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Notes on Kalkoti: A Shina Language with Strong Kohistani Influences

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This paper presents some novel and hard-to-access data from Kalkoti, an Indo-Aryan language spoken in northern Pakistan. The particular focus is on showing how this Shina variety in a relatively short time span has drifted apart from its closest known genealogical relatives and undergone significant linguistic convergence with a Kohistani variety in whose vicinity Kalkoti is presently spoken. Among other features, we explore what seems like an ongoing process of tonogenesis as well as structural "copying" in the realm of tense and aspect.

1. Introduction

Kalkoti [xka], or *Goedijaa* as it is also locally known as, is spoken by approximately 6,000 people in Kalkot [kʰælkoːʈ] in the upper Panjkora Valley in Dir Kohistan (Pakistan).[1] While most other communities in this valley, from Rajkot (Patrak) upstream, are primarily populated by speakers of various Kohistani language varieties or dialects collectively referred to as Bashkarik, Kalami, Swat-Dir Kohistani or Gawri [gwc],[2] Kalkoti is at its core a Shina language.[3] It forms together with Palula [phl], spoken in adjacent parts of Chitral Valley, and Sawi [sdg], spoken in Sau, a village in Afghanistan's Kunar Province, a Western relatedness cluster within Shina (Liljegren 2009). Even in Kalkot itself, a minority section of the community (estimated at 30 per cent, corresponding to two out of seven clans) are native speakers of a form of Gawri, locally known as *Daraaki* or *Daraagi*. In a linguistic survey carried out some 20 years ago, it was pointed out that speakers of Kalkoti understand Gawri as spoken in the same or in neighbouring localities, but that Gawri speakers do not in general understand the Kalkoti language, which was considered by Gawri respondents as "a different language altogether, although obviously a related one" (Rensch 1992, 7–14).

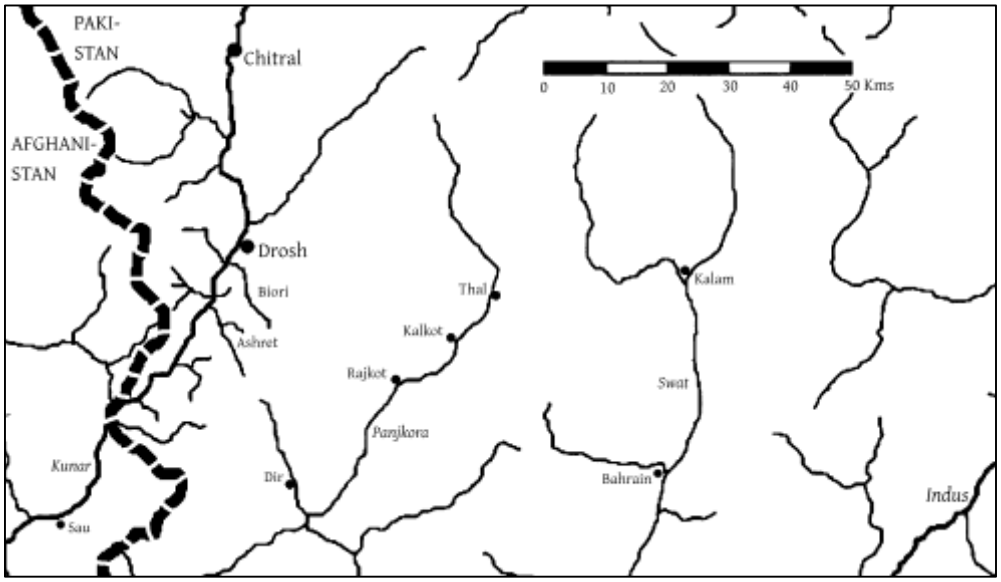
Very little field work has been dedicated to Kalkoti, situated as it is in an area with limited access to outsiders (a situation further aggravated in recent years by growing militant radicalism). Neither has any systematic study of Kalkoti ever been published. It was in fact unknown, as a variety in its own right, to the scholarly world before a sociolinguistic survey (referred to above) was carried out by Rensch and his SIL colleagues (1992) in the late 1980s. Based on the word list collected in this survey report (Rensch, Decker, and Hallberg 1992, 159–176), Strand (2001,

[1]As no comprehensive survey has been carried out in Dir Kohistan there may be other locations where similar or closely related varieties are spoken, something that has been suggested by several people over the years (Morgenstierne 1941, 7; K. D. Decker 1992, 68) but has never been confirmed by any language-specific data.

[2]In this paper, the name Gawri will be used to refer to these particular Kohistani varieties, as that seems a designation acceptable to speakers from Swat as well as from Dir Kohistan who consider it one language community (Muhammad Zaman Sagar, pers. comm.).

[3]Kohistani and Shina are both well-established groupings of Indo-Aryan languages, but it is still disputed whether the two also belong in an intermediary grouping often referred to as "Dardic" that would comprise most (but not all) of the Indo-Aryan languages spoken in the mountainous North of Pakistan as well as in adjoining areas in northeastern Afghanistan and in the disputed areas of Jammu & Kashmir (Bashir 2003, 822–825; Strand 2001, 258; Zoller 2005, 10–11).

255, 258) tentatively classified Kalkoti as one of a number of "dispersed dialects" of Chilasi Shina. In 2002, the local scholars cum language activists Muhammad Zaman Sagar and Shamshi Khan, both Gawri speakers from Kalam in Swat Kohistan, collected a set of data in Kalkot, mainly recordings of word lists and a few texts, in collaboration with Joan Baart. Baart did a preliminary analysis of the tonal patterns in Kalkoti, concluding that it most likely had developed tonal distinctions along the same lines as in Gawri with at least four contrastive tones (2004, 17). In 2006, another data gathering effort was carried out in Kalkot by the two aforementioned local scholars along with Naseem Haider, a Palula scholar and activist from Ashret in Chitral, this time in collaboration with Joan Baart and myself. The data collected were carefully elicited words lists, with different speakers, three different questionnaires, and a few texts. The data discussed below is mainly drawn from this more recent set, and to a smaller extent from the previously collected material (which graciously has been put at my disposal). In a previous study (Liljegren 2009), the results of a historical-comparative analysis of Kalkoti, Sawi and two dialects of Palula was presented, including evidence regarding their relatedness and a reconstruction of the migration routes that took the speakers of those varieties to the localities where they are found today.



Map 1: Dir Kohistan (northern Pakistan) and surrounding areas

In spite of the limitations of the presently available material, the aim of this paper is to present some novel data on Kalkoti, particularly focusing on how this Shina variety in a relatively short time span has drifted apart from its closest known genealogical relative Palula (described in Liljegren 2008), and undergone significant linguistic convergence with Kohistani Gawri (described in Baart 1997; Baart 1999a). Among other features, we will explore what seems like a virtual copying of tonality features characteristic of the latter, as well as the structural convergence that has taken place in the tense-aspect system. In order to understand those changes better, a sketchy account of the lexicon, the phonology as well as some other relevant grammatical features has been included, acknowledging Dixon's statement that "a language cannot be compartmentalized" (2010, 1:24–27, 199–201). Many of the linguistic features found in Kalkoti are of course characteristic of Indo-Aryan languages at large, and apart from those more general areal features, there is a great number of subareal characteristics shared by Palula

and Gawri alike. None of these will be dealt with at any length here. Instead the focus will be on features that either link Kalkoti with Shina, particularly with Palula, or can can be seen as areas in which Kalkoti has converged to a significant degree with Kohistani Gawri vis-à-vis Palula (or Shina at large). By describing the somewhat intriguing combination of convergence and retention features, it is also my intention to highlight the difficulties involved in any attempts at "correctly" classifying the many Indo-Aryan languages in the region adhering to a traditional Stammbaum model alone (Cardona and Jain 2003, 18–20; Zoller 2005, 10–13).

2. Vocabulary

One of the more obvious observations that has been made about Kalkoti is that a large part of its active vocabulary is shared with or is strikingly similar to that used in the surrounding Gawri communities. Rensch (1992, 10–12) presents a phonetic similarity count based on a 210-item list collected in nine locations in Dir and Swat Kohistan and concludes that 73 percent of the Kalkoti items are phonetically very similar, or identical, to those of Rajkoti Kohistani (which is the geographically closest Gawri-speaking community) and 69 of the corresponding items of Kalam Kohistani (the main Gawri variety in Swat), while there is a mere 44 percent phonetic similarity between Kalam Kohistani and Bahrain Torwali, the latter a variety of another language classified as Kohistani, also spoken in Swat Kohistan. The list, however, (along with the method applied), is less than ideal for establishing genealogical relationships, as there are as many as 20-25 items in it that refer to commercial goods that have been introduced at a relatively recent date in history, while it lacks, for instance, all but a few central kinship terms. It is obvious that Kalkoti, most certainly spoken for centuries (or for at least a dozen generations) in the vicinity of a more wide-spread language, would have been influenced by it, and therefore would have acquired a fair amount of vocabulary either from that language or in parallel with that language from an even more influential language such as Pashto, spoken in the lower Panjkora Valley, the latter also being the dominant language in Dir and Swat.

Even when comparing words within semantic domains that are generally less likely to be borrowed, such as kinship terms, it is difficult to claim any higher degree of lexical retention vis-à-vis convergence. Nearly all basic kinship terms in Kalkoti (Table 1) have close cognates in Palula as well as in Gawri. This is most likely the result of larger-scale contact patterns in the past, or reflects an ancient layer of lexical material inherited from a common ancestor language, whether Indo-Aryan at large or an intermediate proto-language.

Kalkoti	Palula	Gawri	
dra	*bhróo*	*ǰää*	'brother'
bään	*bheéṇ*	*išpo*	'sister'
bärä	*bharíiw*	*khäman, miiš*	'husband'
treer	*kúṛi*	*khämäniin, is*	'wife'
däär	*díir*	*däär*	'husband's brother'
ǰämäl	*ǰheemíli*	*ǰemiɬ*	'husband's sister'
šäyir	*wíiway*	*šaašur*	'wife's brother'
särän	*saaréeṇi*	*saareen*	'wife's sister'
bab	*báabu*	*bob*	'father'

yee	*yéei*	*yeey*	‘mother’
šoor	*šúur*	*šušur*	‘father-in-law’
irpäṣ	*preṣ*	*čiš*	‘mother-in-law’
pitri	*pitrí*	*piłi*	‘father’s brother’
mool	*máamu*	*mooṭ*	‘mother’s brother’
pheep	*phéepi*	*peep*	‘father’s sister’
meeš	*méeši*	*meeš*	‘mother’s sister’
puu	*putr*	*poo*	‘son’
pee	*dhií*	*duuy*	‘daughter’
pootr	*púutru*	*pooł*	‘son’s son’
peetr	*púutri*	*peeł*	‘son’s daughter’
daad	*dóodu*	*daad*	‘father’s father’
deed	*déedi*	*deed*	‘father’s mother’
maam	*móomu*	*maam*	‘mother’s father’
meem	*méemi*	*meem*	‘mother’s mother’

Table 1: Basic kinship terms in Kalkoti, Palula and Gawri
(for the latter: Baart (1997) and Muhammad Zaman Sagar, pers. comm.)

More revealing, as far as relatedness is concerned, is a close comparison of some of the most basic (and frequent) verbs in the three varieties (Table 2).[4] First and foremost, there is a close correspondence between Kalkoti and Palula for the verbs, ‘be’, ‘become’, and ‘do’, all three with predominantly grammatical functions. The Kalkoti copula verb *in* ‘is, are, am’ represents a regular development, with *h*-dropping and apocope (with a levelling of gender/number agreement as a result), from **hino*, **hini*, **hina*, whose stem *hi-* (or *ha-*) is one typically found in Shina copular or existential verbs, whereas in Kohistani languages the copula has a present tense *th*-stem. A *th*-stem for ‘do’, on the other hand, is a typical Shina feature, while Kohistani follows the main NIA langauges with a *kar*-stem (or something phonetically similar to that). Similarly, a stem with an initial voiced bilabial plosive (whether aspirated or unaspirated) with the meaning ‘become’ (often partly overlapping with the paradigm for ‘be’) is typical for Shina, whereas an *h*-based one occurs as the corresponding verb in Kohistani (Baart 1999a, 44, 184, 197; Backstrom and Radloff 1992, 370–400; Bailey 1924, 30, 133, 165–166; Buddruss 1967, 83, 102, 131; S. J. Decker 1992, 71–72; Hallberg and Hallberg 1999, 47–48, 76–80; Lunsford 2001, 62, 88–89; Rensch, Decker, and Hallberg 1992, 177–184, 199–205, 226–251; Schmidt and Kaul 2010; Schmidt and Kohistani 2008, 121–124, 207).

Kalkoti	Palula	Gawri	
in (aas)	*hínu (de)*	*thu (aaš)*	‘is (was)’
buun (bil)	*bháanu (bhílu)*	*hoant (hu)*	‘becomes (became)’
thuun (thääl)	*tháanu (thílu)*	*kärant (kiir)*	‘does (did)’

[4]The table should not be read as a ranking list, but in a more general sense as representing the kind of verbs that tend to be among the most frequent verbs in languages at large (Viberg 2006a). For a discussion on verb frequencies in Palula, see Liljegren 2010, 54–56.

buun (goo)	*baáanu (gúum)*	*bäčant (gaa)*	‘goes (went)’
duun (dit)	*dáanu (dítu)*	*diant (dit)*	‘gives (gave)’
yuun (yaal)	*yháandu (yhóolu)*	*yant (yaay)*	‘comes (came)’
wuun (waat)	*wháandu (wháatu)*	*waant (was)*	‘comes down (came down)’
khuun (khaal)	*khaáanu (khóolu)*	*khaant (khaay)*	‘eats (ate)’
nikhuun (nikhät)	*nikháandu (nikháatu)*	*nikaant (nikas)*	‘comes out (came out)’
päšuun (driṣ)	*pašáanu (dhríṣṭu)*	*päšant (liç)*	‘sees (saw)’
piluun (piil)	*piláanu (píilu)*	*puant (puuy)*	‘drinks (drank)’
bišuun (bäṭ)	*bhešáanu (bhéṭu)*	*bäyant (bääṣt)*	‘sits down (sat down)’
märuun (mur)	*maráanu (múṛu)*	*märant (mur)*	‘dies (died)’

Table 2: Basic verbs in Kalkoti, Palula and Gawri (for the latter: Baart (1997) and Muhammad Zaman Sagar, pers. comm.)

The centrality of the verbs listed is partly related to more universal tendencies in how verbal semantic fields are organized, with a small number of verbs covering basic semantic notions of motion, possession, production, verbal communication and perception (Viberg 2006a, 409; Viberg 2006b, 105–106), partly (and perhaps even more important in this case) to a strong areal preference (Masica 1993) for complex predicate formations where a verbal idea is being expressed jointly by a member of a closed set of verbs (often only a handful) and a non-verb element (e.g. a noun). This is, like in most other NIA languages, a very productive formation in Kalkoti, mainly making use of the verbs ‘become’, ‘do’, and ‘give’, but also a few others, such as ‘go’ and ‘come’, as exemplified in Table 3. The latter is most likely the reason why, in e.g. Palula, the twenty most frequent verbs in continuous text stand for about 80 percent of all finite verb occurrences (Liljegren 2010, 55) while the corresponding figure for European languages is not even 50 percent (Viberg 2006a, 409).

äga bil	BECOME + nonverb	‘it rained’
traam thääl	DO + nonverb	‘worked’
niin buun	GO + nonverb	‘is sleeping’
šiiš diin	GIVE + nonverb	‘is flying’
šidäl yuun	COME + nonverb	‘is feeling cold’

Table 3: Kalkoti complex predicates (in various inflectional forms)

Second, there is, over all, a great deal more shared material in the (mostly irregular) non-perfective-perfective stem alternations between Palula and Kalkoti than between either Kalkoti and Gawri or Palula and Gawri.

Equally compelling, as far as the close relationship between Kalkoti and Palula, is a rough cross-language comparison of basic (nominative) pronominal forms and the corresponding pronouns referring to direct objects (Table 4). This is especially obvious with the first person pronouns.

Kalkoti	Palula	Gawri	
ma (ma)	*ma (ma)*	*yä (mäy)*	1 SG
tu (tu)	*tu (tu)*	*tu (thäy)*	2 SG

soo (täs)	*so, se (tas)*	*sä (tääs)*	3 SG
bä (asaa~)	*be (asaám)*	*mä (mä)*	1 PL
tis (tusaa~)	*tus (tusaám)*	*thä (thä)*	2 PL
tin (tänaa)	*se (tanaám)*	*tam (tam)*	3 PL

Table 4: Personal pronouns in Kalkoti, Palula and Gawri (for the latter: Baart (1999a, 38–39))

As for lower numerals (displayed in Table 5), there are no systematic differences between Shina and Kohistani, but it is worth noting the forms for numerals ‘eleven’ and ‘twelve’, where, again, the Kalkoti forms agree with Palula vis-à-vis Gawri.

Kalkoti	Palula	Gawri	
äk	*áak, ak* (B)	*äk, ä*	‘1’
duu	*dúu*	*duu*	‘2’
traa	*tróo, trúu* (B)	*ɬaa, ɬä*	‘3’
čoor	*čúur, čáar* (B)	*čor*	‘4’
paanǰ	*páanǰ, panǰ* (B)	*pãǰ*	‘5’
ṣoo	*ṣo*	*ṣo*	‘6’
saat	*sáat, sat* (B)	*sat*	‘7’
eeṣ	*áaṣṭ, aṣṭ* (B)	*äç*	‘8’
nam	*núu*	*nom*	‘9’
deeš	*dáaš, daš* (B)	*däš*	‘10’
akaaš	*akóoš, akáaš* (B)	*ikää*	‘11’
baaš	*bóoš, báaš* (B)	*bää*	‘12’

Table 5: Lower numerals in Kalkoti, Palula and Gawri (for the latter: Baart (1999a, 57–58))

On the other hand, it should be noted that in the vigesimal system shared by Kohistani and Shina alike, Palula (as well as Kohistani Shina) build compound number in the order 20s + lower units, while Gawri build them in the order lower units + 20s. In this respect, Kalkoti has converged structurally with Gawri, including its use of a *tee*-conjunction (Table 6).

Kalkoti	Palula	Gawri	
traa-tee-dubiš	*dúbhiš-ee-tróo*	*ɬaa-tee-dubiš*	‘43’
3 – conj – 2 – 20	2 – 20 – conj – 3	3 – conj – 2 – 20	

Table 6: Compound numbers in Kalkoti, Palula and Gawri (for the latter: Baart (1999a, 57))

3. Phonology

Segmentally, Kalkoti phonology conforms in a general sense to what is observed in Indo-Aryan languages at large in the region (Masica 1991, 93–118) as well as to Palula and Gawri. As for consonants (Table 7), there is a contrast between dental and retroflex (or postalveolar apical) sounds, particularly significant for plosives, and a contrast of the same dignity between retroflex and palatal (or rather alveolo-palatal laminal) affricates and fricatives. While aspiration is clearly contrastive for voiceless plosives in the bilabial, dental and velar places of articulation, as well as for the voiceless palatal affricates, the picture is less clear for other plosive or affricate sounds.

There is for instance no evidence for the occurrence of an aspirated counterpart of the dental affricate /ʦ/, and the contrast between aspirated and unaspirated retroflex sounds, whether plosive /ʈ/ or affricate /ʈʂ/, is doubtful (and most likely allophonic), whereas the phonological contrast between the palatal affricate /ʨ/ and its aspirated counterpart /ʨʰ/ seems to be fully utilized: /ʨeː/ ‘tea’ vs. /ʨʰeː/ ‘ash’. The contrast between the voiceless fricatives /s/, /ʂ/ and /ɕ/, often cited as a typical feature of the so-called “Dardic” languages, is a stable one, although some of the individual occurrences of these sounds look somewhat puzzling from a historical point of view.

p		t		ʈ	*(ṭ)*			k		q	ʔ ?
pʰ	*(ph)*	tʰ	*(th)*	ʈʰ ?	*(ṭh)*			kʰ	*(kh)*		
b		d		ɖ	*(ḍ)*			g			
m		n		ɳ ?	*(ṇ)*			ŋ ?	*(ng)*		
		ʦ	*(ts)*	ʈʂ	*(ċ)*	ʨ	*(č)*				
				ʈʂʰ ?	*(ċh)*	ʨʰ	*(čh)*				
						ʤ	*(ǰ)*				
		s		ʂ	*(ṣ)*	ɕ	*(š)*	x			
		z						ɣ			
		r		ɽ ?	*(ṛ)*						
ʊ	*(w)*					j	*(y)*				
		l									

Table 7: Kalkoti consonants (non-IPA notation within parentheses)

A number of consonant sounds, /q, ʦ, x, z, ɣ, ɽ/, may have been introduced via loans, primarily from Pashto and more recently from Urdu, and are probably still to a limited and varying degree realized as contrastive sounds among speakers of Kalkoti. Some of those, /ʦ, ɽ/, may be examples of re-phonemicized sounds, i.e. distinctive sounds that were present at some previous stage of the language but were later weakened or lost due to language-internal phonological developments, but are now re-emerging as members of the segment inventory. There is a highly variable pronunciation (and possible neutralization) of some consonant sounds in intervocalic and final positions, and it is not always clear what should be considered the underlying phoneme. Such variation is particularly noticeable in intervocalic [ɖ]~[ɽ] and [g]~[ɣ] alternations: [ʨʰəɖil]~[ʨʰəɽil] ‘to vomit’ and [ʊgʊr]~[ʊɣʊr] ‘heavy’, respectively, and in voicing alternations for plosives: [ʨʊpʊʈ]~[ʨʊbʊʈ] ‘full’; [krʊʈil]~[krʊɖil] ‘to cut’; [lʊkuʈ]~[lʊguʈ] ‘small’. Another alternation, between /r/ and /ɽ/, is occurring in word-final position in some words: [dur]~[duɽ] ‘dust’, and between /ɖ/ and /ɽ/ in some other words: [ɑɖ]~[ɑɽ] ‘bone’. These latter alternations, in addition to the observation that [ɽ], contrary to [ɖ] and [r], does not occur word-initially, call the phonemic status of [ɽ] into question.

The status of the velar nasal [ŋ] is also somewhat unclear; there is at least a trace of a cluster [ŋg] alternating with this (intervocalic and word-final) sound, which would suggest an underlying sequence of /n/ and /g/. A similar reasoning may be applied to the retroflex [ɳ] as a possible realization of a /n/+/ɖ/ sequence.

A glottal plosive [ʔ] occurs phonetically, especially post-vocalically in a set of words, but it is subject to much variation in its realization, and is best regarded as a prosodic feature of the language and will be treated in our discussion of tone.

The only stable and unambiguous syllable-internal consonant clusters in Kalkoti are word-initial /tr/ and /dr/: /treːr/ ‘woman, wife’, /drɑːm/ ‘village’. Occasionally /tr/ clusters are heard also word-finally, but seem in that case to be unstable (heard more with some speakers than others, and only when pronounced in isolation or utterance-finally), alternating with a form where the final [r]-segment is dropped: [lɑːtr̥]~[lɑːt] ‘bad’. Apart from that cluster type, word-final and intervocalic nasal-plosive or nasal-fricative clusters also occur, albeit in a more limited way. Verb forms, where a final past tense suffix –s is added to a morpheme ending in a nasal, result in words with final [ns]-clusters, such as in *čuṇuun-s* [ʧʊŋuːns] ‘was writing’. In a number of other words, a nasal-plosive pronunciation alternates (both between speakers and between instances of the word uttered by the same speaker) with a single nasal segment pronunciation: [pɑːnd]~[pɑːn] ‘path’; [gɛɳɖil]~[gɛɳil] ‘to tie’; [nɑːŋg]~[nɑːŋ] ‘snake’.

While mainly agreeing with the Palula segmental inventory (Liljegren and Haider 2009), one of the most conspicuous features where Kalkoti differs in its consonantal system from Palula is in the absence of voiced aspirates. In Palula, most consonants, voiceless and voiced alike (including nasals, laterals and approximants) can be accompanied by aspiration. Some of those instances have come about as a result of language-internal developments (not shared with other Shina varieties), whereas a great deal of them are related to Old Indo-Aryan aspiration. In the latter case, only voiceless aspirates are preserved in Kalkoti cognates, whereas the voiced aspirates, along with /h/, have been lost.[5] The latter is a development Kalkoti shares with Gawri, and perhaps one that can be termed as contact-induced. (As we shall see further on, when discussing tone, this development has indeed left traces in these two languages.)

Moving on from the segmental inventory to phonotax, a feature shared with Palula, but not with Gawri, is the preservation of consonant+/r/ clusters (see Table 8). They are considerably weakened in word-final position, but everywhere where they remain, a consistent dental assimilation can be observed if compared to the, in this respect, more conservative Palula. These Kalkoti voiceless vs. voiced clusters may very well correspond to a historically intermediate stage in the development of Gawri /l/ and /ɬ/ from ancient clusters with (dental and velar) plosives and /r/, in whose final stage a “new” phoneme /ɬ/ emerged through assimilation, while the /dr/-clusters fused with an already existing /l/ phoneme.[6]

[5]Even in what can be deemed relatively recent loans, an /h/ in the source form is dropped: /ɑlɑːl/ ‘lawful slaughter, halal’ (Urdu حلال), /æːsil/ ‘gain’ (Urdu حاصل).

[6]The bilabial plosive + /r/ clusters have followed a separate development in Gawri. While those, in Kalkoti, show dental assimilation, like the other clusters (Palula /bhroo/ ‘brother’ and Kalkoti /drɑ/), they have resulted in Gawri affricates: /dʑæː/.

Kalkoti	Palula	Gawri	
/trɑː/	/troː/	/ɬaː/	‘three’
/trɑːm/	/kraːm/	/ɬam/	‘work’
/drig/	/dhrigu/	/liːg/	‘long, tall’
/drɑːm/	/ghroːm/	/laːm/	‘village’
/peːt(r)/	/puːtri/	/peːɬ/	‘son’s daughter’
/pitri/	/pitri/	/piɬi/	‘father’s brother’

Table 8: Examples of Kalkoti words with consonant clusters and their cognates in Palula and Gawri (for the latter: Baart (1997))

Apart from an ambiguous onset cluster with an approximant as its second component, which will not be further discussed here, there are two other cluster types in Palula, both occurring in the coda: a nasal + plosive/affricate/fricative type ([nd], [ŋk], etc.) and fricative + plosive ([st], [ʂt]) type. As for the occurrence of the first type in Kalkoti, it was already mentioned above, that it does occur, but in many contexts the final segment is dropped, even intervocalically. As for the second type, there is little evidence in terms of cognates with the rather limited set of Palula items where this is found. Kalkoti [eːʂ] ’eight’, corresponding to Palula [aːʂt] would suggest that the final segment has been dropped in Kalkoti. Thus, clusters at large, seem to be dispreferred in Kalkoti, which lines up with the strict phonotactic constraints that operate in Gawri (Baart 1997, 36).

A historical loss of final unstressed vowels, taking place in Kalkoti and Gawri, but not in Palula (and a number of other Shina varieties), has resulted in a high degree of convergence between the former two, e.g. in their preference for closed syllables (see Table 9). This again, is probably a contact-induced development as far as Kalkoti is concerned (as there is reason to believe that apocope in Kohistani is of an earlier date than in Kalkoti), and has contributed to its becoming structurally even more similar to an already relatively closely related language. In comparison, it should be noted that Palula words with a final stressed syllable, as *aṣhíi*, also have a final open syllable in its Kalkoti cognate, *içii*.

Kohistani Shina	Palula	Kalkoti	Gawri	
súuri	*súuri*	*siir*	*siir*	‘sun’
táaro	*tóoru*	*taar*	*taar*	‘star’
aṣhíi	*aṣhíi*	*içii*	*eç*	‘eye’
	kriimíi	*trimii*		‘worm’

Table 9: Selected cognates in Kohistani Shina (Schmidt and Kohistani 2008), Palula, Kalkoti and Gawri (Baart 1997)

Taking both quantity and quality into account, Kalkoti displays a 10-vowel system (Table 10). This, however, should not be simply read as a system comprising five qualities with length as an added dimension. Instead, quality seems to be the primary contrasting feature, with a significant differentiation between long and short vowels affecting only some of the positions in the vowel space. In addition to that, there is a great deal of allophonic as well as individual variation in the realization of each of the vowel phonemes. Most likely some of these contrasts are further reduced in unstressed syllables; it seems for instance that the contrast between *a* and *ä* is not fully maintained in all environments.

iː	*(ii)*							uː	*(uu)*
i ɪ	*(i)*							u ʊ	*(u)*
		eː ɛː	*(ee)*				oː oˑ ɔː	*(oo)*	
			æ ɛ ə	*(ä)*	ɑ ɔ	*(a)*			
			æː aː	*(ää)*	ɑː ɒː	*(aa)*			

Table 10: Kalkoti vowels

In the broad transcription, single vs. double-written vowel symbols are used in this paper (as indicated within parentheses in Table 10). This is following the notation customary among Shina scholars (facilitating the writing of moraic tone), but should neither be seen as reflecting a final position on the relationship between long and corresponding short vowels nor the identification of the mora rather than the syllable as a tone-bearing unit. However, a preliminary acoustic analysis, based on a word list recorded with three Kalkoti speakers (A, I and L), indicates a discernible difference in duration between the vowels that are single-written as compared to the double-written ones (see Table 11).[7] The average duration of the long vowel *aa* was 1.9, 1.8, and 1.73, respectively, times the average duration of the short vowel *a*, for the three speakers, and a similar duration difference holds between *i* and *ii*, between *u* and *uu*, and between *ä* and *ää*, i.e. in each case nearly twice the length of the corresponding short vowel. The durations of *ee* and *oo* group convincingly with that of the other long vowels.

ii	/tiːn/	‘sharp’	*uu*	/duːr/	‘far’
i	/tɪn(d)/	‘navel’	*u*	/dʊr/	‘dust’
ee	/peːt(r)/	‘son’s daughter’	*oo*	/poːt(r)/	‘son’s son’
ä	/dɛr/	‘door’	*a*	/nɔŋ(g)/	‘fingernail’
ää	/dæːr/	‘husband’s brother’	*aa*	/nɑːŋ(g)/	‘snake’

Table 11: Vowel length distinction in Kalkoti

Interestingly, recorded data seems to indicate differences in the realization of the vowel *a* between speakers, so that for one of them (speaker A in Figure 1), it is acoustically very similar to *aa*, whereas for another one (speaker L in Figure 2), it is closer to, or at least as close to, *oo*. Similarly is *ä* acoustically quite similar to *ää* in the speech of (A), whereas for (L), it is closer to, or at least as close to, *ee*. Somewhat on the speculative side, this may mean that, for some speakers, *ä* and *a* are the short counterparts of *ee* and *oo*, rather than of *ää* and *aa*. An alternative way of putting that is to say that the articulatory target for *a* and *ä* is low for some speakers and mid for others, thus limiting the contrasting positions to a total of six. For all three speakers, *ää* and *aa* are pronounced with approximately the same vowel height, whereas they differ in backness. However, lip-rounding or some other articulatory feature most likely play an additional role in maintaining this contrast. In general, the contrasts between *u* and *uu*, and between *i* and *ii*, are ulilized to a rather minimal extent, also suggesting a higher functional load of tongue position than duration in the system. Nasalization does seem to be phonemic, but it is an area needing further research, and subsequently no separate series of nasal vowels along with an oral series is introduced here.

[7]The speech processing software Praat 5.2.23 was used in the analysis of the speech signal.

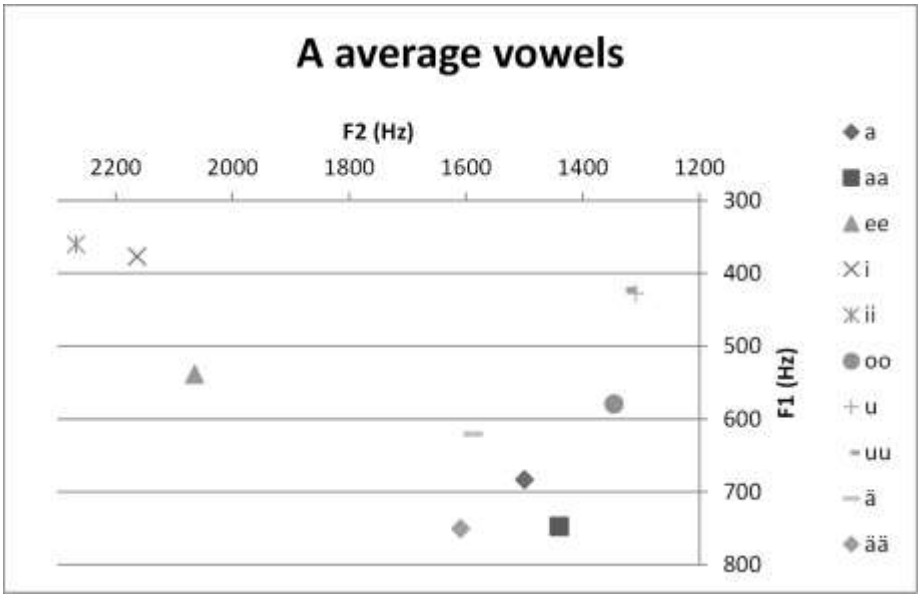


Figure 1: Average positions of Kalkoti vowel phonemes in the F1 vs. F2 vowel space for speaker A

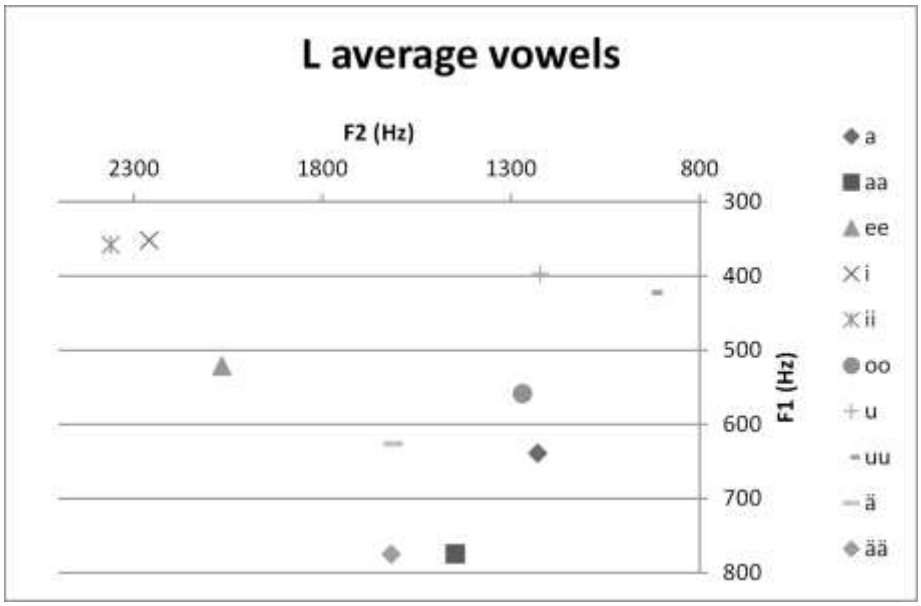


Figure 2: Average positions of Kalkoti vowel phonemes in the F1 vs. F2 vowel space for speaker L

At first glance, the 10-vowel system of Kalkoti seems to point to a greater similarity to Palula with its five short and five long vowels (with striking parallels in Gilgiti Shina (Radloff 1999, 16–21) as well as in Kohistani Shina (Schmidt and Kohistani 2008, 15–18)) than to Gawri (Baart 1997, 31–34) with its six short and six long vowels (nasalized vowels excluded), but a restructuring of the Shina five-position system seems to have taken place (or is still taking place) and opened up for an additional, sixth, position in the vowel space in the form of an open front vowel, while previous contrasts between (short) [e] and [i] and between [o] and [u] have been (partly or entirely) neutralized. Exactly how the contrast between *ää* and *aa* on the one hand and *ää* and *ee* on the other has arisen remains an area for further research, but it is highly likely that a

language-internal development, involving umlaut-formation, has been further strengthened by a significant influx of loan vocabulary, particularly from Gawri.

Although sub-Saharan Africa and Southeast Asia are the areas we normally associate with tone languages (Yip 2006, 761), tone has indeed been reported to be contrastive in a number of Indo-Aryan languages (Masica 1991, 118–121; Baart 2003). Pitch (or its acoustic correlate, fundamental frequency) corresponds in those languages to a difference in the meaning of a word. While, "typical" tone languages have rather large inventories of tones and several tones per word (Yip 2006, 763), there is a great range of tonality and various ways in which tone combines with stress (Hyman 2006, 237). Most Indo-Aryan languages with some tonal features are probably of a type that can be called tonal accent languages, where tone is linked to a particular syllable and a word usually has no more than one tone (van der Hulst 2006, 655; Yip 2006, 763), i.e. more similar to what is found in some Germanic languages, such as Swedish and Norwegian, than in Sino-Tibetan (Masica 1991, 118–119; Riad 2006, 37–38). For a thorough, although non-conclusive, investigation of possible tonal contrasts in Kalkoti, a 250-item word list was recorded with three native speakers (part of the aforementioned data set of 2006), who were pronouncing each word both in isolation and in the middle of a constant frame, allowing for comparison of the fundamental frequency (F_0), the main acoustic correlate of tone, in different words. The frame used was *räs tee* ____ *mänaa* 'for this we would say _____', with the focus word occurring in the middle position in the utterance.[8]

The most convincing, consistent and clearly audible contrast in F_0 levels (or significant frequency variations) found in Kalkoti was one between a default (or possibly high) frequency of a long vowel and a low-frequency one, as in the minimal monosyllabic pair /rɑːt/ 'blood' vs. /rɑːt/ 'night'. The long vowel in the first-mentioned word (see Figure 3) starts at an F_0 approximately the same as that in the preceding frame item *tee*, rises only slightly and reaches its peak at the end of the vowel. Both of the vowels of the following frame item *mänaa* (the second syllable being stressed) show an F_0 at about the same level as the vowel of the focus word. (A slight lowering of the general F_0 is only expected toward the end of the prosodic unit, and is therefore disregarded.)

[8]What follows here is only a summary description of the findings. An in-depth treatment (particularly of the acoustic aspects) will be part of a separate description yet to be published.

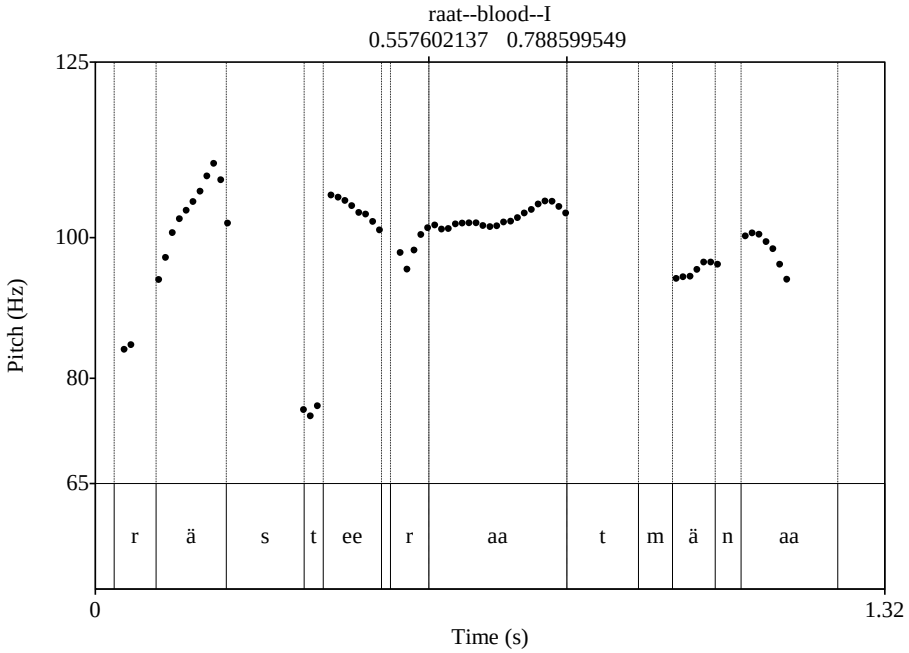


Figure 3: Pitch (F_0) graph for the word *raat* 'blood' in utterance frame.

The long vowel in the second word (Figure 4), however, starts out at a considerably lower F_0 as compared to that of the preceding frame item (approximately 30 Hz difference), and stays more or less at the same low frequency throughout the long vowel of the focus word. There is also a remaining effect on the first (unstressed) vowel of the following frame item, reaching a frequency comparable to the preceding frame item only by the second syllable. Another minimal pair showing an almost identically realized contrast is /gɑː/ 'cow' vs. /gɑː/ 'grass', the second-mentioned realized with a low F_0.

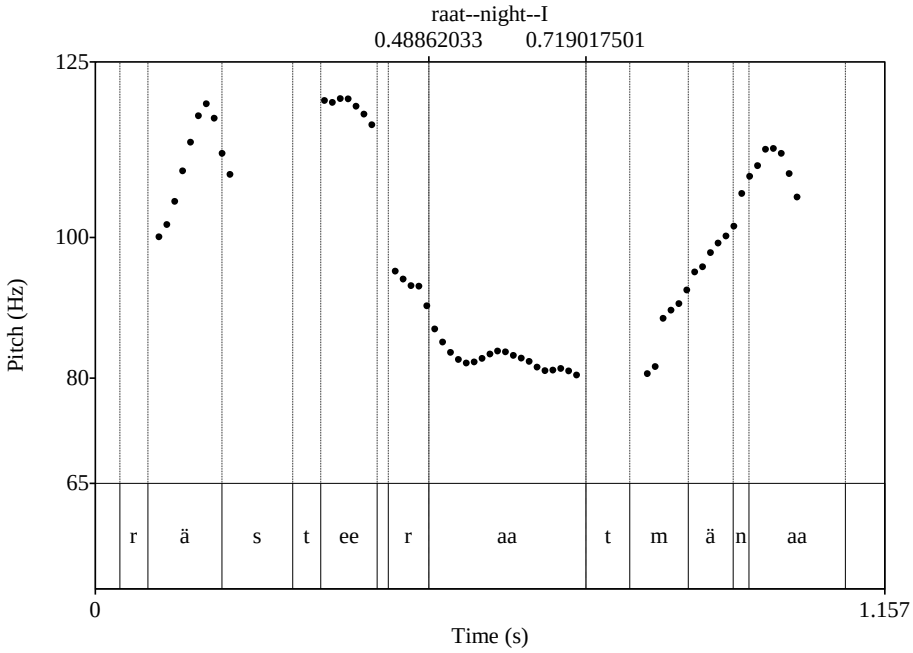


Figure 4: Pitch (F_0) graph for the word *raat* 'night' in utterance frame.

However, there are compelling reasons to believe that Kalkoti ulilizes fundamental frequency (realized as different tone melodies distributed across the phonological word) in an even more elaborate fashion to contrast lexical items, although we so far lack conclusive evidence in the form of minimal pairs. Apart from the "default" and level-low pitch already described, at least two, possibly three, other characteristic frequency contours can be observed in the realization of monosyllabic words containing a long vowel.

For two of those tentative tone melodies, the characteristic behaviour of the F_0 in mid-utterance position (i.e. in the frame, as described above) seems to be in complementary distribution with a set of acoustic features that are only observed utterance-finally (i.e. when the word is pronounced in isolation). We have reason to believe that the (perhaps still ongoing) development of further tonal contrasts is in a significant way related to the latter features. One such pattern, thus a possible third melody, is exemplified by the word /ɡoːr/ 'horse'. As with /rɑːt/ 'night', the initial F_0 of the vowel is considerably lower than that of the preceding frame item. Here, however, there is a noticeable frequency rise throughout the focus vowel, reaching an F_0 equal to that of the preceding frame vowel. When uttered in isolation, there is instead a sharp F_0-drop, and during the last part of the vowel, a clearly discernible laryngealized phonation occurs (Laver 1980, 122–126), which in its turn is followed by a post-vocalic glottal stop.[9] If there is a final consonant, following the glottal element, that tends to be devoiced and low-intense in this environment. A somewhat different pattern, i.e. a possible fourth melody, is observed with, among others, the lexical item /dɑːd/ 'father's father'. Like in /ɡoːr/ 'horse', it has a clearly rising F_0 throughout the vowel. However, its starting point is much higher, about equal to that of the preceding frame item, and it reaches a peak considerably higher than what was observed in any of the other types discussed. Like with the previous "melody", words displaying this particular pattern, also have a post-vocalic glottal segment (concomitant with laryngealization of the preceding vowel) when uttered in isolation. Finally, a possible fifth melody, only realized in a few monosyllabic words in our sample, is characterized by an F_0 dropping from a high starting point (or showing an early peak), in this case without any other significant segmental or acoustic correlates. An example of this pattern is found in /ɕɑːk/ 'wood'.

High level (1)		Low level (2)		Low-rising (3)		High-rising (4)		High-falling (5)	
/sær/	'lake'	/dut/	'lip'	/ɡoːʔr/	'horse'	/dri(ʔ)ɡ/	'tall, long'	/ɕɑːk/	'wood'
/pɑːnd/	'path'	/ɡoːm/	'wheat'	/pʰeːʔp/	'father's sister'	/tɑːʔr/	'star'	/neːr/	'root'
/kɑːn/	'ear'	/kʰoːr/	'left'	/ʈɕʰeːʔl/	'goat'	/bɑːʔl/	'hair'	/puː/	'son'
/ɡɑː/	'cow'	/ɡɑː/	'grass'	/kʰeːʔr/	'field'	/dɑːʔd/	'father's father'		
/rɑːt/	'blood'	/rɑːt/	'night'	/duːʔr /	'far away'	/deːʔd/	'father's mother'		
/tɔm/	'tree'	/ɖæːr/	'belly'			/dæːʔr/	'husband's brother'		
/dɑːn/	'tooth'	/bæːn/	'sister'			/ku(ʔ)ʈ/	'knee'		
/ʂiʂ/	'head'	/im/	'snow'			/poːʔtr/	'son's son'		

Table 12: Monosyllabic items representing observed F0 patterns
*Audio links available online at linguistic-discovery.dartmouth.edu

[9]There is also a sharp decrease in the intensity in the last part of the laryngealized vowel, a correlation that has also been reported for e.g. Mon-Khmer Kammu (Laos), where laryngealization is phonemic (Uneson 2001).

It is tempting to attribute such a system with 4-5 significant frequency contours, each clearly associated with a set of lexical items, to some sort of imitation or "copying" of the Kohistani five-melody system with a distinction between high level, high-to-low falling, delayed high-to-low falling, low level and low-to-high rising pitch (Baart 1999b, 89). Close contact with such a language is certainly a contributing factor, and the dramatic influx of loanwords from Gawri to Kalkoti has clearly facilitated, and probably keeps "stream-lining", the development into a tone language of a very similar kind. Yet, there are a few language-internal factors that can be identified as especially instrumental for this development: a) an inherited tonal accent system, b) a relatively recent loss of (mainly) voiced aspiration, and c) the loss of final unstressed (unaccented) vowel segments, also that taking place in relatively recent times.[10]

In all likelihood, an earlier stage of Kalkoti had a relatively simple tonal accent system, much like that found in other Shina varieties (Liljegren 2008, 74–77; Liljegren and Haider 2009, 385; Radloff 1999, 57–107; Schmidt and Kohistani 2008, 24–28). In such a system, one high tone is associated with a single mora. In today's Kalkoti, however, this moraic accent seems to have been replaced by "default" stress, without any underlying tone-association per se. The stressed (or only) vowel of such words is produced with a high F_0 (only slightly higher than the F_0 of unstressed vowels), as seen in the melody 1 words above. To account for the low F_0 of melody 2, it will be necessary to assume a low tone associated with the stressed (or only) vowel, or possibly (as will become clearer) with the first vocalic mora of a long vowel. The emergence of the low F_0 of melody 2 words is primarily related to pre-vocalic aspiration (either still present or erstwhile and now lost). As for voiceless plosives and affricates, such aspiration is still phonetically realized, whereas for voiced consonants there is no aspiration heard in today's pronunciation of those word but must have been present at an earlier stage, as shown by comparative data.[11] The majority of the Palula cognates of Kalkoti words with a low tone have either an /h/-segment or an aspirated consonant in its onset. The same correlation is confirmed by comparison with OIA cognates in those cases where they are known.[12] What we described as melody 5 (realized as a successive drop in F_0) seems in fact to be the result of the same process, only that it is aspiration or /h/ at the right edge of the word that has produced gradual pitch lowering, and for such monosyllabic words with a long vowel, a low tone has come to be associated with the second mora.[13]

The post-glottal segment (correlated with characteristic F_0 perturbations) is related to the historical loss of a final unstressed vowel segment, although not straightforwardly explainable in every single instance of these patterns.[14] A large portion of the melody 3 and 4 items in fact have a final unaccented syllable in their Palula cognates. Development of laryngealization through apocope has been described for Livonian, an endangered Fennic language spoken in Latvia, where "stød" (a term mostly used for a similar feature with contrastive function in Danish) is

[10]It is of course also conceivable that very much the same processes have taken place in parallel in the two speaker communities, thus producing tonal systems of an almost identical kind.

[11]Remnants of voiced aspiration in an earlier stage of the language in the form of breathy voice, as noted by Baart (1997, 46) for Gawri, does not show up in our material.

[12]That both voiceless and voiced aspirated consonants may be consistently concomitant with breathy voice and a lowered F_0 has also been shown for Indo-Aryan Nepali (Clements and Khatiwada 2007).

[13]This is consistent with the findings of Hombert et al (1979, 49–50), as far as tonogenesis in general is concerned.

[14]Baart (1999b, 95–96) suggests along the same lines that the historical loss of a word-final vowel in Gawri is responsible for the occurrence of utterance-final glottal stops as well as what he describes as a floating L tone.

realized as concomitant with the final remaining vowel: **valo > va'l* 'light' (Eliasson 2005, 1117). That an erstwhile word-final segment can leave a "trace" in the form of a glottal stop and at the same time become associated with a particular tonal pattern, is evidenced in the Kwa language Chumburung (Ghana) (Snider 2009, 141). The more commonly observed phonetic effect of a post-vocalic glottal stop is a rising tone (Hombert et al 1979, 49–51), which fits well with Kalkoti acoustic data. Therefore, it is suggested that segment loss in Kalkoti has resulted in the insertion of a glottal segment (concomitant, or alternating, with significant F_0 perturbations), which in terms of tonal configuration can be described as a "new" high tone becoming associated with the final mora. The most likely explanation for the characteristics of melody 3 is that it is the combined result of segment loss and aspiration.

A tentative autosegmental representation of Kalkoti contrastive tonal patterns, with 0-2 underlying tones per phonological word (no tone, L tone, H tone, LH), is displayed in Table 13, each mapped to a suggested segmental representation of a few sample words along with their OIA or Palula cognates. It should be noted that melody 2 and 5 are collapsed as having a single underlying L, with differences only in the loacalization of its tone-bearing unit. It is acknowledged, however, that a tone-assigning notation of the kind applied here is a mere shorthand for phenomena that probably are even more complex and to some degree reflect a still ongoing process of tonogenesis. It should also be noted that the distinctive pitch patterns described above are not necessarily all of them fully phonological, as we still lack evidence for many of the suggested contrasts in the form of minimal or near-minimal pairs.[15]

		Palula	OIA
0 (No tone)	*sär* 'lake'	*sáar*	*sáras-* (T: 13254)
	kaan 'ear'	*káaṇ*	*kárṇa-* (T: 2830)
L (Low)	*ḍȁär* 'belly'	*ḍheér*	**ḍhēḍḍha-* (T: 5589)
	šaàk 'wood'	*šaák*	*śākhyá-* (T: 12379)
H (High)	*taár* 'star'	*tóoru*	*tāraká-* (T: 5798)
	baál 'hair'	*bóolu*	*vā́la-* (T: 11572)
LH (Low-High)	*gòór* 'horse'	*ghúuṛu*	*ghōṭa-* (T: 4516)
	čhèél 'goat'	*čhéeli*	*chagalikā-* (T: 4963)

Table 13: Words representing tonal associations in Kalkoti (with Palula and OIA cognates, T=Turner 1966)

4. Grammatical categories

As was already pointed out above, the Kalkoti pronominal forms show a high degree of similarity with the corresponding Palula forms, especially when taking the full paradigm (see Table 14 and Table 15) of four case forms into account. (In addition, there is in Kalkoti, at least for First person singular, a separate dative form: *maṭee* or *maṭ* 'to me'.)

[15]A tentative analysis of polysyllabic words suggests the same number of possible tonal contrasts, with the tone melodies distributed across the phonological word: *pitri* (0) 'father's brother'; *ḍȁrin* (L) 'earth'; *içì* (L) 'eye'; *lumaáṭ* (H) 'tail'; *bȁkaál* (LH) 'to kill'.

		NOM	OBL I (ACC)	OBL II (ERG)	GEN
1 SG		*ma*	*ma*	*mi*	*mi*
2 SG		*tu*	*tu*	*t(h)i*	*t(h)i*
3 SG	near	*roo*	*räs*	*rä*	*räsi*
	far	*soo*	*täs*	*tä*	*täsi*
1 PL		*bä*	*asaa~*	*is*	*äsi*
2 PL		*tis*	*tusaa~*	*tis*	*tusi*
3 PL	near		*ränaa*	*rin*	*räni*
	far	*tin, tän*	*tänaa*	*tin, tän*	*tänaami*

Table 14: Kalkoti personal pronouns

		NOM	OBL I (ACC)	OBL II (ERG)	GEN
1 SG		*ma*	*ma*	*míi*	*míi*
2 SG		*tu*	*tu*	*thíi*	*thíi*
3 SG	proximal	*nu* (M), *ni* (F)	*nis*	*níi*	*nisíi*
	distal	*lo* (M), *le* (F)	*las*	*líi*	*lasíi*
	remote	*so* (M), *se* (F)	*tas*	*tíi*	*tasíi*
1 PL		*be*	*asaám*	*asím*	*asíi*
2 PL		*tus*	*tusaám*	*tusím*	*tusíi*
3 PL	proximal	*ni*	*niaám*	*niním*	*niníi*
	distal	*le*	*lanaám*	*laním*	*laníi*
	remote	*se*	*tanaám*	*taním*	*taníi*

Table 15: Palula personal pronouns

Apart from the formal similarities, there is a certain type of case syncretism that Palula and Kalkoti shares, namely that between the nominative and the form used when referring to a direct object in the first and second singular pronouns *(ma; tu)*, whereas the corresponding forms for the plural pronouns are clearly distinct *(bä/asaa~; tis/tusaa~)*, as illustrated in examples (1) and (2).[16]

(1) ***tu*** *räs* *päš* *b-uun=ää*
you(SG) him see be.able.to-IPFV.MSG=Q
'Can you see him?'

(2) *biyaal* *tä* ***tu*** *dris=ää*
yesterday he you(SG) see.PFV.PST=Q
'Did he see you yesterday?'

[16]Baart (1999a, 39) lists five case categories realized for pronouns in Gawri, but it should be noted that the difference between his Oblique (i.e. the postpositional object form) and Object form (i.e. the form used for direct objects) is very slight when there is a differentiation at all.

This particular neutralization is shared by a number of Shina varieties (Schmidt 2000, 211) and sets them apart in this respect from Kohistani,[17] where, at least in Gawri and Torwali, it is the other way around, i.e. there are distinct nominative and direct object case forms for the singular pronouns, while these cases are merged in the plural (Baart 1999, 39; Lunsford 2001, 54).

Another particularity of the Kalkoti pronoun system shared with Palula is the case syncretism in first and second person singular between the genitive (as in (3)) and the form used (according to an ergative alignment) for the transitive agent-subject in the perfective (as in (4)).

(3) ***mi*** *un* *daan* *bääḍ* *šil-uun*
my this tooth much give.pain-IPFV.MSG
'This tooth of mine hurts badly.'

(4) ***mi*** *täs* *daa* *xat* *giyaal*
I.ERG him from letter bring.PFV
'I brought a letter from him.'

As can be seen in the table, the third person pronouns come in two series. Exactly what features are involved in the distinction between the two is a matter for further research. A difference in the perceived distance to the referent is certainly one aspect, but it is likely to be related also to a visibility/invisibility distinction, and thereby correspond closely to a similar two-way distinction for third person in Gawri (*äy* 3SG VIS vs. *sä* 3SG INVIS). In Palula, on the other hand, there is a three-way distinction between proximal, distal and remote (*nu* vs. *lo* vs. *so*, all three used pronominally, i.e. as the single term of reference, as well as adnominally, along with a noun). The Palula distal and remote sets are lexically related to the two sets in Kalkoti (*roo* vs. *soo*). In Kalkoti, however, there is, just like in Gawri, a separate set of adnominal-only demonstratives, comprising (at least) *un* 'this' (as in example (3)) and *äär* 'that' (as in example (5)).[18]

(5) *thi* ***äär*** *pänär* *šii* *driṣ=ää*
you(SG).ERG that white house see.PFV=Q
'Did you see that white house?'

Palula (just like Gilgiti Shina (Radloff and Shakil 1998, 192)) makes a gender distinction in third person between masculine and feminine, in all three subsets (*nu, lo, so* vs. *ni, li, se*). In Kalkoti, however, no gender distinctions are being upheld anywhere in the pronoun system (just as is the case in Gawri).

While the general shape of the pronoun systems in Kalkoti and Palula is strikingly similar, the aforementioned apocope process in Kalkoti has in a radical way reshaped the rest of the inflectional system. Unstressed suffixes were lost, thus eradicating many overt grammatical contrasts, for nouns primarily those between singular and plural, but also between nominative

[17]In Gilgiti Shina, a complete re-alignment (into the ergative) has taken place as far as case-marking is concerned, resulting in non-differentiation between intransitive subjects and direct objects, whether nouns or pronouns (Carla Radloff, pers. comm.).

[18]Some data seems to indicate that Kalkoti also uses a third adnominal demonstrative *täthi* or *thiti*, for invisible referents, a form closely resembling Gawri *(täthii~)* 'that [man, etc.]'.

and some non-nominative forms of nouns. Postpositions that are attached to the oblique forms of pronouns, are added onto the basic singular form of most nouns without any intervening oblique morpheme (examples (6) and (7)). In some cases, they are part of the same phonological word, thus emerging as new local case suffixes (*thäl-iǰ* 'to Thal (a village in upper Dir Kohistan)').

(6) *gulus* ***koopär*** ***daa*** *raat* *nikh-uun-s*
Gulus skull from blood come.out-IPFV.MSG-PST
'Gulus was bleeding *from* his head.'

(7) ***zumaan*** ***tee*** *un* *meeš* *yaad* *in*
Zaman to this man memory be.PRS
'Zaman remembers this man.'

The present analysis has not been able to detect traces of erstwhile plural or case suffixes in the form of stem vowel modifications or tonal modification, two processes that are crucial for upholding such grammatical distinctions in Gawri (Baart 1999, 35–37). For some very frequent nouns referring to people, Kalkoti suppletive or derivational (rather than inflectional) forms somehow make up for the "lost" morphological distinctions (see Table 16). Like in Palula and in Gawri, a plural suffix borrowed from Pashto/Persian, *-aan*, is frequently used for primarily male human referents.

Singular	Plural	
šii	*šii*	'house'
theer	*theer*	'hand'
dra	*dra-i*	'brother'
puu	*lärkoor, lukuṭoor*	'boy, son'
pee	*lärkeer*	'girl, daughter'
meeš	*mišaal, xäläq*	'man'
treer	*triyaal*	'woman'
ḍakṭar	*ḍakṭar-aan*	'doctor'
tarkaaṇ	*tarkaaṇ-aan*	'carpenter'

Table 16: Nouns with singular and plural reference, respectively.

It can be assumed that specialized postpositions (such as *mi* 'in' as in (8)) now play a role in signalling some noun phrase functions that previously were carried by case alone (as it is still in Palula, as shown in (9)), or by case and semantically generic postpositions.

(8) *äsi* *draam* ***mi*** *šilkin* *ä* *baag* *in*
our village in Shelkin a place be.PRS
'In our village, there is a place called Shelkin.'

(9) *muxáak* *zamanée* *asée* *díiš-**a*** *ak* *bakaraál* *de*
before of.time our village-OBL a shepherd be.PST
'Long ago, there was a shepherd in our village.' (Biori Palula)

Another function of the oblique case in Palula (having several different allomorphs, *-a, -í, -am, -óom, -íim*, etc., depending on declension and number category) is as the marker of the transitive agent-subject vis-à-vis the intransitive subject and the direct object according to an ergative alignment. In Kalkoti, an ergative marker, *-ä*, may be a relatively recent development, perhaps modelled on the identically-sounding ergative marker in Gawri. It attaches at the end of a noun (*mälgir* 'companion' in example (10)) in a fashion similar to postpositions, and does not seem to have any other allomorphs. Contrary to what is the case in Palula, this marker seems to be obligatory with all singular nouns regardless of gender and declensional class membership.

(10) *äsi ä mälgir-**ä** tapoos thääl*
our one companion-ERG question do.PFV
'One of our friends asked a question (lit. did question).'

As for (ergative) agent-subjects with plural reference, the picture is less uniform. A stressed plural oblique suffix *-um* (possibly with more than one similar-sounding allomorph) has survived the apocope process, and has obviously retained some of its multi-purpose character (cf. *pulis**um** and lumaaṭ**um*** in example (11)).[19] But with some nouns, ergative marking by means of the "new" marker *-ä* occurs with plural as well as with singular referents.

(11) *pulis-**um** lumaaṭ-**um** dää xäläq känṭärool thääl*
police-PL.OBL stick-PL.OBL beat.CV people control do.PFV
'The police charged with sticks and brought people under control.'

Genitive with singular reference seems to be consistently expressed by a suffix *-ee* (*meeš-ee* 'man's') added directly to the nominative stem, while genitives with plural reference probably are formed by adding the same suffix subsequent to a plural oblique suffix (*gee-äm-ee* 'cows'').
As far as verbal inflections are concerned, there are two main verb classes (Table 17), one which lines up with the class of L-verbs in Palula, and another which lines up with the class of T-verbs in Palula (Liljegren 2008, 181–183, 187). The L-verbs, so named because of its perfective ending in *-il* (or *-aal, -ääl*), is an open, productive and large class, while the T-verbs are a closed and fairly small class, although including some of the most frequent verbs in the language. Many (but not all) of the T-verbs form their perfectives with a plosive segment, in the clear cases with a *t*-suffix, hence the name. Just like in Palula and Sawi (Buddruss 1967, 50–51), intransitive as well as transitive verbs may belong to either of these two classes, but there is a stronger tendency for T-verbs to be intransitive than to be transitive. Additionally there are a few verbs with stems that to a varying degree are highly irregular or suppletive.

[19]Without doubt, this suffix has an origin in common with the Palula plural oblique *-am* (and several other similar allomorphs) and Sawi *-oo~/-uu~*, in both varieties with multiple non-nominative functions (Buddruss 1967, 36–37; Liljegren 2008, 94–96).

	L-verb ‘run’	T-verb ‘give’	Suppletive verb ‘see’
Non-perfective stem	*trap-*	*dä-*	*päš-*
Perfective stem	*trapil-*	*dit-*	*driṣ-*

Table 17: Non-perfective and perfective stems in different Kalkoti verb classes

As far as verb forms in actual use are concerned, they are overwhelmingly participial in origin. The two basic TMA categories, Present Imperfective and Simple Past, are each formed with elements that go back on what most likely were participles in earlier stages of the language (see below). This stands in stark contrast to the scarcity of verb forms with person agreement. The latter forms are in fact so few in our material that it is difficult to determine whether distinctions are made for all six persons or if some of them have fused. It seems they are largely limited to utterances that express either deontic modality (example (12)) or a possible but not certain outcome (example (13)). Where they occur, the bound person agreement morpheme is suffixed immediately to the non-perfective stem. There is nowhere in our data any examples of person agreement in combination with a perfective stem.

(12) *ma guwaa th-um*
I what do-1SG
‘What should I do?’

(13) *keedeeši soo yä-Ø*
maybe he/she come-3SG
‘Maybe he/she will come.’

This also contrasts with most other Shina varieties, where, at least in some of the verbal sub-paradigms, person agreement plays a major role (Bailey 1924, 26–52; Schmidt 2001; Liljegren 2008, 194–197). Instead, if there is any overtly expressed argument agreement at all in Kalkoti verb forms, it is almost exclusively in gender and number.

The first major TMA category, here referred to as Present Imperfective, expresses activities, states and actions in the present, whether habitual or ongoing ((14) and (15)). It also extends into the future when the realization seems certain. This category is recognized by its imperfective suffix that is added to the non-perfective stem, simultaneously displaying gender and number agreement through vowel modification: *-uun* (MSG), *-iin* (F), and *-aan* (MPL).

(14) *soo čikaar d-iin*
3SG crying give-IPFV.F
‘She is crying.’

(15) *soo tipä y-uun*
3SG now come-IPFV.MSG
‘He is coming now.’

The imperfective-forming segment has direct parallels in Palula and Sawi Present (Table 18). In both of those varieties, this accented segment is followed by a gender/number suffix (i.e. inflected like adjectives in those varieties), the former showing allomorphic alternation (in Sawi probably subphonemic (Buddruss 1967, 13)) motivated by assimilation with the vowel quality of the latter.

'is/are sitting down'	Kalkoti	Palula	Sawi
MSG	*biš-uun*	*bheš-áan-u*	*beeš-aan-oo*
MPL	*biš-aan*	*bheš-áan-a*	*beeš-aan-ee*
FSG	*biš-iin*	*bheš-éen-i*	*beeš-aa*[ɛː]*n-i*
FPL	*biš-iin*	*bheš-éen-im*	*beeš-aa*[ɛː]*n-e*

Table 18: Partial paradigm for the verb 'sit' in Kalkoti with corresponding Palula and Sawi forms

Morgenstierne (1941, 22) as well as Buddruss (1967, 48) state that the segment goes back on the OIA present (active) participle *–ant-* (Whitney 2002, 220), with numerous parallels in other NIA languages (Masica 1991, 270–271). That is also suggested by Schmidt & Kohistani as the historical origin of the intransitive imperfective marker *–aa-* (as in *sa yáazaano* 'he is walking', *sa yáazaani* 'she is walking') in Kohistani Shina (Schmidt and Kohistani 2008, 126–128). Regardless of the exact historical scenario (see Liljegren 2009, 50 for an alternative explanation), the allomorphic alternation in today's Kalkoti is reflecting an earlier but in the aforementioned apocope process eroded final gender/number suffix. The historical participial form itself has probably entered the TMA system as an aspectual marker with a rather limited imperfective, perhaps progressive, use, but has steadily gained ground within the imperfective realm, marginalising the former present tense to the subjunctive or contingent future, thus establishing itself (in its non-extended form) as the sole marker of present-tense reference, a development shared with many other NIA languages (Masica 1991, 288).

The other major TMA category, the Simple Past, is in most cases identical to the perfective stem. It expresses activities, states and actions in the past that are completed (examples (16) and (17)). It also characterizes the storyline of narrative discourse (Longacre 1996, 21). Usually no gender or number differentiation occurs, but there are some exceptions, especially among verbs with otherwise irregular paradigms (*goo* MSG, *gee* F 'went'; *yaal* MSG, *yeel* F 'came').

(16) *räs* *räl* *bä* *suwaa* *mälgir* *bääḍ* *äsil*
3SG.OBL on we all companions much laugh.PFV
'To that we all laughed heartily.'

(17) *thi* *kitaab* *giin=ää*
2SG.ERG book take.PFV=Q
'Did you take the book?'

Again, we do not need to look far and wide to find close parallels in other Shina varieties, in form as well as in function (Table 19). In Palula and in Sawi alike, the Simple Past (Buddruss' (1967, 50–52) *Präteritum*) makes use of the perfective stem, which is recognized by the final *l-*

element occurring in the typical case. In both varieties there is a closed or residual class (or several such subclasses) with perfectives that are either formed with a final *t*-element (sometimes due to assimilation realised as another plosive) or have a stem that more radically differs from the corresponding non-perfective stem. Cognate verbs are often found in the same form category in the three varieties. While a gender/number agreement morpheme (identical to the ones occurring with the Present Imperfective) must be added to the perfective stem in the Palula/Sawi Simple Past that is never the case in Kalkoti. Again, that difference must be attributed to the apocope process. In a few verbs with a final long stem vowel in the perfective stem, agreement is expressed by vowel quality alone.

Perfectives formed with *l*- or *t*-elements are not limited to those closely related varieties. They also occur in other Shina varieties (Radloff and Shakil 1998, 184; Schmidt 2001, 444), but in Kohistani and Gilgiti Shina, for instance, those are only found in the intransitive paradigm (Kohistani Shina: *sa tarílo* 'he swam', *sa amúṭhi* 'she forgot', (Schmidt and Kohistani 2008, 138, 142)), while the marker of perfectivity in the transitive paradigm is a grammaticalization of 'go' (Schmidt and Kohistani 2008, 130–132; Bailey 1924, 27). The *t*-element is in fact of some antiquity as a perfectivity marker, going back on an OIA suffix *-ta* or *-ita*, traditionally described as a past (passive) participle-deriving morpheme (Whitney 2002, 340).[20] It has a number of parallels in NIA languages at large, although in many of those it has phonetically eroded to a significant degree (Masica 1991, 269–270). The *l*-element is a slightly more recent development and can be traced back to the Prakrit ending *-illa* (Schmidt and Kohistani 2008, 140), but outside Shina, it mostly occurs in NIA languages in the eastern and southern part of the Subcontinent, employed as markers of perfects or simple pasts in those languages (Masica 1991, 270).

	Kalkoti	Palula	Sawi
'laughed'	*äsil*	*hansíl-u*	*hansil-oo*
'milked'	*dooyil*	*dhowíl-i*	*dhoyil-i*
'ate'	*khaal*	*khóol-u*	*khol-oo*
'came'	*yaal, yeel*	*yhóol-u, yhéel-i*	*(w)ol-oo, wol-i*
'gave'	*dit*	*dit-u*	*dit-oo*
'came out'	*nikhät*	*nikháat-u*	*nikhaat-u*
'put'	*čhoon*	*čhúuṇ-u*	*č(h)uṇ-u*
'saw'	*driṣ*	*dhríṣṭ-u*	*darṣ-oo*
'went'	*goo, gee*	*gúum, gíi*	*goo, geei*

Table 19: Selected perfective verbs in Kalkoti with corresponding forms in Palula and Sawi

[20]This interpretation has been questioned by Hock (1986), who claims that this element is neither specifically passive nor past-tense in origin but rather is an element of a P-oriented construction in frequent use already in Sanskrit.

The most central distinction in Kalkoti is a typical perfective-imperfective distinction (Dahl and Velupillai 2011a), i.e. between, on the one hand, events in the present and the future as well as ongoing events in the past, and, on the other hand, single completed events in the past, the latter including past habitual events. The other finite verb forms found to any extent in the material, tentatively labelled Past Imperfective and Pluperfect, can be seen as the result of a "new" or outer layer of tense specifications added to the two core categories identified already (see Table 20).[21] As far as overt marking is concerned, it is the past that is marked, and therefore it makes most sense to describe the contrast as past vs. non-past (Dahl and Velupillai 2011b). The Past Imperfective is formed by adding a past tense-marking suffix *–s* to the (for tense not overtly marked) imperfective. In line with the strong dispreferrence for final consonant clusters, the final *n* of the imperfectivity suffix is surfacing as nasalisation of the suffix vowel when followed by the past tense marker: *čuṇuuns* [tɕʊŋ̃ũːs]. The Pluperfect is formed by adding the same past tense suffix to the perfective, a reason to believe that perfective forms used to have a primarily perfect meaning (Dahl 1985, 139). The last segment of the perfective stem is thereby dropped if consonantal, without leaving any trace in the surface realization (cf. *driṣ* 'saw' and *dris* 'had seen').

	Unmarked for tense	Overt tense marking
Imperfective	Present Imperfective:	Past Imperfective:
	čuṇ-uun 'is writing'	*čuṇ-uun-s* 'was writing'
	b-uun 'is going'	*b-uun-s* 'was going'
Perfective	Simple Past:	Pluperfect:
	čuṇil 'wrote'	*čuṇi(l)-s* 'had written'
	goo 'went'	*goo-s* 'had gone'

Table 20: Tense and aspect intersection in Kalkoti

The Past Imperfective seems to have a primarily progressive meaning, presenting an event with a duration inclusive of or parallel in time to another predication (or, if in a longer narrative, the storyline). Habitual meanings, on the other hand, are probably rendered more readily by the Simple Past. The Pluperfect is, in Kalkoti, a perfective with relevance for a past situation, or in other words "where one is speaking of an event that took place before a definite point in past time" (Dahl 1985, 146). In a narrative, it may e.g. be used to refer to an event taking place prior to the storyline, a so-called "flashback" (Longacre 1996, 25). The passage displayed in (18), from the beginning of a narrative, gives some indications as to the functions of these forms, where *baans* is a Past Imperfective, *bäs* a Pluperfect, and *yaal* a Simple Past.

[21]Further study and the accumulation of more data would most likely bring to light other, less frequent, TMA categories in Kalkoti.

(18) *ä deer bä käteeyi mälgir thäl-iǰ b-aan-**s.***
a time we some friends Thal-to go-IPFV.MPL-PST

*bä gaaṛi mi bä**s,** äsi mukhä ä puu y-aal*
we vehicle in sit.down.PFV.PST our front a boy come-PFV.MSG
'Once, we were some friends going to Thal. We had sat down in the vehicle, when a boy came up to us.'

Before turning our attention to the origin of the past tense marker, a somewhat sketchy comparison with other Shina varieties is called for. In contrast with the many parallels observed in the aspectual realm, tense distinctions show significant cross-variety diversity, as is also the case at large among NIA languages (Masica 1991, 285). Typically, in the Shina varieties outside the Palula-Sawi-Kalkoti relatedness cluster, both present and past have overt markers that separate them from e.g. the (tense-underspecified) future/subjunctive or perfective (Baart and Rehman 2005, 15–16; Schmidt 2001). A person-inflected present and past tense copula, respectively, has been added after a person-inflected imperfective or perfective verb stem (Table 21). (The addition of a copula after a non-participial form is a somewhat surprising development for which I am not able to offer an explanation at this point.) To a varying degree the person-inflection verb forms and the copulas are fused into one verb word, with Guresi/Tileli Shina still at an early stage of a fusion process and Gilgiti Shina at a considerably more advanced stage (Schmidt and Kaul 2010; Radloff and Shakil 1998, 183–188). The process itself, however, is very much the same.

		Overt present-marking	Overt past-marking
Imperfective	Future:	Present:	Past Imperfective:
	mos them 'I'll do'	*mos them hũs* 'I'm doing'	*mos them asúlus* 'I was doing'
	mas háram 'I'll take away'	*mas háramus* 'I'm taking away'	*mas háramusus* 'I was taking away'
Perfective	Simple Past:	Present Perfect:	Past Perfect:
	méĩ tháas 'I did'	*méĩ tháas hũs* 'I have done'	*méĩ tháa sulús* 'I had done'
	mas hariígas 'I took away'	*mas hariígunus* 'I have taken away'	*mas hariígusus* 'I had taken away'

Table 21: Tense and aspect intersection in Guresi (first row) and Gilgiti (second row)

Approximately the same resulting TMA categories have been documented for Palula and Sawi, but the grammaticalization routes look quite different, both in comparison with the other Shina varieties and one with the other. In Sawi (Table 22), just like in Kalkoti, almost the entire verbal paradigm is participle-based, and there are only sporadic traces of any verb forms with person agreement (Buddruss 1967, 53–54, confirmed by my own field notes). Three stems, in some

cases followed by a tense specification, and always by a non-optional gender-number agreement, are involved in expressing the most common TMA categories. Apart from the two discussed already above, there is one formed by an element *-mn-* (only *-m-* in my own data) added to the verb root, according to Buddruss (1967, 54; Whitney 2002, 220) originating in an OIA middle participial suffix *-māna-*. In present-day Sawi it is used, without any overt tense specification, with future reference, and with a past tense marker it functions as a conditional. The two categories have a mood specification in common rather than one having to do with aspect (hence the label "subjunctive"). Grammaticalizations involving 'be', present and past, are behind at least four TMA categories in this variety.

		Overt present-marking	Overt past-marking
Imperfective	Present: *ma thaan-u* 'I'm doing'	-	Past Imperfective ("Imperfekt"): *ma thaan-aal-oo* 'I was doing'
Perfective	Simple Past ("Präteritum"): *mi thil-oo* 'I did'	Perfect: *mi thil-oo-n-oo* 'I have done'	Pluperfect: *mi thil-aal-oo* 'I had done'
Subjunctive	Future: *ma thumn-oo* 'I'm doing'	-	Conditional: *ma thumn-aal-oo* 'I'm would have done'

Table 22: Tense and aspect intersection in Sawi

The Palula verbal paradigm (Table 23) consists of two or three subsystems, depending on the type of analysis one applies. The system differs quite dramatically from the one observed for e.g. Gilgiti and Kohistani Shina above, in that a single TMA category in Palula *either* displays person agreement *or* gender/number agreement, never both. In comparison with Sawi and Kalkoti, the present and past marking elements are less phonologically fused with the preceding morpheme, and the Present does not contrast in overt tense marking with any of the other TMA categories. A Palula-particular innovation is the (non-inflecting) past tense marker *de*, most likely a grammaticalization of the conjunctive participle of 'give'.

		Overt present-marking	Overt past-marking
Non-perfective I	Future: *ma th-úum* 'I'm doing'	-	Past Imperfective: *ma th-úum de* 'I was doing'
Non-perfective II	Present: *ma tháan-u* 'I'm doing'	-	-
Perfective	Simple Past: *míi thíil-u* 'I did'	Perfect: *míi thíil-u hín-u* 'I have done'	Pluperfect: *míi thíil-u de* 'I had done'

Table 23: Tense and aspect intersection in (Ashreti) Palula

In addition, the form of the (Present) Perfect is not uniform within the variety. The form presented above is used exclusively in Ashreti (Southern) Palula; in Biori (Northern) Palula, a form based on the conjunctive participle followed by the gender/number inflected present auxiliary is used instead: *ma the hínu* 'I have done'.

From the observations above, we can conclude that whatever grammaticalization in the realm of tense that has taken place in Kalkoti, it is probably of a relatively recent date, the source of the tense marker *-s* being a contracted form of a past tense of 'be, exist', most certainly related to the non-inflecting past tense copula *aas* 'was, were'. Although construction-wise parallel to Sawi (imperfective + 'was' > Past Imperfective; perfective + 'was' > Pluperfect), it is difficult to reconstruct a shared historical development, which would also have to account for the different developments in Palula.[22] Much more likely is therefore a scenario where a geographically closely-at-hand system has served as a model for what perhaps is a reconstruction come about after the loss of final segments. That is the TMA system of Kohistani Gawri (Table 24), and particularly the past-tense extensions, which reminisce strongly of the ones we have observed for Kalkoti, both in construction and in form.

	Unmarked for tense	Overt tense marking
Imperfective	Habitual:	Past Imperfective:
	gira~ 'turns'	*gira~-š* 'was turning'
	kära~ 'does'	*kära~-š* 'was doing'
Perfective	Simple Past:	Past Perfective:
	giru 'turned'	*giru-š* 'had turned'
	kiir 'did'	*kiiš* 'had done'

Table 24: Partial tense and aspect intersection in Gawri

[22]The forms themselves, Kalkoti *–s* PST/*aas* 'was, were' and Sawi *–aal-(oo)* PST-(MSG)/*aal-(oo)* 'was (MSG)' may very well both go back on a form **as-ilo* suggested for Sawi by Buddruss (1967, 79), in its turn related to Palula existential (but not copular) *heensílu* 'stayed, lived'. However, it should be noted that Schmidt (2004, 44) proposes the verb 'come' as the source of a similar past tense forming element (*thémalus* 'I was doing' < *tham áalos*) in Drasi Shina.

Of particular interest is the parallel relationship between the past tense marker and the past tense copula in the two languages, *-s* and *aas*, respectively, in Kalkoti, and *-š* and *aaš*, respectively, in Gawri.

5. Conclusions

A closer look at Kalkoti as a linguistic system reveals an intriguing combination of retention features, language-internal innovation, and contact-induced features. Not surprisingly, the lexicon is highly influenced by its intimate contact, for at least a few centuries, with Kohistani varieties of the Gawri-type. Only when taking certain core vocabulary into account, such as high-frequency verbs and pronouns, are the Shina roots of Kalkoti really obvious, particularly when compared side by side with closely related Palula and Sawi.

One of the areas where Kalkoti shows a great deal of convergence or parallel development with Kohistani Gawri is in the emergence of complex tonality features. Whether these features are all phonemicized to the same extent as in Gawri remains a topic for further research, but it seems beyond doubt that a significant low tone has developed as a result of erstwhile aspiration, and that laryngealization (in Kalkoti alternating with a final pitch-rise in some environments) is a feature in both languages that can be attributed to apocope, i.e. the loss of final unaccented vowels.

Also some findings in the tense-aspect system point in the direction of convergence with Gawri. The most central distinction is one between perfective and imperfective, an "old" distinction that has many (particularly formal) parallels in other Shina variaties. To this has been added a more peripheral layer of past marking. All such distinctions that can be observed in Shina varieties are relatively young, and thus they show a great deal of variation (both in degree of grammaticalization and in the origin of their overt markers) as well as language-specific innovation (alternatively subareal influence), even when comparing such closely-related varieties as Kalkoti, Palula and Sawi. If we, however, compare the system with Gawri we see some striking similarities, both in the constructions themselves and in the tense marking elements.

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Abbreviations

CV	Converb
ERG	Ergative
F	Feminine
FPL	Feminine plural
FSG	Feminine singular
GEN	Genitive
IPFV	Imperfective
M	Masculine
MPL	Masculine plural
MSG	Masculine singular

NIA	New Indo-Aryan
NOM	Nominiative
OBL	Oblique
OIA	Old Indo-Aryan
PFV	Perfective
PL	Plural
PRS	Present
PST	Past
Q	Question marker
SG	Singular
TMA	Tense, mood, aspect
1	First person
2	Second person
3	Third person

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