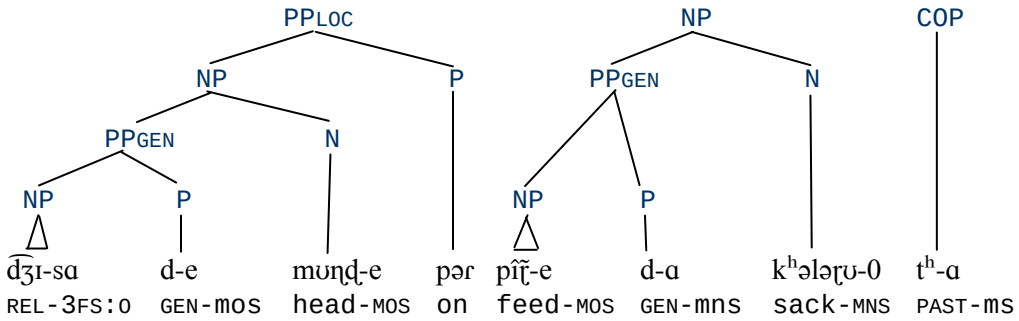
In these intransitive verb sentences, the pragmatically neutral order of constituents is S-V. Though not specifically shown above, the position of adverbial

phrases of time and location can come in any position, and is primarily governed by discourse factors like whether it is functioning as a POINT OF DEPARTURE (Levinsohn 2006)—in which case, it comes first in a sentence—or otherwise it is determined by the Principle of Natural Information Flow (Comrie 1989).

9.1.2 Postpositional Phrases (NP – P)

Adpositions in Kangri are postpositions rather than prepositions. This is consistent with Greenberg's correlation for OV languages. Consider these examples involving the genitive and locative postposition as the heads of several postpositional phrases:

154. **... जिसा दे मुंडे पर पीहूणे दा खलड्डु था।**



… on whose head was a leather bag of feed.

Notice that the postpositional phrases in (154) are formed by a noun phrase followed by a postposition (i.e. { NP P }$_{PP}$). The presence of the postposition causes the preceding noun phrase to occur in the oblique case (e.g. MOS, FOS, etc—see Table 6-1ff).

Like most Indo-Aryan languages, Kangri also has numerous COMPLEX POSTPOSITIONS made up periphrastically of the genitive morpheme (GEN) inflected for

masculine oblique singular (mos) agreement, followed by another postposition, typically, though not exclusively, similar to English prepositions (e.g. “above”, “under”, etc.). These two components behave as a single syntactic unit (i.e. a postposition) and also trigger oblique case for the preceding noun phrase. Consider the following complex postposition /दे बजाए/ /de bəjɑy/ which means, ‘instead of…’.

155. **तिसजो कणका दे बजाए तिस खलड्डुए बिच रेत मिल्ली!**

kəʈ̃ək-ɑ	d-e	bəd͡ʒɑe	tɪs	kʰələʈ̬ʊ-e	bɪt͡ʃ	ɾet	mɪll-0-i
wheat-FOS	**GEN-mos**	**instead**	that	sack-MOS	inside	sand	get-PERF-fs
{{ NP }	{ **PCMPLX** }}$_{PP}$	{{ NP }	P }$_{PP}$				

(He), instead of wheat, found sand inside that sack

Notice in (155) that, as expected, the complex postposition follows the noun phrase and causes it to be inflected for oblique case (i.e. FOS).

9.1.3 Genitive (GEN – N)

Greenberg has a separate correlation for genitive constructions, though in Kangri, since the genitive is expressed by a postposition, it has already been dealt with in the previous category on Adpositions. However, while the genitive case is expressed by a postposition, in Greenberg’s terms, it actually precedes the head noun it modifies, and so the order is: GEN-N, which is consistent with his correlations for genitive constructions in OV languages.

That is, when Greenberg talks about genitives, he means genitive pronouns or embedded possessive phrases which modify the head noun in a noun phrase. Such constructions are embedded inside a matrix noun phrase and occur prior to the head

noun. Consider this example of a genitive pronoun which precedes the head noun it modifies:

156. **जे तू मेरे पीहूणे जो पीहूई दैं,**

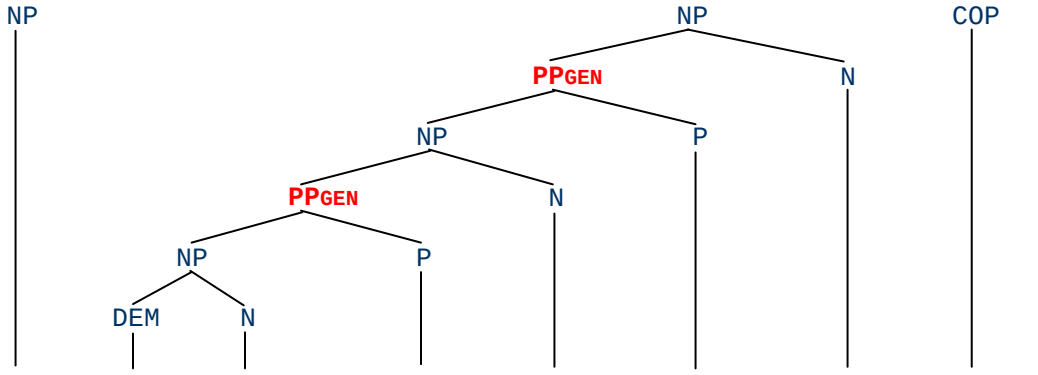
d͡ʒe	tu	m-eɾ-e	pĩ̃-e	d͡ʒo	piɦ-i	d-æ̃
if	you	**1S-GEN-MOS**	**feed**-MOS	DAT	grind-CPCL	give-SUBJ.FUT
		{ **PRO**GEN	**N**	}NP		

if you would grind my grain, …

In (156), the genitive pronoun that is modifying the head noun ‘feed’ precedes it. Although the head noun is marked oblique (i.e. MOS), it is oblique due to the following dative postposition (DAT) rather than the preceding genitive pronoun.

In terms of branching, the genitive construction may be repeatedly embedded in a left-branching manner as the following example shows:

157. **एह्ह तिसा डुंडिआ देआं पैरां दे नसाण ह्न।**



eɦ	tɪsɑ	ɖʊɳɖ-ɪɑ	d-eɑ̃	pæɾ-ɑ̃	d-e	nəsɑ̃-0	ɦ-ən
these	that	cripple-FOS	GEN-mop	foot-MOP	GEN-mnp	mark-MNP	PRES-p

These are the marks of the feet of that very crippled one.

9.1.4 Modifiers (M – N)

All modifier types—quantifiers, adjectives, and determiners—precede the head noun in a noun phrase, which is consistent with Greenberg's correlations for OV languages. Consider the sentences below:

158. **इक्की कनारैं इक नालू है,**

ɪkk-i	kənɑr-æ̃	ɪk	nɑlu	ɦ-æ
one-o	side-at	**one**	canal	PRES-s
{{**QNT** **N** }$_{NP}$ P}$_{PP}$		{**QNT** **N** }$_{NP}$		

There is a canal at one side.

159. **घराटे कन्ने दो बड्डे बड्डे पत्थर थे।**

g^{h}ərɑʈ-e	kənne	do	bəɖɖ-e	bəɖɖ-e	pətt^{h}ər-0	t^{h}e
mill-MOS	by	two	**big**-mnp	**big**-mnp	stone-MNP	PAST-mp
		{QNT	{**ADJ**	**ADJ**}$_{AdjP}$	**N**	}$_{NP}$

There were two very big stones by the watermill.

In (158), notice that the two quantifiers (i.e. the number 'one' in both cases) precede the head nouns they respectively modify. In (159) there is both a quantifier (i.e. 'two') and two adjectives (i.e. the word 'big' reduplicated), all of which precede the head noun 'stone'. The 2nd and 3rd words in (157) show that a determiner also precedes the head noun in a noun phrase.

As discussed in §7.6, there are two types of English genitive constructions—one involving the orthographic "'s" and another construction involving the word 'of'. In English it is not possible to have the former type of genitive/possessor phrase along with a demonstrative in a noun phrase at the same time (i.e. **this my book*, **my this book*), but it is possible using the "of"-based genitive construction (e.g. *this book of mine*).

Kangri and Hindi have only one type of genitive possessor phrase—one that is headed by the genitive postposition, which is then inflected for the gender, case and number of the following head noun it modifies. However, in Kangri and Hindi it is possible to have both a genitive possessor phrase as well as a demonstrative modifying the same head noun in a noun phrase at the same time. If both occur in the same noun phrase, then the genitive possessor phrase usually comes before the demonstrative. For example, consider this negative existential sentence:

160. **असां दा एह् ई जन्म नी है ।**

əsɑ̃	d-ɑ	efi	i	d͡ʒənm-0	ni	fi-æ
1P:O	GEN-MNS	this	EMPH	birth-MNS	not	PRES-S
{{ PP$_{GEN}$ }	{ DEM$_{PRX}$ }	N$_{HEAD}$	}$_{NP}$			

This birth of ours (lit: our this birth) is not (the only one).

Notice that the head noun ‘birth’ is modified by both the genitive/possessive pronoun (i.e. ‘our’), as well as a demonstrative pronoun (i.e. ‘this’).

9.1.5 Relative Clauses (RelCl – N)

In pragmatically neutral situations in Kangri, subordinate, but finite, relative clauses precede the matrix clause. The head noun that is relativized is located in the subordinate clause (i.e. internally headed; Cole 1987; Dryer 2005) following a relative pronoun. This results in the neutral order of: RelPro – N. The head noun’s grammatical role in the *matrix* clause is then occupied by a correlative pronoun (see §10.2). Consider the following sentence where the subordinate relative clause, in square brackets, comes first:

161. [घराटे कन्ने दो बड्डे बड्डे जेह्ड़े पत्थर थे,] तिह्नां पर सैह् खड़ोत्तिओ ।

[gɦərɑʈ-e	kənne	do	bəɖɖ-e	bəɖɖ-e	d͡ʒ-êʈ-e	pətt^{h}ər	t^{h}-e]
mill-MOS	by	two	big-mnp	big-mnp	**REL-3N-mnp**	**stone**	PAST-mp
{					**RelPro**	**N**	**}$_{RelCl}$**

tî-n-ɑ̃	pər	sæ-h	k^{h}əɽo-0-tt-ɪo
DST.NV:3P:O	on	DST.NV-3N	stand-RES-PERF-fp
{ CoRelPro			**}$_{MatrixCl}$**

There were two very big stones by the mill on which she was standing.

In (161), notice that the relativized noun, /**पत्थर**/ /pətt^{h}ər/ ‘stone’, is located inside the relative clause immediately after the relative pronoun /**जेह्ड़े**/ /d͡ʒêʈe/ ‘which’. The relative clause here is an Existential construction (see §7.5), which, as discussed further in Chapter 10, is used to introduce a new discourse entity (here, the *stones*). The matrix clause completely follows the finite, subordinate relative clause. Notice the first element in the matrix clause is the correlative pronoun /**तिह्नां**/ /tînɑ̃/ ‘them’, which is co-referential with the relativized noun. The correlative pronoun in the matrix clause is inflected in the objective case indicating that it is the direct object of the matrix clause. Notice, therefore, that in the matrix clause the constituent order is *object* followed by *subject* (i.e. OSV). This apparent violation of the normal SOV ordering is due to a requirement that the correlative pronoun be immediately following the subordinate relative clause regardless of its grammatical relationship in the matrix clause. The case with which it is marked then gives a clue to its grammatical relationship to the matrix clause (i.e. subject=nominative/ergative case, object=dative/objective case, etc.).

In addition to this pragmatically neutral example, relative clauses come in several other flavors, and will be discussed in more detail in Chapter 10. Nevertheless, the order for this default construction is RelCl – N, which is consistent with Greenberg's correlation for OV languages.

9.1.6 Comparatives (STD – MRK – ADJ)

The comparative and superlative constructions in Kangri are identical and they follow Greenberg's order for OV languages (i.e. Standard – Marker – Adjective). Consider:

162. **जाहूलु तिकर सैहू तिस माहूणुऐं ते जादा ताकतबर ना होए**, …

d͡ʒâlʊ	tɪkər	sæɦ	tɪs	mâʔʊ-æ	te	d͡ʒɑdɑ	tɑkətbər	nɑ	ɦo-e
until		he	that	man-MOS	CMPR	more	strong	not	be-3s:SUBJ
			{ STD }		{MRK}	{ ADJ }			

As long as he is not stronger than that man, …

Notice in (162) that the standard (i.e. 'that man') is followed by the marker (i.e. 'CMPR'), which is followed by the adjective expressing the quality of difference (i.e. 'more strong').

For the related superlative construction, the standard is the word /**सारेआं**/ /sɑreə̃/ 'whole':

163. **तिहूनां जो म्हाचल सारेआं ते बहूदिआ लग्गा ।**

tînə̃	d͡ʒo	mə̆t͡ʃəl	sɑr-eə̃	te	bəɦdɪɑ	ləgg-0-ɑ	
him:HON	DAT	Himachal	whole-MOP	CMPR	excellent	seem-PERF-ms	
			{ STD }	{MRK}	{ ADJ }		

To him it seemed that Himachal (Pradesh) was the best (lit: excellent from whole)

9.1.7 Inflected Auxiliaries (V – AUX)

Inflected auxiliaries similarly follow Greenberg's correlation for OV languages: Auxiliaries carrying tense and agreement follow the verb (i.e. V – Aux). See the Tense auxiliaries in the latter rows of Table 8-1, which show the order between verbs and the co-occurring tense auxiliaries.

9.1.8 Question Particles (Q – S and S – Q)

Kangri has two different kinds of question particles: a Yes/No Tag question particle (YNTAG) that always comes sentence final (following Greenberg) and the Yes/No question particle (YNQ) that always comes sentence initial (violating Greenberg). Consider these two examples:

164. **सैह्‌ मेरे चाचू जी थे, न**?

sæɦ	m-eɾ-e	t͡ʃɑt͡ʃ-u	d͡ʒi	tʰ-e,	nə
he	1S-GEN-mnp	uncle-DIM	HON	PAST-mp	YNTAG

He was my uncle (honorific), wasn't he?

165. **क्या एह्‌ तेरी कुड़ी है?**

kjɑ	eh	t-eɾ-i	kʊʈ-i	ɦ-æ
YNQ	this	2S-GEN-fs	girl-FNS	PRES-S

Is this your daughter?

9.1.9 Affixes (Suffixes)

In terms of Greenberg's correlations, OV languages tend to have suffixes rather than prefixes. Kangri has both. Most prefixes are related to negation strategies (see §5.2.1), and stress evidence suggests that they are derivational in nature (see §4.3.5). Suffixation occurs on all word categories and is primarily inflectional.

9.1.10 Conclusion

Kangri is a type XXIII language in Greenberg's typology (i.e. III(SOV)/Po/GN/AN). In each of the categories shown above, it exhibits head-final behavior, which puts Kangri squarely in the expected results with respect to Greenberg's correlations for OV languages.

9.2 Case Marking

Indo-Aryan languages generally exhibit a split ergative-absolutive case-marking system based on Aspect. Kellogg (1938:238) claimed that, "in all the tenses of the Perfect Participle[81] of Transitive verbs, the ergative case must be substituted for the nominative of the subject", and that, "the object of the action may be put in the nominative case". This special ergative case marking of the A constituent of transitive clauses as against the nominative marking of P constituents in transitive clauses and S constituents in intransitive clauses yields an ergative-absolutive case marking system in the Perfective aspect.

Kellogg's proposal, however, may be overstated. Shapiro (1989:83) points out that, "There are a few common Hindi verbs that are syntactically transitive (i.e., that have direct objects), but that do not occur with the ergative construction",[82] and that, "some verbs representing activities that in English are considered intransitive are treated as transitive in Hindi." [83] In both of these exceptional situations, since the S and P

[81] This is equivalent to a verb stem followed by the PERF morpheme, followed by an agreement morpheme (see §5.3.4.1).

[82] For example, **लाना** [lanɑ] 'to bring' and **भूलना** [bʰulnɑ] 'to forget'.

[83] For example, **छींकना** [t͡ʃʰiŋknɑ] 'to sneeze'.

arguments pattern together, the case marking system would be nominative-accusative, rather than ergative-absolutive.

Kangri exhibits this same split-ergative pattern of case marking in the perfective aspect *and* has a similar exception pattern. The only difference between the two languages is that certain verbs in Kangri occur with an ergative subject, while the cognate words in Hindi occur with a nominative subject (see 169 & 170 below).

First, a look at the Kangri evidence for split-ergativity:

9.2.1 Ergative-Absolutive in the Perfective Aspect

Here is an example of a transitive clause followed by an intransitive clause, both in the Perfective aspect:

166. **तिन्नी घ्ऱराटे दा दरुआजा बंद ई कित्ता था, कि इक जनाणी तिह्त्थु आई।**

tɪ-nn-i	gɦərɑʈ-e	d-ɑ	dərʊɑd͡ʒ-ɑ	bənd	i	kɪ-tt-ɑ	
DST.NV-**ERG**-3MS	mill-MOS	GEN-mns	door-M**N**S	close	EMPH	do-**PERF**-ms	
{ A }	{ P }			{ V }			

t^h-ɑ,	kɪ	ɪk	d͡ʒənɑʈ̃-i	tîtt^{h}ʊ	ɑ-0-i	
PAST-ms	that	one	woman-F**N**S	there	come-**PERF**-fs	
		{ S }			{ V }	

Just as he closed the door of the watermill, a woman came there.

In the 1st clause of (166), notice that the ergative form of the A argument is used. The P argument (i.e. /dərʊɑd͡ʒɑ/ ‘door’) and the S argument of the intransitive clause (i.e. /d͡ʒənɑʈ̃i/ ‘woman’) are both unmarked.[84] This example shows that Kangri sentences in the perfective aspect follow an ergative case-marking pattern: A is marked;

[84] The suffix ‘MNS’ means masculine gender, nominative (or unmarked) case, and singular agreement. ‘FNS’ is the same, unmarked agreement for feminine nouns (see Table 6-3ff).

S and P are unmarked. Contrast these with the following sentences in the habitual aspect:

167. **सैह् छडोल़िआ जो छडदा,**

sæ-ɦ	t͡ʃʰəɖoɭ-ɪɑ	d͡ʒo	t͡ʃʰəɖ-d-ɑ
DST.NV-3N	diverter-FOS	DAT	let.go-HAB-MS
{ A }	{ P }		{ V }

He lets go of the water diverter,

168. **असां दा इक बजुर्ग ऱ्यागा चल्ला जांदा था,**

əsɑ̃	d-ɑ	ɪk-0	bəd͡ʒʊrg-0	bɦjɑgɑ	t͡ʃəll-0-ɑ	d͡ʒɑ-nd-ɑ	tʰ-ɑ
1P:O	GEN-MNS	one-N	elder-MNS	morning	move-PERF-MS	go-HAB-MS	PAST-MS
{		S	}		{ V }		

One of our elders used to go early in the morning,

Notice that when the verb is not in the perfective aspect, the A and S arguments are both unmarked (i.e. "N" for nominative), while the P argument is marked (FOS for feminine, *oblique*, singular), [85] and therefore these Habitual aspect examples demonstrate a nominative-accusative pattern.

As mentioned above, there are a few cognate verbs that differ between Kangri and Hindi in terms of whether they occur with an ergative subject or not. Consider:

169. **तिन्नी बोल्लेआ**, '**कोई गल्ल नी।**' (Kangri)

tɪ-nn-i	boll-0-eɑ,	'koi	gəll	ni'
DST.NV-ERG-3MS	speak-PERF-MS	any	thing	not
{ S }	{ V }			

He said, "No problem."

[85] In this example, the object is marked—not because it is an object—but because it is definite within the discourse context. If it were not definite, then it would be unmarked (i.e. nominative case).

170. **वह बोला, 'कोई बात नहीं।'** (Hindi)

ʊ-əh	bol-0-ɑ,	'koi	bɑt	nəhĩ'
DST-3S:N	speak-PERF-ms	any	thing	not
{ S }	{ V }			

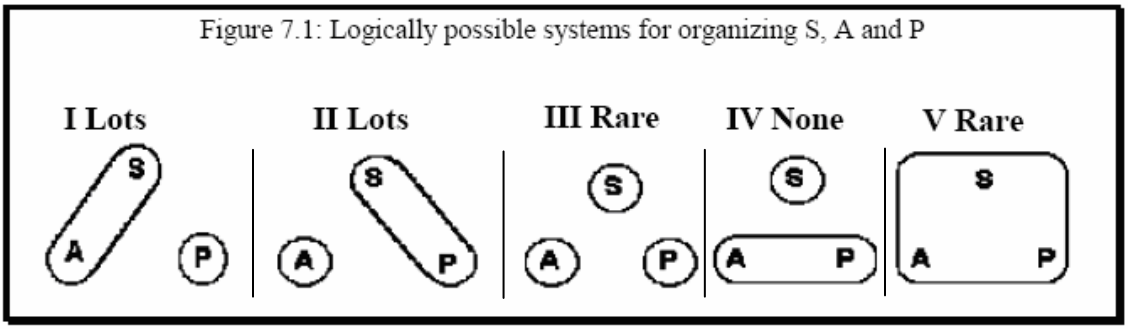
He said, "No problem."

In (169), the speech quote verb /**बोल**/ /bol/ 'speak' in Kangri behaves as a transitive verb and occurs with an ergative subject, but in Hindi (in 170), it behaves as an intransitive verb and occurs with a nominative case subject. Theoretically, one could argue that in Kangri, 'speak' is a transitive verb (perhaps, where the object is the speech quote itself), but in Hindi it is not.

9.2.2 Case Marking and Grammatical Relations

There is another issue involving case marking in both Kangri and Hindi that deserves mentioning. In discussing the five ways in which a language may organize case marking on the A, P and S constituents, Payne (1997) gives the following figure (his Figure 7.1) reproduced here:

Figure 7.1: Logically possible systems for organizing S, A and P



Payne presents the functional motivations for these various permutations as the DISCRIMINATORY and IDENTIFYING functions of grammatical relations. He points out

that the most important distinction to make is between the A and P constituents since those are the only constituents that may co-occur in a single clause. It is important for speakers to identify who (i.e. A) did what to whom (i.e. P). For a language to distinguish between S & A, or S & P would be unnecessary, since they can never occur at the same time, and therefore ought never be confused.

In terms of distinguishing between A & P, either of the organizations in I or II are equally capable: the organization represented by I corresponds to a nominative-accusative system and the organization represented by II corresponds to an ergative-absolutive system. The reason that the other organizations are non-optimal is either that they make unnecessary distinctions (i.e. between S & A and/or between S & P) or not enough distinctions (i.e. not distinguishing between A & P).

In fact, both Kangri and Hindi exhibit two of the less-optimum configurations in various aspect/pragmatic situations. Consider this slight but grammatical modification to (167):

171. **सैह़ छडोल़िआं छडदा,**

sæ-ɦ	t͡ʃʰəɖoɭ-ɪɑ̃	t͡ʃʰəɖ-d-ɑ
DST.NV-3N	diverter-FNP	let.go-HAB-ms
{ A }	{ P }	{ V }

He lets go of water diverters,

The example in (171) represents a sentence in which both the subject and object are nominative case marked. When combined with (168), these two examples represent organization V in Payne's Figure 7.1, in which all the constituents are identically marked (here, in the nominative case). Payne suggested that such a situation is rare

because while it does not make any unnecessary distinctions, it also does not distinguish between constituents that otherwise need it.

The question arises as to how a Kangri or Hindi speaker knows who did what to whom in a sentence like (171)? The answer is: because of the ANIMACY HIERARCHY, which is shown in the following figure (based on Payne 1997:205):

1^{st} person > 2^{nd} > 3^{rd} > proper-names > human > animate > inanimate
definite > indefinite

Figure 9-1: Animacy (or Agent or Topic-worthiness) Hierarchy

Kangri and Hindi speakers can figure out who did what to whom—even if unmarked in terms of surface case—because it is understood that a constituent with the lower rank on the animacy hierarchy (i.e. to the right) is more likely to be a Patient and the constituent with higher rank is more likely to be an Agent. So in (171), since the first constituent is a 3^{rd} person pronoun, which is higher on the Animacy hierarchy than the other nominal (i.e. the 'water diverter'), it is assumed to be the agent.

Next, consider this example related to (171):

172. **सैहू चोरां जो छडदा,**

sæ-ɦ	t͡ʃor-ɑ̃	d͡ʒo	t͡ʃʰəɖ-d-ɑ
DST.NV-3N	thief-FOP	DAT	let.go-HAB-ms
{ A }	{ P }		{ V }

He lets go of thieves.

Notice in (172) that the first two nominal constituents are much closer to each other on the Animacy hierarchy than the nominal constituents in (171). However, in this example, the A & P arguments are distinguishable because the two nominals have

different case marking: the first argument is in the nominative case and the second argument is in the dative case, which tells a Kangri speaker that it is the object, because, except in specialized syntactic constructions (see §9.4.4), the subject is never marked dative. Note, however, that the reason the object is marked in the dative case here is not strictly because it is the object, but rather because the referent is human and all human referents functioning as objects are obligatorily marked in the dative case.

The fact that this marking is not obligatory when an object is not human (cf. 171) shows how grammatical relations in these languages are recovered: if a constituent is less animate than human (and therefore, unmarked), the default assumption is that the constituent with a higher degree of animacy is the subject. If both constituents are human, and therefore are closer on the animacy hierarchy—where it would be more difficult to tell who did what to whom—then the object obligatorily occurs in the dative case, indicating that it is the patient. So for Kangri and Hindi, the dividing line on the animacy hierarchy scale is between humans and non-humans.

Similarly notice in Figure 9-1 that another dimension of this scale has to do with definite vs. indefinite constituents. As mentioned in footnote 85, non-human objects which are established in the discourse context are also marked with the dative case marker. So, a non-human object which is indefinite (or non-established) is assumed to be the patient. Any object which is more definite is more likely to be the agent or topic of a sentence, and therefore must be explicitly marked to identify it as the patient.

These features suggests that Kangri and Hindi are SEMI-TRANSITIVE languages in which verbs mark their core arguments with case affixes depending on their rank in

the animacy hierarchy and/or depending on their definiteness within the discourse context in order to adequately identify the proper grammatical relationships.

9.3 Verbal Agreement

Verbs in Kangri agree with the subject of the sentence in terms of Person and Number when the verb occurs with the subjunctive future morpheme (see §5.3.4.7), and with the subject or another nominal in terms of Gender and Number in most other Tense/Aspect/Mood constructions (see Figure 5-2 and §5.3.4.3 for details).[86] In the latter case, the precise nominal with which the verb agrees depends on case marking. If the subject of the sentence is nominative case (i.e. unmarked), then the verb will agree with it. However, if it is any other case—ergative and dative are the two possibilities—then the agreement will be either with the unmarked object or the next highest unmarked nominal in the sentence. If no nominal is unmarked, then the agreement will be masculine singular (ms), by default.

This somewhat complex description of the agreement rules can be simplified by noting that the verb always agrees with the nominal that is "furthest away" and nominative case; not *furthest* in a linear word-order sense, but rather in terms of syntactic distance. If the furthest nominal has a case other than nominative, then the verb will attempt to agree with the next furthest nominal, unless it is also a non-nominative case, and so on. The following examples demonstrate this:

[86] There are not significant differences in the way verbal agreement works between Hindi and Kangri, so all of the following discussion applies equally to both languages.

173. **जणास सूना पैह्नदी है।**

d͡ʒəʈɑs-0	sun-ɑ	pə̂n-d-i	ɦ-æ
woman-**FNS**	gold-MNS	wear-HAB-**fs**	PRES-S

The woman wears gold.

In (173), notice that the subject (i.e. 'woman') is feminine, singular and nominative case and the object (i.e. 'gold') is masculine and nominative case. Since the verb is inflected for feminine singular agreement, this shows that it is agreeing with the subject. The following figure shows a tree representation of this sentence: [87]

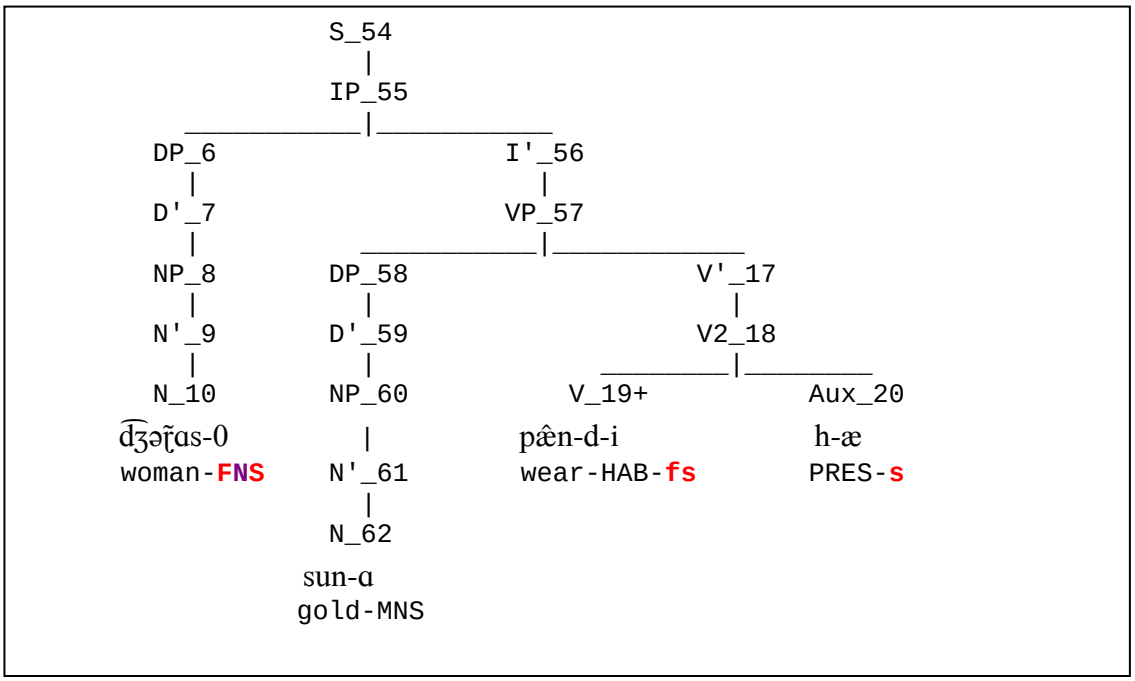


Figure 9-2: Tree structure for example (173)

Notice in Figure 9-2 that the subject constituent /d͡ʒəʈɑs/ 'woman' is the furthest nominal constituent (i.e. through more intermediate levels of the tree) from the verb

complex (i.e. node V2_18), and since the subject is in the nominative case, the verb agrees with it. The following examples shows what happens when the subject is ergative case marked, and therefore cut off from agreement:

174. **माहूणुऐं कताब दिखी।**

mâʈ̃ʊ-æ̃ kətɑb-0 dɪkʰ-0-i
man-ERG book-**FNS** look-PERF-**fs**
The man looked at a/the book.

In (174), the subject (i.e. 'man') is ergative case, while the object (i.e. 'book') is feminine, singular and nominative case. The following figure shows a tree representation of this sentence:

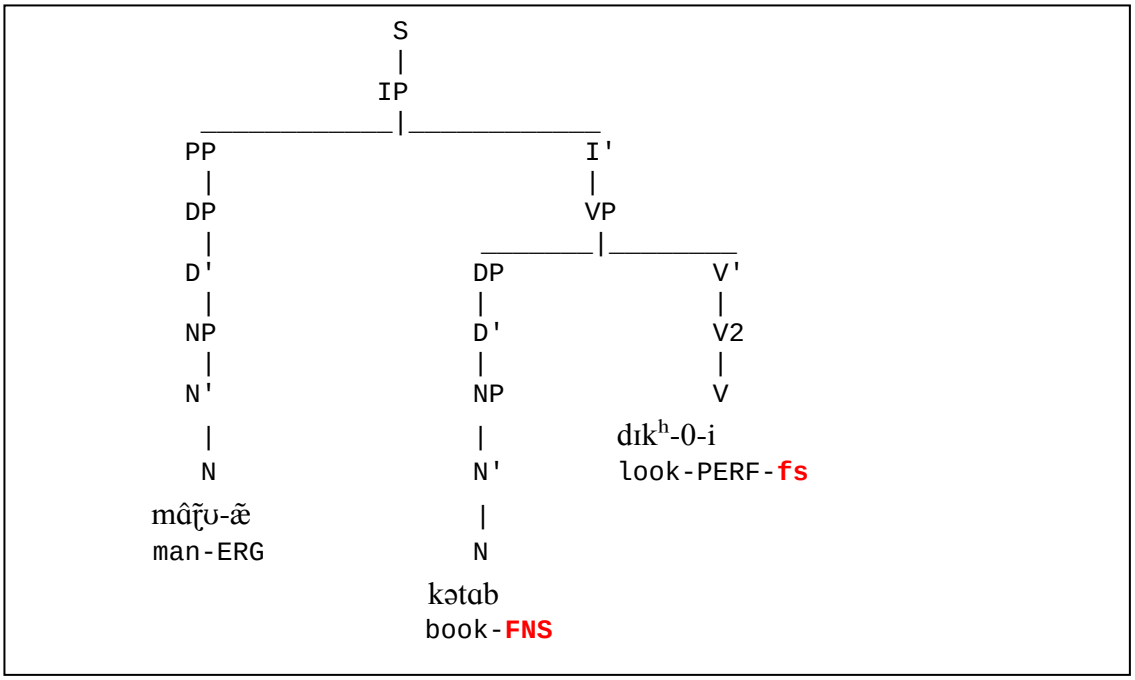


Figure 9-3: Tree structure for example (174)

[87] These tree diagrams are the result of processing these sentences with the PC-PATR syntactic parser

Notice in Figure 9-3 that while /mẫʊ-ã̆/ ‘man-ERG’ is the furthest nominal syntactically, since it is ergative case, it is cut off from agreement with the verb. In these tree diagrams, a PP node (for postpositional phrase) implies that a non-nominative case marker or postposition is present after the noun phrase. The verbal agreement cannot go through a PP node in order to find a noun to agree with. The next furthest nominal is /kətɑb/ ‘book’ and since it is nominative case, the verb can agree with it, as shown by the feminine, singular agreement suffix on the verb.

Besides the subject and object grammatical relations, the verb may agree with an incorporated noun which is functionally part of the verb complex (see §5.3.1). Consider:

175. **माह्णुऐं मुंडुए ते गल्ल-बात कित्ती।**

mẫʊ-ã̆	mũdʊ-e	te	gəll_bɑt-0	kɪ-tt-i
man-ERG	boy-MOS	ACCOMP	conversation-**FNS**	do-PERF-**fs**
{ A }	{ P }		{ V }	

The man talked (lit: did conversation) with a/the boy.

In (175), the subject and object are both non-nominative case. The following figure shows a tree representation of this sentence:

(Weber, Black & McConnel 1988; McConnel, Stephen & Black 2001; C. Black 1996, 2001).

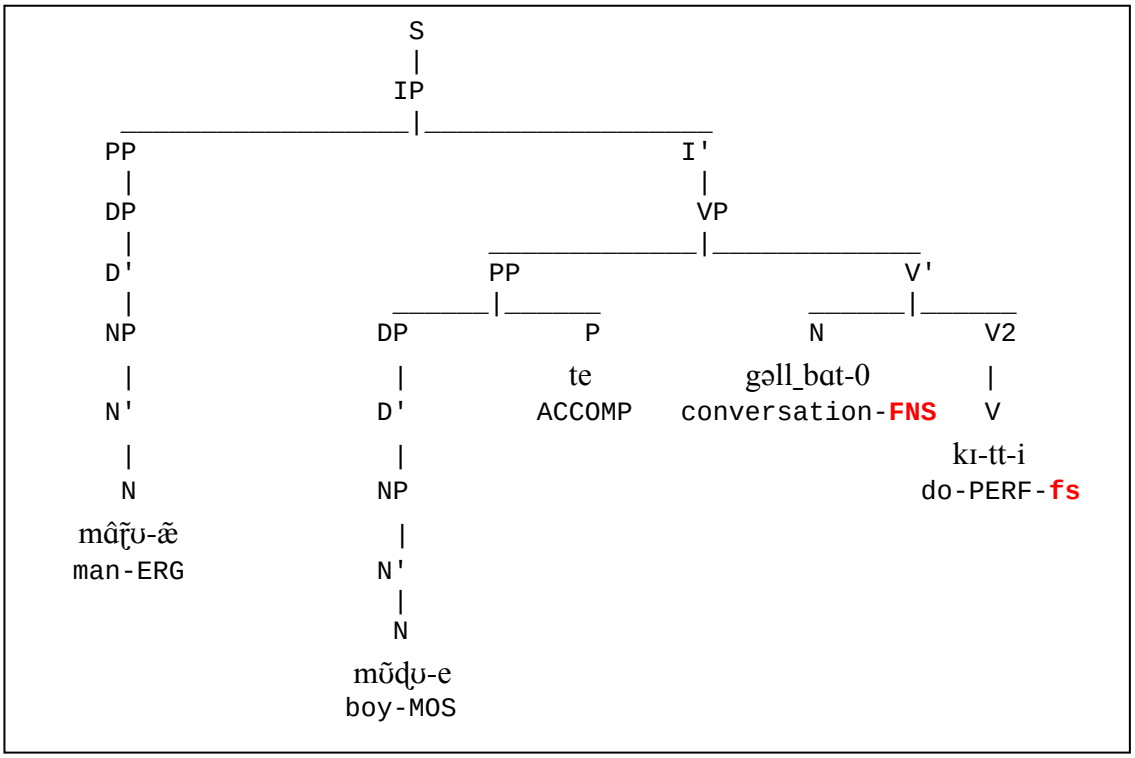


Figure 9-4: Tree structure for example (175)

The upper-most nodes of the subject and object constituents in Figure 9-4 are postpositional phrases, since they are inflected in different non-nominative cases. Notice, however, that the final nominal element, /gəll bɑt/ ‘conversation’, is feminine and the verb is also showing feminine agreement. This nominal is part of a noun incorporation construction since it dictates the case of the object (i.e. accompaniment case—see §5.3.1), and yet, the verb is in agreement with it. This shows that the verbal agreement is possible for any unmarked nominal rather than just with subject and object grammatical relations.

9.4 Tense-Aspect-Mood Syntactic Constructions

In §5.3.4, the different morphological categories for Tense, Aspect, and Mood (TAM) were discussed and it was mentioned that certain grammaticalized TAM categories were expressed syntactically, rather than morphologically. This section discusses a few of these, especially where differences exist between Kangri and Hindi.

9.4.1 Infinitival Future

The Infinitival Future is a marked future tense form that exists in Kangri (but not Hindi), in which the speaker is asserting with full confidence (and authority) that the action described by the verb will take place. It is possibly similar to the relatively rare modal category called the IMPERIOUS FUTURE found in several Kiranti languages of Nepal (van Driem 1991).

It is formed by an ergative subject and the infinitive form of the verb followed by a present tense auxiliary and can be expressed by this formula:

176. NP_{SUBJ}:ERG … V-INF-agr PRES-agr

It was shown in §9.2 that a transitive verb in the perfective aspect will occur with an ergative form of the subject corresponding to an ergative-absolutive organization for case marking of grammatical relations. However, rather than representing an ergative-absolutive organization for case marking, this infinitival future construction has a nominative-accusative pattern in which the A and S arguments are marked with what is otherwise known as the Ergative case marker.

Consider this minimal pair with the more areally typical future tense construction:

177. **सैह् कल औंह्गी।**

sæ-ɦ	kəl	ɔ-ɦng-i
DST.NV-3:**N**	tomorrow	come-**FUT**-fs

She will come tomorrow.

178. **तिन्नैं कल औणा है।**

tɪ-nn-ɐ̃	kəl	ɔ-ʈ̃-ɑ	ɦ-æ
DST.NV-**ERG**-3FS	tomorrow	come-**INF**-ms	**PRES**-s

She will (surely) come tomorrow (lit: she is to come tomorrow).

Notice that the example in (178) matches the formula in (176), consisting of a subject in the ergative case form, the verb with the infinitive morpheme (INF) and an agreement suffix,[88] followed by the present tense auxiliary. These two examples can be compared with the difference in English between, "*I will come*" (future tense) and "*I am to come*" (present tense stative predication *about* the future using the infinitive form of the verb. cf. Dik 1983).

To show that this construction represents a nominative-accusative pattern, compare (178) with this transitive sentence:

179. **तिन्नी दुज्जे पाह्ऊ रक्खी लैणे ह्न।**

tɪ-nn-i	dʊd͡ʒd͡ʒ-e	pâu-0	ɾəkk^{h}-i	læ-ʈ̃-e	ɦ-ən
DST.NV-**ERG**-3MS	other-**mnp**	tenant-**MNP**	keep-CPCL	take-**INF**-**mp**	**PRES**-**p**

He will keep other tenants.

[88] Though, in this construction, the verb and tense auxiliary do not agree with the subject since it is ergative case marked, which cuts off agreement. Here the agreement is masculine singular, by default, since there are no nominative noun phrases available to agree with.

In addition to the ergative subject, this example also shows that the verb does inflect for agreement, but since the subject is ergative case, the verbal agreement is with the object: the masculine plural, /pâu/ 'tenant (farmers)'.

Finally, note that the subject in this construction may only be a 1st or 3rd person referent. If the subject were a 2nd person referent, then this same construction functions as an imperative mood predication (see §5.3.4.6).

9.4.2 Temporal Succession

The functional category of TEMPORAL SUCCESSION is not specifically unique in Kangri, but since there has been some confusion about it in the Kangri literature [89] and since it has one noteworthy feature compared with Hindi, it will be discussed here.

Temporal succession is expressed in Kangri and Hindi by an embedded subordinate clause, ending with a non-finite form of the verb (a.k.a. CONJUNCTIVE PARTICIPLE) and having the same subject as the matrix clause. Kachru (1981:36) points out, there are more than one functional uses for the conjunctive participle, but it includes, "clear cases of [a] temporal reading where the [matrix] verb expresses process or action subsequent to the process/action expressed by the participle."

Here is an example from Kangri along with its Hindi equivalent:

[89] For example, see S. L. Sharma (1974:239), who claims that the temporal succession verb-verb compound discussed in this section, "behave[s] as one unit, denoting one action or process of state and not several successive actions". Despite this denial, he then goes on to give several good examples of temporal succession (e.g. §4.1521.f: "/**इसा पोथिआ प्राह् लई जाई करी पह्ड**/ /ɪsɑ potʰɪɑ prɑɦi ləi d͡ʒɑi kərɪ pə̂ɽ/ 'Read this book after taking away'; i.e. 'take this book away and read.'" Note that even his free translation expresses temporal succession).

180. **तिन्नी पचांह्‌ मुड़ी करी नजर दौड़ाई ।** (Kangri)

tɪ-nn-i pət͡ʃɑ̂ mʊɽ-i kər-i nəd͡ʒər dɔɽ-ɑ-0-i
DST.NV-ERG-3MS behind turn-CPCL TS-CPCL view-FNS run-CAUS-PERF-fs
He turned back and looked around.

181. **उसने पीछे मुड़ कर नज़र दौड़ाई ।** (Hindi)

ʊ-s-ne pit͡ʃʰe mʊɽ kər nəzər dɔɽ-ɑ-0-i
DST-3S-ERG behind turn TS view run-CAUS1-PERF-fs
He turned back and looked around.

The Kangri example in (180) has the following tree structure:

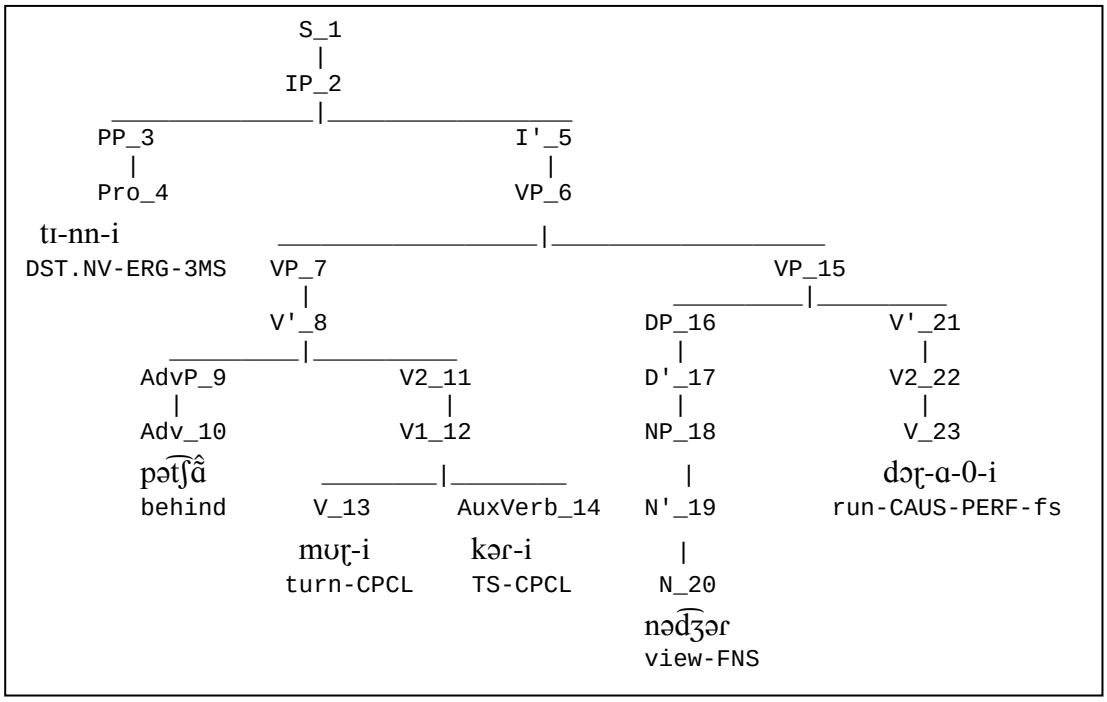


Figure 9-5: Tree structure for example (180)

The first difference to note between the Kangri and Hindi is the form of the main semantic verb of the embedded clause: /mʊɽ/ ‘turn (around)’: In the Kangri example (180), it is obligatorily suffixed with the compounding participle suffix

(CPCL—see §5.3.3). In the Hindi example (181), the verb is in its bare stem form with no overt suffix. These are then followed in both languages by the conjunctive participle—which has the form of the verb /कर/ /kəɾ/ 'do'—but in this situation, it functions to indicate temporal succession (TS). In Hindi, this word also comes in the bare stem form, but in Kangri, the stem ends in what again appears to be the compounding participle (CPCL).

When looking at the Hindi form, it is not clear whether the conjunctive participle is actually the verb 'do' or some homophonous temporal succession particle.[90] However, seeing that the Kangri form requires the main semantic verb to occur with the compounding participle (CPCL), it can more easily be seen that this is a case of verb-verb compounding with 'do' as the auxiliary verb (albeit, semantically bleached of its primary sense).

Secondly, the occurrence of the compounding participle on the 'TS' morpheme (i.e. TS-**CPCL**) is interesting because it is *not* followed directly by another verb. This suggests that in addition to *verb compounding*, the compounding participle suffix can be used for *clause compounding* as well.

In fact, the interpretation given in Figure 9-5 is that the embedded "clause" forms a dual VP node. This is just a simplification because the embedded clause does not have an overt subject, but instead shares the subject with the matrix clause.

[90] This is especially true in Hindi because when the main semantic verb is 'do', the conjunctive participle has the form /के/ /ke/, which looks nothing like any possible form of 'do'.

The question arises as to whether the subordinate clause is embedded or whether these are two separate clauses juxtaposed. That is, if the subject of the sentence could be construed as being part of the initial non-finite clause, then this might be a case of juxtaposition rather than embedding (i.e. {he$_i$ behind turn}$_{CL1}$ TS {pro$_i$ view caused-to-run}$_{CL2}$).

To see that this is a case of embedding, note that the verb 'turn (around)'—being intransitive—would never occur with an ergative subject (see §9.3). Since the subject in this sentence is ergative case, it can only be due to the final (matrix) verb, which is transitive and in the perfective aspect. Thus, in addition to carrying the TAM inflections for both clauses, the matrix/final verb also triggers the case marking for the shared subject.

9.4.3 Inflected Infinitives

There are two constructions in Kangri and Hindi which occur with what are known as INFLECTED INFINITIVES (Smith 1946). They are the INCEPTIVE and PERMISSIVE constructions. In these constructions, the main semantic verb occurs with the infinitive suffix (INF) and a fixed agreement suffix. This non-finite form is followed by an auxiliary verb that carries the TAM suffixes for the predication.

Here is an example of the Inceptive in Kangri along with its Hindi equivalent:

182. **फिरी त्रै माह्णू दकानदारे जो मारना लग्गे ।** (Kangri)

pʰɪri	træ	maɦɲ̃u	dəkandaɾ-e	d͡ʒo	maɾ-n-a	ləgg-0-e
then	three	person	shopkeeper-MOS	DAT	beat-INF-**ms**	INCPT-PERF-mp

Then three people started beating the shopkeeper.

183. **फिर तीन व्यक्ति दुकानदार को मारने लगे ।** (Hindi)

pʰɪr	tin	ʊjəktɪ	dʊkandaɾ	ko	maɾ-n-e	ləg-0-e
then	three	person	shopkeeper	DAT	beat-INF-**mp**	INCPT-PERF-mp

Then three people started beating the shopkeeper.

The difference between these examples is that, in Kangri, the agreement suffix occurring on the main semantic verb /maɾ-n-a/ 'beat-INF-ms' is always masculine singular (ms), whereas in Hindi, it is always masculine plural (mp), regardless of the nominal makeup of the predication.

The auxiliary verb that occurs in these examples (i.e. /ləg/) normally means 'be applied', but here expresses the inceptive phasal aspect (i.e. INCPT). It also carries the Aspect and Mood inflectional morphology for the predication, which is distinct from the inceptive aspect. So, for example, the inceptive could occur in the future tense (i.e. '*will* begin to…') or the progressive aspect (i.e. '*is/was* beginn*ing* to…'), etc.[91] Finally, the agreement suffix on the auxiliary verb matches the Gender-Number of the subject nominal constituent (here, 'mp' due to the subject *three people*).

[91] Since the inceptive can occur with just about any aspect or tense combination, perhaps calling it an *aspect* is incorrect.

The PERMISSIVE construction involves very much the same construction as the inceptive, except that the auxiliary verb is different: for the Permissive, the auxiliary verb is /**दे**/ /de/ ‘give’. Here is a Kangri example:

184. **पैह्लैं बच्चेआं जो रज्जी नैं खाणा देआ ।**

pæ̂læ̃	bət͡ʃt͡ʃ-eə̃	d͡ʒo	ɾəd͡ʒd͡ʒ-i	næ̃	kʰɑ-t̃-ɑ	de-ɑ
before	child-MOP	DAT	satisfy-CPCL	ADVLR	eat-**INF**-**MS**	give-IMP.IMM.PL

First let the children eat until satisfied.

Notice in (184) that the main semantic verb (i.e. ‘eat’) is in the masculine singular infinitive form and it is followed by an imperative form of the verb /**दे**/ /de/ ‘give’ (but here, meaning ‘give permission’). As with the inceptive, the permissive auxiliary verb may come with any tense/aspect combination (e.g. ‘he allow*ed* them to …’, ‘he *will* allow them to…’, ‘he *is/was* allow*ing* them to…’, etc). However, since it is normally used to request permission from someone, it most commonly comes in an imperative form of some sort, as here, with a non-overt 2nd person subject. The nominal corresponding to the referent receiving permission (if given) is always marked in the sentence with the dative case marker (here, ‘the children DAT’).

The Hindi equivalent of this would have the main semantic verb in the masculine plural infinitive form (i.e. /**खाने दीजिए**/ /kʰɑ-n-e did͡ʒ-ɪe/ ‘eat-INF-**mp** give-IMP.IMM.PL’).

9.4.4 Deontic mood/Dative subject constructions

Payne describes the term DEONTIC as a mood (usually irrealis), which is used to express, “a subject’s duty or obligation to perform the act expressed by the verb. There

are usually several deontic operators that express different degrees of strength of obligation, e.g., *must* is stronger that *should* in English." (1997:327).

Kangri and Hindi have a series of DEONTIC constructions that are expressed by a specific syntactic construction known as DATIVE or EXPERIENCER SUBJECT constructions (Smith 1946; Verma & Mohanan 1990). There are increasing degrees of strength of obligation related to the different constructions. Consider these minimally different examples:

185. **तिसा जो सैहू क्योली छडणी चाहूइदी ।** (duty/obligation/advice/suggestion)

tɪ-sɑ	d͡ʒo	sæɦ	kjol-i	t͡ʃʰəɖ-ɽ̃-i	t͡ʃûɪd-i
DST.NV-3FS:O	**DAT**	that	lever-FNS	let.go-**INF**-fs	**ought.to**-fs

She should let go of that lever.

186. **तिसा जो सैहू क्योली छडणी है ।** (compulsion—low level)

tɪ-sɑ	d͡ʒo	sæɦ	kjol-i	t͡ʃʰəɖ-ɽ̃-i	ɦ-æ
DST.NV-3FS:O	**DAT**	that	lever-FNS	let.go-**INF**-fs	**PRES**-s

She has to let go of that lever.

187. **तिसा जो सैहू क्योली छडणी पई ।** (compulsion—high level)

tɪ-sɑ	d͡ʒo	sæɦ	kjol-i	t͡ʃʰəɖ-ɽ̃-i	pə-0-i
DST.NV-3FS:O	**DAT**	that	lever-FNS	let.go-**INF**-fs	**force.to**-PERF-fs

She was forced to let go of that lever.

Notice in all three examples that the subject of the sentence is dative case. This suggests that the subject (i.e. the one experiencing the compulsion) is functioning in the semantic role of EXPERIENCER. Also notice that the main semantic verb is suffixed by the infinitive morpheme (INF) and an agreement suffix. Since the subject is case marked, the verb agrees with the feminine nominative case object. Each of these examples expresses an increasing degree of compulsion, from simple advice or suggestion (in

(185) with the 'ought.to' auxiliary verb), to a higher degree of compulsion (i.e. 'have to' in (186)) with the tense auxiliary,[92] to the extreme expression of compulsion that corresponds to the 'force.to' auxiliary verb in (187).

One question that arises with these constructions has to do with the grammatical relation of *subject*. In fact, in these examples, the constituent that was represented as being the object is in the nominative case and the constituent that was represented as being the subject is in the dative case, which is exactly backwards of the normal situation as described in §9.3 above. Nevertheless most scholars (Verma & Mohanan 1990; Masica 1993; Shapiro 2003; Butt, Grimm & Ahmed 2006) interpret these as DATIVE SUBJECT constructions on the basis of animacy, definiteness, and semantic role (i.e. in this case, EXPERIENCER). In these examples, the most "agent-like" constituent is the dative marked constituent, and therefore, it is argued to be the subject.

In Kangri, there is some evidence that a slight alternation to the first and last forms above is allowed in order to express an increased the degree of compulsion. In the examples above, notice how the main semantic verb is showing feminine singular agreement with the feminine object. However, it is possible for the main verb in the first and last sentences (at least) to show masculine agreement (i.e. non agreement with the object) while the final, auxiliary verb remains in agreement with the object. So, the following alternate forms are possible for the first and last examples above:

[92] Notice the similarity between the "have to" compulsion and the infinitive future construction (see §9.4.1). These constructions are identical except that the former has a dative case subject while the latter has an ergative case subject.

188. **तिसा जो सैह़ क्योली छडणा ई चाह़इदी ।**

tɪ-sɑ	d͡ʒo	sɛ̂	kjol-i	t͡ʃʰəɖ-ɽ̃-ɑ	i	t͡ʃûɪd-i
DST.NV-3FS:O	DAT	that	lever-FNS	let.go-INF-**ms**	EMPH	ought.to-fs

She should let go of that lever.

189. **तिसा जो सैह़ क्योली छडणा ई पई ।**

tɪ-sɑ	d͡ʒo	sɛ̂	kjol-i	t͡ʃʰəɖ-ɽ̃-ɑ	i	pə-0-i
DST.NV-3FS:O	DAT	that	lever-FNS	let.go-INF-**ms**	EMPH	force.to-PERF-fs

She was forced to let go of that lever.

Notice that the final auxiliary verb in both cases is still showing feminine singular agreement with the feminine object, but the main semantic verbs are masculine singular, showing agreement with nothing (i.e. it reflects the default masculine singular agreement, since no constituent in the sentence is masculine). The latter of these two is an actual example from a spoken text, so it is possible that these are oral-only forms. Also notice that the emphatic particle /**ई**/ /i/ 'EMPH' occurs between the main semantic verb and the auxiliary verb in these examples (though according to my language consultants, it is optional). It has been suggested that these forms express a slightly increased degree of compulsion as compared with the corresponding base forms above.

To a large degree, Hindi and Urdu are considered to be the same languages from a grammatical point of view and differ mostly on the basis of the lexicon, where Hindi derives its lexicon from Sanskrit and Urdu derives its lexicon from Persian. However, this latter distinction between the main semantic verb agreeing with the object or not is possibly due to an Urdu influence (C. M. Naim 2006).

9.4.5 Destination of motion verbs

In §6.1, it was mentioned that time adverbial phrases (e.g. ‘at that time’, ‘in those days’, etc.) are oblique case in Kangri and Hindi even though no overt postposition is present. There is a similar phenomenon going on with the destination of a motion verb, for which a difference between Kangri and Hindi suggests a motivation.

In Hindi, the destination of a motion verb normally does not occur with a postposition (cf. the preposition in the English, ‘*to* the store’). However, even though there is no overt postposition, there is some evidence that a non-overt postposition is nevertheless present. Consider these Hindi examples:

190. **सब बच्चे आप के घर आ सके।**

səb	bət͡ʃt͡ʃ-e	ɑp	k-e	gʰər-0	ɑ	sək-0-e
all	child-MNP	2P:O	GEN-**MOS**	house-**MOS**	come	can-PERF-mp
{	S	}	{	DEST	}	{ V }

All the children could come to your house.

191. **मुझे नई दिल्ली जाना है।**

m-ʊd͡ʒʰ-e	nə-i	dɪll-i	d͡ʒɑ-n-ɑ	h-æ
1S-OBL-DAT	new-fos	Delhi-**FOS**	go-INF-ms	PRES-S
{ S }	{	DEST	}	{ V }

I have to go to Delhi.

Notice in (190) that the constituent marked DEST is a noun phrase which is oblique case. Rather this is an interpretation, because the genitive postposition immediately before the head noun, ‘house’, is in the form /के/ /k-e/, which signals that the following noun is either masculine singular and *oblique*, or masculine plural and *nominative* (cf. Table 6-8). Normally a noun phrase would only be oblique if it were followed by a postposition, which is not present in (190). Nevertheless, since the free

translation of the sentence shows that the head noun, ‘house’, is singular, this can only mean that the genitive postposition is inflected oblique singular, rather than nominative plural.

In (191), notice that the destination is a feminine noun, which can be seen by the fact that the preceding adjective, ‘new’, is inflected for feminine agreement with it. According to the rules of verbal agreement discussed in §9.3, since the subject is dative case marked, it is cut off from agreement, and therefore the verb ought to agree with the next furthest nominative case nominal. However, notice that the verb is *not* agreeing with the feminine noun representing the destination. This suggests that this nominal is in the oblique case, which cuts off agreement—even though there is no overt postposition present.

These two examples suggest that the destination of a motion verb is also treated special by the syntax of Hindi, being oblique case even without the usually required postposition.

In support of this argument is the fact that in Kangri, the destination of a motion verb is always marked by an overt dative postposition. Consider these Kangri examples that are equivalent to the Hindi examples above:

192. **सारे बच्चे तुसां दे घ्रे जो आई सके।**

sɑr-e	bət͡ʃt͡ʃ-e	tʊsɑ̃	d-e	gɦər-e	d͡ʒo	ɑ-i	sək-0-e
all-mnp	child-MNP	2P:O	GEN-**MOS**	house-**MOS**	**DAT**	come-CPCL	can-PERF-mp
{	S	}	{	DEST	}	{	V	}

All the children could come to your house.

193. **मिंजो दिल्लिआ जो जाणा है।**

m-ɪn-d͡ʒo	dɪll-ɪɑ	d͡ʒo	d͡ʒɑ-t̪̃-ɑ	ɦ-æ
1S-O-DAT	Delhi-FOS	DAT	go-INF-MS	PRES-S
{ S }	{ DEST }		{ V }	

I have to go to Delhi.

Notice in both of these examples that the dative postposition follows the destination noun phrase and give justification to the oblique interpretation of those head nouns.

CHAPTER 10

RELATIVE CLAUSES

10.1 Introduction

Kangri—like many Indo-Aryan languages—exhibits a somewhat different system of relativization than is typical in other Indo-European languages. In these languages, the relative clause construction—in addition to being used as a nominal modifier—can be used in a whole series of adverbial clause constructions as well. Compare:

194. [**जेहड़ी कुड़ी गांदी है**], **तिसादा नां सीता है।** (nominal relativization)

[d͡ʒ-eɦɽ-i	kʊɽ-i	gɑ-nd-i	ɦ-æ],	tɪ-sɑ-dɑ	nɑ̃	sitɑ	ɦ-æ
REL-3N-fs	girl-FNS	sing-HAB-fs	PRES-s	DST-3FS-GEN	name	Sita	PRES-s
{ RELPRO	NPREL		}RELCL	CORELPRO			

The name of the girl who sings is Sita. (lit: 'The girl who sings, her name is Sita.')

195. [**जाहलु असां एहत्थु आए**], **ताहलु बरखा होई।** (adverbial relativization)

[d͡ʒ-ɑɦlʊ	əsɑ̃	e-ɦttʰʊ	ɑ-0-e],	t-ɑɦlʊ	bərəkʰɑ	ɦo-0-i
REL-TIME	1P:N	PRX-LOC	come-PERF-mp	DST-TIME	rain	be-PERF-fs
{ RELADV			}RELCL	CORELADV		

It rained when we came here. (lit: 'When we came here, then it rained')

In (194), a relative clause is used to relativize a noun (i.e. /kʊɽi/ 'girl') to say something else about her (i.e. that she is the one who sings). In (195), a relative clause is used to relativize the time at which something occurred, in order to say something else about it (i.e. that at that time, it was raining). Notice the parallels between these two

examples: in both cases, the relative clauses are finite subordinate clauses which are left-adjoined to the matrix clause. Both relative clauses have a word which contains the relative morpheme (REL), which could be described as a relative pronoun—though in one case, it stands for a noun, and in the other, it stands for an adverb. Both matrix clauses contain a word which is co-referential with the noun or adverb being relativized in the relative clause, which is known as the CORRELATIVE PRONOUN (Shapiro 1989, 2003).

Thompson and Longacre (1985:179), point out that 'adverbial clauses tend to take the form of or share properties with relative clauses.' They claim that this is so because time, locative, and manner clauses can be paraphrased as relative clauses in which the head noun is a relatively semantically empty noun: *time*, *place*, and *manner* (e.g. their (19a): 'We'll go at *the time* at which Tom gets here' which is a paraphrase of (18a): 'We'll go *when* Tom gets here').

In Indo-Aryan languages generally, this relationship is even more direct because the same root morpheme is used for the adverbial clause relative pronouns as for the nominal modifying relative clause pronouns (i.e. /ज/ /d͡ʒ/ 'REL'). However, unlike the nominal relative pronouns, which have agreement morphology for person, number, case, and/or the gender of the relativized nominal, the adverbial relative pronouns have morphology for one of a set of adverbial morphemes attached to the 'REL' root (see Table 6-13 in §6.6).

10.2 Correlative Pronoun

According to Payne (1997:325-330), the relativized noun phrase (NP_{REL}), is the element in the restricting clause that is co-referential with the head noun in the matrix clause. Its purpose is to identify the role of the referent of the head noun *within the relative clause*. However, when a relative clause in Kangri or Hindi is left-adjoined with respect to the matrix clause (as in these examples), it is typically INTERNALLY-HEADED, meaning that the relativized noun (or adverb) occurs in the relative clause rather than the matrix clause. Because the relativized noun is in the relative clause instead of the matrix clause, a resumptive-like correlative pronoun is used for the DOMAIN or head NP in the matrix clause. The correlative pronoun carries the case that the head NP would have had had it been in the matrix clause. As these data show, the correlative pronoun can be considered an inverse relativized noun phrase: when the head is located in the restricting clause (the pragmatically neutral situation), the correlative pronoun gives information about the grammatical relation of the (absent) head in the matrix clause. This provides an unusual, but efficient mechanism for the CASE RECOVERABILITY PROBLEM (Keenan 1985) for the absent head NP in the matrix clause.

Notice in (194) that the relativized noun /kʊɽi/ 'girl' is located in the subordinate relative clause, following the relative pronoun /d͡ʒ-eɦɽ-i/ 'REL-3N-fs'. The correlative pronoun /tɪ-sɑ/ 'DST-3FS' is in the matrix clause and is suffixed by the genitive case postposition. The fact that the correlative pronoun is case marked shows its grammatical function in the matrix clause predication (i.e. possessor of the object noun /nɑ̃/ 'name').

The use of the declinable correlative pronoun (rather than a gap) provides a useful and transparent method for recovering the role of the head noun in the matrix clause. This feature also permits many different grammatical roles of the matrix clause (subject, object, indirect object, possessor, etc.) to be relativized with minimal ambiguity.

As an example of this, note that the subject of a Kangri sentence may be marked with one of three different possible cases: nominative, ergative, or dative (see §9.2.2). In each of the following examples, the subject of the matrix clause is relativized and its referent—the correlative pronoun—is marked with the same case that the head noun would have had in the corresponding non-relative clause situation:

196. [**जेहड़ी गांदी है**], **सैह दुहद खरीददी है ।**

[d͡ʒ-eɦʈ-i	gɑ-nd-i	ɦ-æ],	sæ-ɦ	dôd	kʰəɾid-d-i	ɦ-æ
REL-3N-FNS	sing-HAB-fs	PRES-S	DST.NV-3:**N**	milk	buy-HAB-fs	PRES-S
{ RELPRO		}RELCL	CORELPRO			

(The girl) who sings buys the milk.

197. [**जेहड़ी गांदी है**], **तिन्नैं दुहद खरीद्देआ ।**

[d͡ʒ-eɦʈ-i	gɑ-nd-i	ɦ-æ],	tɪ-nn-ɑ̃	dôd	kʰəɾidd-0-eɑ
REL-3N-FNS	sing-HAB-fs	PRES-S	DST.NV-**ERG**-3FS	milk	buy-PERF-ms
{ RELPRO		}RELCL	CORELPRO		

(The girl) who sings bought the milk.

198. [**जेहड़ी गांदी है**], **तिसाजो दुहद खरीदणा है ।**

[d͡ʒ-eɦʈ-i	gɑ-nd-i	ɦ-æ],	tɪ-sɑ-d͡ʒo	dôd	kʰəɾid-ɽ̃-ɑ	ɦ-æ
REL-3N-FNS	sing-HAB-fs	PRES-S	DST.NV-3FS-**DAT**	milk	buy-INF-ms	PRES-S
{ RELPRO		}RELCL	CORELPRO			

(The girl) who sings has to buy the milk.

The subject of a habitual aspect sentence (196) is always nominative case. Notice that the correlative pronoun in the matrix clause is nominative case matching the case of the subject of the non-relativized counterpart. The subject of a transitive verb in

the perfective aspect is always ergative case. Notice in (197) that the correlative pronoun is ergative case, showing that it is standing for the subject of the non-relativized counterpart. The subject of the deontic construction shown in (198) would also be dative case as the correlative pronoun shows. In this way, the grammatical role of the head NP in the matrix clause can be recovered based on the case of the correlative pronoun.

10.3 Constituent Order and Comrie's typological parameters

There is a great deal of variability in constituent order for relative clauses in Kangri. The most pragmatically neutral position of a relative clause is pre-posed with respect to the matrix clause, as shown in the examples above. Since the relative clause is not syntactically part of the matrix clause (at least on the surface), Kangri falls in the ADJOINING RELATIVE CLAUSE typological category (Comrie 1989). The fact that the head noun is in the relative clause itself puts Kangri into the INTERNALLY-HEADED typological category in terms of the location of the relative clause with respect to the head noun. [93] Kangri verbs in restricting clauses are fully-declinable. Any tense/aspect/mood combination available in the matrix clause is also possible in the relative clause. This puts Kangri in the FINITE relative clause typological category.

10.4 Alternate Constituent Orders and Functional Motivations

Another frequent order for a relative clause formation is post-posed after the matrix clause:

[93] Though this is only true when the relative clause is left-adjoined. See footnote 94.

199. **इक जनाणी तिहूत्थु आई, [जिसादे मुंडे पर पीहूणे दा खलड्डु था]।**

[ɪk d͡ʒənɑʈ̃-i ʈɪɦʈtʰʊ ɑ-0-i,]$_{\text{MatrixCl}}$ [d͡ʒɪ-sɑ-d-e mʊɳɖ̤-e
one woman-FNS there come-PERF-fs REL-3FS:O-GEN-mos head-MOS

pəɾ piɦʈ̃-e d-ɑ kʰələɽʊ-0 tʰ-ɑ]$_{\text{RelCl}}$
on feed-MOS GEN-mns sack-MNS PAST-ms
A woman come there, on whose head was a sack of feed.

In (199), notice that, unlike above, the head noun is in the matrix clause.[94] The relative clause is post-posed after the matrix clause and, therefore, still fits the ADJOINED categorization; however, in this case, post-nominal. Notice also that when the relative clause is post-posed, the correlative pronoun is not usually present in the matrix clause (though it can be). Without the correlative pronoun to indicate the head NP, normal pragmatic means must be used to recover the head being relativized.

The function of the relative clause in (199) is to introduce a new prop: a sack of grain, which becomes a crucial prop in the story. Another use of this post-posed construction is to provide background information about a participant (Hwang 1990):

200. **एह्ह कोई देह्ई रूह्ह है, [जेह्ड्डी कि बड़ी सतान लगदी]।**

[eɦ koi deɦi ɾuɦ ɦ-æ,]$_{\text{MatrixCl}}$
this any this.kind.of spirit PRES-s

[d͡ʒ-eɦɽ-i kɪ bəɽi sətɑn ləg-d-i]$_{\text{RelCl}}$
REL-3:N-fns that very evil seem-HAB-fs
This is the kind of spirit, which seems to be very evil.

Notice in (200) that the relative clause follows the matrix clause and is used to provide some additional background information about the co-referential participant in

the matrix clause. Though the information is *background*, when introduced with this form of post-posed relative clause, it is always a very important detail in the discourse.

One final structural form for the relative clause is embedded in the matrix clause:

201. **अंडा [जेह़ड़ा पैह़लैं नरम था,] हुण सख्त होई गेह़आ था ।**

əɳɖ-ɑ	[d͡ʒ-eɦɽ-ɑ	pæɦlæ̃	nərəm	tʰ-ɑ,]
egg-MNS	REL-3:N-mns	before	soft	PAST-ms
NPHEAD	{ RELPRO			}RELCL

ɦʊ̃	səkʰt	ɦo-i	ge-h-0-ɑ	tʰ-ɑ
now	hard	be-CPCL	go-RES-PERF-ms	PAST-ms

The egg, which was soft before, had now become hard.

In (201) the relative clause occurs immediately following the head NP, which is structurally part of the matrix clause. In this construction, the relative clause is embedded in the matrix clause and the co-referential NP in the relative clause is gapped. Though there is no correlative pronoun in this example, there could be one as the following example shows:

202. **उदार चरिता बाल़े [जेह़ड़े माह़णू ह़न,] तिह़नां जो सारा संसार अपणे टब्बरे साह़ई लगदा ।**

ʊdɑr	t͡ʃərɪtɑ	bɑl̪e	[d͡ʒ-eɦɽ-e	mɑɦ̃ʊ-0	ɦ-ən,]	tɪɦnɑ̃	d͡ʒo
large	character	ones	REL-3N-mnp	person-MNP	PRES-p	them	DAT
		NPHEAD	{ RELPRO		}RELCL	CORELPRO	

sɑr-ɑ	sənsɑr-0	əpəʈ̃-e	ʈəbbər-e	sɑɦi	ləg-d-ɑ
all-mns	world-MNS	self's-mos	family-MOS	like	seem-HAB-ms

To broad-minded ones, who are people, the whole world seems like their family.

[94] There is a definite preference for the head noun to be in the left-most clause; likely due to an information flow requirement.

In (202) again notice that the embedded relative clause immediately follows the noun being relativized in the matrix clause. In this example, however, there is a correlative pronoun in the matrix clause that refers back to the head noun phrase and, like a resumptive pronoun, resumes the matrix clause after the interruption of the relative clause.

It is argued here that these three different types of relative clause formations (i.e. left-adjoined, right-adjoined, and embedded) are primarily dictated by the Principle of Natural Information Flow (Comrie 1989). They occur in whatever order is necessary to maintain the order: ESTABLISHED information first, followed by the NON-ESTABLISHED information. If the relative clause contains established information, it will typically be left-adjoined so that it comes first (cf. 194). When some portion of the matrix clause (e.g. subject) is established, but the remainder is not (i.e. it is focal), then the embedded relative clause formation is preferred (cf. 201) so that the focal information from the matrix clause occurs last. If the matrix clause information is established or less focal than the non-established/focal information in the relative clause, then a right-adjoined relative clause formation is typical (cf. 199 and 200). In this way, the most important new information always comes as late in the sentence as possible.

CHAPTER 11

CONCLUSION AND SUMMARY

One of the stated goals of this study was to provide data for cross-linguistic and typological studies. This goal was accomplished by giving almost two hundred example sentences and eighty-five tables and figures of data covering topics in Phonology, Tone, Stress, Morphology, Tense-Aspect-Mood Grammatical Categories, and Syntax, for a language in which few people in the international linguistic community have access.[95]

Another goal was to situate Kangri in its linguistic context. This goal was accomplished by presenting the Kangri data, structures, and grammatical features in contrast with corresponding features in several related language varieties—especially where such comparisons prove useful and/or distinctive. Another important feature of this study was the use of orthographic representations (in Devanagari) for data, in addition to IPA representations. This enhances the study's usefulness for orthographic research, as well as for standardizing the writing system for an as yet un-standardized language variety (i.e. Kangri).

[95] In fact, one of the recent online resources to become available is: "The World Atlas of Language Structures" (i.e. WALS Online; Haspelmath et al. 2008). This resource is a "database of structural (phonological, grammatical, lexical) properties of languages gathered from descriptive materials (such as reference grammars)..." There is presently no data available in that resource on Kangri, which highlights the importance of works such as this.

A third goal was to provide some additional analysis of Kangri data beyond a simple description of the facts. This goal was accomplished by providing a unique analysis for Kangri tone (Chapter 3), which—in contrast to earlier analyses—demonstrated a completely predictable, non-phonemic account for tone. It showed that Kangri is not a lexical tone language, but rather is at the beginning stages of becoming an accentual tone language. Also, a unique analysis of stress assignment was given (Chapter 4), which showed the importance of the lexicon as the domain for many phonological processes in Kangri, as well as Indo-Aryan languages in general.

A comparison of predicate nominal and related constructions was given (Chapter 8), where it was shown that copulas used in past and present tense predications, in both Kangri and English, are unique enough in their inflectional pattern and syntactic distribution, that a distinct word category for copulas (i.e. inflectable tense auxiliaries) is usefully defined.

A functional motivation was given for case marking (§9.2.2), in which it was argued that Kangri and Hindi grammatical relations are recoverable—even when unmarked in terms of surface case—on the basis of the Animacy (or Topic-worthiness) Hierarchy.

And finally, the Principle of Natural Information Flow was argued to be the driving force behind the various orders of Relative Clause formations.

The following section gives a summary of main feature differences between Kangri, Hindi, Punjabi, and Dogri that were discussed in this study:

11.1 Summary of Kangri Distinctives

In Chapter 2, a Phonological sketch of Kangri was given, in which it was mentioned that while Kangri has very much the same vowel system as the surrounding language varieties, its consonantal sound system differs in a number of ways with Punjabi and especially Hindi. Specifically, while Hindi has three sibilant fricatives (i.e. [s, ʃ, and ʂ]), Kangri has only one (i.e. [s]). Also, Kangri does not have voiced, aspirated stops (e.g. [g^{ɦ}]) as Hindi does, but rather cognate words with voiced, aspirated stops surface in Kangri as their voiced, *unaspirated* counterparts with tone (i.e. [gə̆]). The two semivowels common to Indo-Aryan languages generally are either absent or of questionable status in Kangri (i.e. [*ʊ] and [?j]). It was also shown that Kangri has a slightly more complete retroflex consonant series, with the relatively rare retroflex lateral (i.e. [ɭ]), as well as a higher frequency of occurrence for the retroflex nasalized flap (i.e. [ɽ̃]).

An analysis for the three surface tones in Kangri was given in Chapter 3, where it was shown that tone can be accounted for by an allophonic alternation with the voiced glottal consonant phoneme /ɦ/. Specifically, the surface tone is determined by which side of the stressed syllable nucleus the /ɦ/ occurs: if /ɦ/ is linearly to the left of the stressed syllable nucleus, then it becomes a low-rising tone on the stressed syllable. If it is linearly to the right of the stressed syllable nucleus, then it becomes a high-falling

tone on the nucleus of the stressed syllable. This avoids the need to posit phonemic tones and lexical specifications for tone on tone bearing units, thus simplifying the phonemic inventory. It also accounts for the lack of [h] in non-word-initial environments in Palampuri Kangri, and takes cognate evidence and speaker intuition into consideration regarding the representation of tone.

Stress rules were discussed in Chapter 4, where it was shown that syllable weight within the stem of a word is the primary determinant of word stress. The interaction of: a) word stem boundaries on stress assignment, and b) stress assignment on tone location, was suggested as support for casting these rules in the framework of Lexical Phonology. It was shown how derivational morphology—being part of the word stem—is relevant in terms of stress assignment and tone location, but not for certain other phonological rules (e.g. the Consonant Gemination Rule), which are argued to have a domain of application in a later stratum of the lexicon. This accounts for both the ordering of derivational vs. compounding vs. inflectional affixes, but also for why stress and tone always occur within the stem of a word and never on inflectional affixes.

Chapter 5 dealt with Morphology in Kangri: the typology which it fits into (i.e. Fusional and Polysynthetic) and examples of the various morphological processes it exhibits (i.e. Prefixation, Suffixation, and Stem Modification). The morphology of the Verb word class was shown in two charts for the derivational and compounding formations (Figure 5-1) vs. the inflectional suffixation schema (Figure 5-2). The subsequent sections discussed each of the morphological categories distinguished in

Kangri verbs with examples. This includes the various aspect and mood categories that are expressed morphologically, as well as the verbal agreement paradigms.

Chapter 6 dealt with the inflection patterns of the other word categories in Kangri, including gender-based noun classes, adjectives, postpositions, cardinal numbers, and the various case pronouns. The Interrogative-Relative-Deixis (IRD) paradigms were also shown for Kangri, Hindi, and Dogri along with examples demonstrating their use in adverbial and noun modifying constructions. It was argued that the variation in these grammatical words between different language varieties is a significant factor in demarcating a language variety in speakers' minds.

Chapter 7 dealt with the various Predicate Nominal constructions and the copulas used in them. In Chapter 8, the parallel between the copular forms and the tense bearing units in related aspectual constructions was presented with the goal of evaluating the nature of these copular forms in Kangri and, by comparison, in English. The original question discussed was whether English copulas are verbs on the basis of the three factors: 1) they vary for tense, 2) they vary for person, and 3) they occur most neutrally in clause-medial position, as pointed out by Payne (1997).

It was argued that the past and present tense copulas represent a grammatical category distinct from more prototypical verbs and, in particular, from the future tense copula, which functions morphologically and syntactically like a true verb. Thus it was argued that there are three distinct copular morphemes in Kangri (and similarly, in English): PAST for past tense, PRES for present tense, and the verb *be* for the future tense. Due to the cross-linguistic similarity, their unique inflection patterns, and

syntactic distribution, these copula cum tense bearing words could be usefully analyzed as the distinct word category, INFLECTABLE TENSE AUXILIARY.

Chapter 9 dealt with issues of Syntax, such as Constituent Order, where it was shown that Kangri is a head-final language in all phrase types. The Kangri case marking system is mostly Nominative-Accusative with a Split-Ergative system for transitive verbs in the perfective aspect (as in Hindi). One unique grammatical category in Kangri, however, is the infinitival future tense construction (possibly related to the Imperious Future in van Driem 1991), which is formally a Nominative-Accusative case system, but which nevertheless uses the Ergative case marking for the subject of both transitive and intransitive sentences. Verbal agreement was also discussed and shown to not be strictly subject and/or object agreement, but rather agreement with the (syntactically) furthest nominal that is in the nominative case.

Relative clause constructions were presented in Chapter 10, where the parallel between adverbial and nominal-modifying relative clause formations was discussed. The correlative pronoun strategy was demonstrated showing how Kangri is able to recover the grammatical role of the relativized noun phrase (or adverbial) in the matrix clause. Finally, the various constituent orders for relative clauses were discussed including their functional motivation. It was argued that the primary determinant of constituent order is the Principle of Natural Information Flow (Comrie 1989), so that information is presented in the order: ESTABLISHED first, followed by NON-ESTABLISHED. If the relative clause contains known information, it will occur left-adjoined to the matrix clause (cf. the English: "*When you saw me* (known/topical), *I was*

running late (unknown/focal).”). Other orders are also possible depending on whether and how much of the known information is in the matrix clause.

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BIOGRAPHICAL INFORMATION

Robert Eaton has had several changes of direction in his career path. He earned a Bachelor's degree in 1988 in Electrical Engineering from Cleveland State University (CSU) and started life after college as an embedded firmware developer for Allen-Bradley Co. In 1990 he started working on a Master's degree also at CSU in computer science and switched to software development on the Windows platform. After graduation in 1994, he and his family joined the Summer Institute of Linguistics and began working on a Ph. D. in Linguistics at the University of Texas at Arlington with a focus on Indian languages. His family has spent 7 of the last 10 years living in India learning Hindi and Kangri in Himachal Pradesh and developing several computer programs for language learning (Vocabulary Manager) and encoding conversion (SIL Converters).