

Diana Forker

Elevation as a category of grammar: Sanzhi Dargwa and beyond

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Abstract: Nakh-Daghestanian languages have encountered growing interest from typologists and linguists from other subdisciplines, and more and more languages from the Nakh-Daghestanian language family are being studied. This paper provides a grammatical overview of the hitherto undescribed Sanzhi Dargwa language, followed by a detailed analysis of the grammaticalized expression of spatial elevation in Sanzhi. Spatial elevation, a topic that has not received substantial attention in Caucasian linguistics, manifests itself across different parts of speech in Sanzhi Dargwa and related languages. In Sanzhi, elevation is a deictic category in partial opposition with participant-oriented deixis/horizontally-oriented directional deixis. This paper treats the spatial uses of demonstratives, spatial preverbs and spatial cases that express elevation as well as the semantic extension of this spatial category into other, non-spatial domains. It further compares the Sanzhi data to other Caucasian and non-Caucasian languages and makes suggestions for investigating elevation as a subcategory within a broader category of topographical deixis.

Keywords: Sanzhi Dargwa, Nakh-Daghestanian languages, elevation, deixis, demonstratives, spatial cases, spatial preverbs

1 Introduction

Interest in Nakh-Daghestanian languages in typology and in other linguistic subdisciplines has grown rapidly in recent years, with an active community of linguists from Russia and other countries. The goal of the present paper is to pour more oil into this fire and perhaps to entice new generations of scholars to join the throng. The Caucasus is an ideal place for field work. It is relatively easily accessible, with hospitable people, beautiful landscapes, and tasty food, and it is a true cornucopia of fascinating languages (see Sumbatova 2018; Daniel & Dobrushina 2018 for fieldwork memories from the Caucasus).

Diana Forker [dɨ'a:na 'fɔɹkɛ], Fachbereich Kaukasiologie, Friedrich-Schiller-Universität Jena, Jenergasse 8 (Acchouchierhaus), 07743 Jena, Deutschland, E-mail: diana.forker@uni-jena.de

In this paper, I focus on the previously undescribed Nakh-Daghestanian language Sanzhi Dargwa. After an introduction to the grammar of Sanzhi I focus the analysis on the grammaticalized expression of elevation, a category that has received comparatively little interest within the broader field of the linguistic expression of space. A number of the features found in Nakh-Daghestanian languages have received a lot of attention in cross-linguistic research, for instance agreement, alignment, evidentiality, and also spatial cases. But other features are much less familiar to outsiders, including elevation.

In Sanzhi, elevation is a deictic category that is in pragmatic opposition with participant-oriented deixis and horizontally-oriented directional deixis unmarked for elevation. Elevation is conveyed through spatial adverbials, postpositions and nouns, but is also a semantic feature of demonstratives, spatial preverbs and, to a limited extent, spatial cases. As will be shown in the paper, elevation is a pervasive and characteristic trait in the grammar of Sanzhi Dargwa. I compare the Sanzhi data both to other related languages and to unrelated languages from the Caucasus and from elsewhere, and I propose possible directions for further research. My aim is not to provide a neat and complete analysis, but to highlight challenges and draw attention to open questions that can best be approached from a comparative perspective.

The structure of the paper is as follows: Section 2 provides a brief introduction to the grammar of Sanzhi Dargwa. Section 3 is devoted to the main topic of the paper, the expression of elevation in Sanzhi through demonstratives, preverbs and cases. It also provides information about other Nakh-Daghestanian languages. In Section 4 I look at grammaticalized elevation from a cross-linguistic perspective. Section 5 briefly discusses elevation as a subcategory of topographic deixis, and Section 6 is the conclusion.

2 The grammar of Sanzhi in a nutshell

Sanzhi Dargwa belongs to the Dargwa (Dargi)¹ languages (ISO dar; Glottocode darg1242) which form a subgroup of the Nakh-Daghestanian language family (Figure 1).

More precisely, Sanzhi Dargwa is a South Dargwa variety, and is closely related to Icar Dargwa (Sumbatova & Mutalov 2003). Sanzhi Dargwa is spoken by approximately 250 speakers and is severely endangered. The self-designation

¹ There is no homogenous English terminology referring to Dargwa languages, dialects, peoples, etc., rather there are several terms (*Dargwa*, *Dargva*, *Dargi*, *Darginiski*).

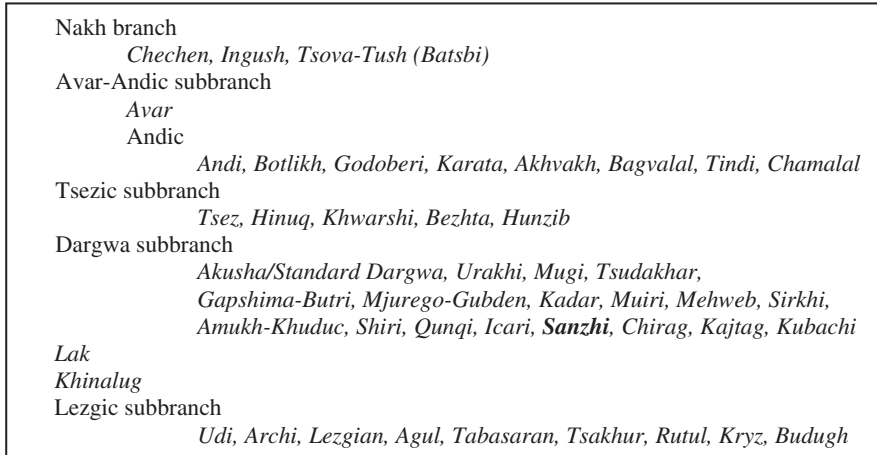


Figure 1: A family tree of Nakh-Daghestanian (following Kibrik 1996: xi).

of the Sanzhi people is *sunglan-te* (Sanzhi.person-PL) and the language is called *sunglan vaj* (Sanzhi.person language). More than 40 years ago all Sanzhi speakers left the village of Sanzhi in central Daghestan. Today, the majority of Sanzhi speakers live in the village of Druzhba in the Daghestanian lowlands (Figure 2) and the remainder in other settlements in Daghestan and other parts of Russia. In this paper, I use the word *Sanzhi* as a shorthand for *Sanzhi Dargwa* to refer to the language.

Sanzhi is currently being documented within the project, *Documenting Dargi languages in Daghestan - Shiri and Sanzhi*, funded by the DoBeS program. The project is run by three linguists (Diana Forker, Rasul Mutalov, Oleg Belyaev) and one anthropologist (Iwona Kaliszewska). Detailed information about the project, the languages and many texts, recordings and pictures can be found on the project website.² All materials gathered in the project are accessible upon registration via the Language Archive hosted by the Max Planck Institute Nijmegen.³ A subcorpus of 45.000 tokens has been fully glossed with FLE_x and translated into Russian and English.⁴ All non-elicited examples used in this paper originate from this corpus. The electronic dictionary of Sanzhi was built up with Lexique Pro and a preliminary version is accessible via the project homepage.⁵ The current version contains more than 6,000 entries including audio recordings of most entries.

² <http://www.kaukaz.net/cgi-bin/bloxxom.cgi/english/dargwa>

³ http://dobes.mpi.nl/projects/shiri_sanzhi/

⁴ http://web-corpora.net/SanzhiDargwaCorpus/search/?interface_language=ru

⁵ <http://www.kaukaz.net/dargwa/sanzhi/lexicon/index.htm>

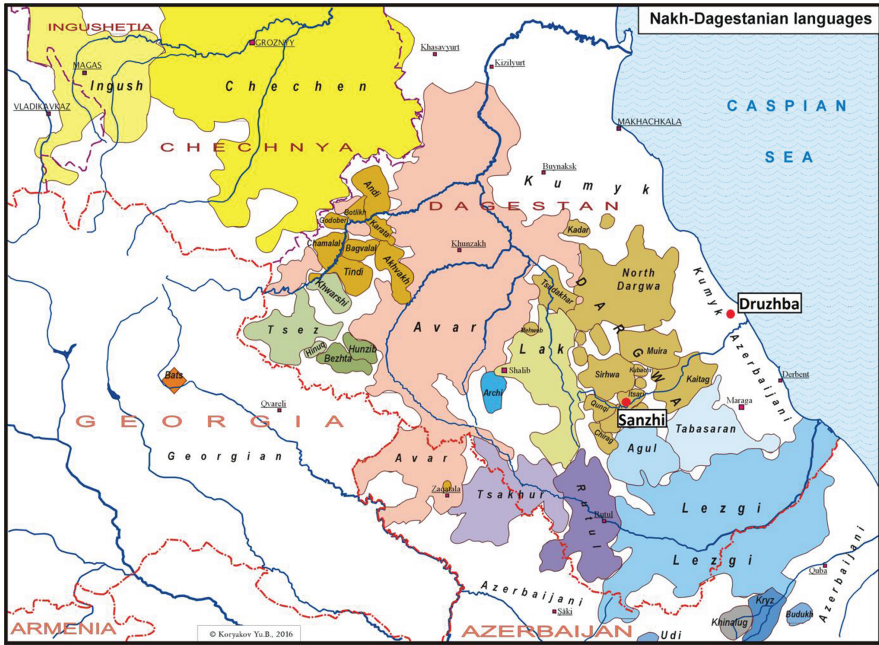


Figure 2: Nakh-Daghestanian languages and the location of the villages of Sanzhi and Druzhba (map courtesy of Yuri Koryakov).

Sanzhi Dargwa is structurally similar to other Nakh-Daghestanian languages, in particular Dargwa languages. It has a relatively large consonant inventory including pharyngeal and ejective consonants. All voiceless non-ejective obstruents except for pharyngeal/epiglottal and glottal segments occur as lax and tense (geminate) consonants, and even a number of labialized consonants can be tense. Sanzhi has four plain vowels and three pharyngealized vowels of which one (*iʔ*) is very rare and its phonemic status needs further clarification. The minimal syllable consists of a single vowel. Initial vowels are always preceded by a non-phonemic glottal stop not indicated in the orthography. The syllables in monomorphemic native words are V, VC, VCC, CV, CVC and CVCC. In other words, syllables never have complex onsets, but can have complex codas.

Sanzhi morphology is concatenative and mainly suffixing. The language exhibits a mixture of dependent-marking in the form of a rich case inventory and head-marking in the form of verbal agreement. The grammatical cases of Sanzhi are ergative, absolutive, dative, and genitive. In addition, there is a plethora of spatial cases (Section 3.4, Table 4). Elevation within the system of spatial cases in Sanzhi Dargwa and other (Dargwa) languages is the topic of Section 3.4.

The morphological make-up of verbs in Sanzhi is fairly complex. There are up to five morphemes that can precede the root and up to five that can follow it. Preverbs, among which spatial preverbs are a major subcategory, are extensively used to form verbal lexemes. Spatial preverbs with elevational meaning are discussed in Section 3.3.

The vast majority of simple underived verbal stems come in pairs that express an aspectual opposition between perfective and imperfective. Furthermore, inflection conflates tense/aspect/mood/evidentiality in a rich array of synthetic and analytic verb forms. With respect to aspect, the two systems (i.e. aspectual stems and inflection) are formally independent and thus combine, which leads to intriguing interactions and to restrictions on which aspectual stem can inflect for which verb form. As a result, most inflectional verb forms can be built only from the imperfective stem or only from the perfective stem. Sanzhi has a few synthetic verb forms and a fair number of analytic verb forms. The analytic verb forms can be divided into two main groups. Forms based on the imperfective stem such as the compound present (6) or the future (9) convey mainly, though not exclusively, present time or future time reference. By contrast, forms based on the perfective stem such as the preterite (17), (18), the perfect (4) or the resultative (3), (20) almost exclusively convey past time reference. For the formation of various types of analytic verb forms and subordinate clauses Sanzhi has simple and specialized converbs, a number of participles, conditionals and concessives, a masdar (deverbal noun), an infinitive and a subjunctive. The latter has rudimentary person inflection.

Salient traits of the grammar are two independently operating agreement systems: gender/number agreement and person agreement. It is possible that within one clause three, four or even more linguistic items agree with one and the same agreement target for gender/number. Sanzhi has three genders that have a transparent semantic basis: human masculine, human feminine, and neuter. Agreement targets for gender/number agreement divided according to their agreement domains are:

Clausal domain

- most vowel-initial verbs, a few compound verbs with bound lexical stems (e.g. *B-al*⁶ ‘together’, *B-at* ‘set free, let’) and the spatial preverb *B-it-* ‘thither’ (Section 3.3 below)
- the copula *ca-B* as well as the locative/existential copula verbs (Table 2) (including the negative locative/existential verb *B-aku*)
- the postpositions/adverbs *B-i* ‘in’, *B-alli* ‘together’, *B-arxle* ‘directly, straight’

⁶ In this word and all following citation forms of words the slot of the gender agreement exponent is indicated by means of the capital letter B.

- all items that can be inflected for the essive case (Section 3.4, Table 4), e.g. nouns, pronouns, spatial adverbs, postpositions and all items that inflect for the directional, e.g. mostly spatial adverbs

Domain of the noun phrase

- a handful of adjectives
- the quantifier *li il* ‘all’ and group numerals
- the derivational suffix *-č̣i-B*

Furthermore, a small number of nouns (e.g. *B-ah* ‘owner, master’) and reflexive pronouns in the absolutive, as well as one reciprocal pronoun, contain gender exponents that express the gender of the referent.

The agreement affixes are given in Table 1. All exponents except the zero for masculine singular agreement can occur as prefixes, suffixes, and infixes.

Table 1: Gender/number agreement affixes.

	Singular	First and second person plural	Third person plural
Masculine	<i>w/∅-</i>	<i>d</i>	<i>b</i>
Feminine	<i>r</i>		
Neuter	<i>b</i>	<i>d</i>	

The standard rules for gender agreement are straightforward. Modifiers agree with the head nominal within the nominal domain. Agreement is controlled by the argument in the absolutive case within the clausal domain (9), (18). If there is no such argument, then default agreement by means of the marker *b* (or very rarely *d*) applies. Long-distance agreement across the clausal domain follows the same rules as agreement within the clause. Surprisingly for Nakh-Daghestanian languages (though not for Dargwa varieties), under certain circumstances agreement in a simple clause can be triggered by arguments in the ergative or dative case. Analyses of this phenomenon in various Dargwa varieties have been put forward by van den Berg (1999); Sumbatova (2010); Sumbatova and Lander (2014: 450–493); Belyaev (2016, 2017); and Ganenkov 2018.

Person agreement operates at the clausal level only. Sanzhi Dargwa has enclitic and suffix agreement. Both suffixes and enclitics follow the same agreement rules, but differ in form and their morphosyntactic characteristics. The origins of the Dargwa person agreement system remain opaque, but we can

assume that it is a more recent system than gender agreement. Pronouns and auxiliaries have been proposed as possible sources but this is still unproven (Sumbatova 2011: 147–158). The form of the agreement suffix varies depending on the TAM form. There are a number of different sets. Most of them have in common that the third person is unmarked, the first person is not differentiated for number and only the second person has two distinct suffixes for the singular and the plural. The suffixes are restricted to occurring on verbs. The person enclitics, of which there are only two, belong to a larger set of predicative particles.

S, A, P, and T arguments control person agreement, but never other roles such as recipients or addressees. Among the Dargwa languages, the alignment patterns for person agreement vary to a substantial extent (see Sumbatova 2011, 2013 for overviews). They are determined by the ranking of absolutive vs. ergative arguments and in a number of varieties also by person hierarchies. The person hierarchies in Dargwa languages are either $2 > 1 > 3$ (e.g. Icarí, Kajtag, Qunqi and Khuduts) or $1, 2 > 3$ (e.g. Akusha and Standard Dargwa, Chirag). In many varieties, the hierarchies are combined with a ranking of grammatical roles and case marking. Absolutive > ergative is found in Akusha and Standard Dargwa, whereas ergative > absolutive has been documented for Chirag, Kubachi, and Mehweb. In Sanzhi Dargwa, there is a considerable amount of variation within the speech community and even within the speech of individual speakers. Speakers accept both $1 > 2 > 3$ and $2 > 1 > 3$ although there seem to be slight preferences for the latter. This means that when there are two speech act participants A and P, in principle, either participant can control agreement. In clauses with one first or one second person argument, the hierarchy $1, 2 > 3$ is well established.

Sanzhi has ergative alignment at the morphological level in the form of gender/number agreement (with the few exceptions mentioned) and case marking (ergative case). Outside the realm of morphology there are almost no indications of ergativity. Instead, accusative alignment, neutral alignment and no alignment are found. For example, person agreement and reflexivization/reciprocalization are neutral since S, A, and P are not distinguished, but behave differently from G (=‘goal’ in the sense of Bickel 2010, i.e. recipient, addressee, etc.). In contrast, relativization largely depends on pragmatics and a suitable context and does not make use of grammatical roles at all. A comprehensive analysis of grammatical roles in Sanzhi can be found in Forker In Press.

The most frequent word order at the clause level is APV, though all other logically possible word orders are also attested. In subordinate clauses, word order is more restricted; verbs are predominantly found in clause-final position and other word orders are rare. At the phrase level, head-final order is preferred, but again exceptions are possible.

3 Grammatical expression of elevation in Sanzhi and other Nakh-Daghestanian languages

Elevation as a spatial category is well known from the literature. The expression of space in grammars of natural languages is ubiquitous. Reference to space can be made by means of many different parts of speech. Elevation can be deictic when a deictic center (e.g. the speaker) serves as reference point, but it can also be non-deictic (e.g. ‘up on the tree’). Probably all languages have words for ‘up’ and ‘down’ or ‘higher’ and ‘lower’, but not all languages have this semantic distinction grammaticalized as part of certain closed class items, namely demonstratives, spatial preverbs and case systems. Elevation as a semantic distinction of demonstratives is well attested in the literature (e.g. Hyslop 1993; Diessel 1999; Ebert 1994; Bickel 2000; Dixon 2003; Schapper 2014; Anderson & Keenan 1985; Aikhenvald 2015; Levinson 2018). Spatial preverbs also frequently express elevation (Plungian 2000). However case systems that carry the meaning of elevation are comparatively rare (Ebert 1994; Kibrik 2003).

In this Section, I describe the grammaticalized expression of elevation in Sanzhi and identify parallels in other languages of the same family. Later on in Section 4 I will integrate the data from Sanzhi and other Nakh-Daghestanian languages into a broader typological perspective on elevation.

3.1 Elevation in the Sanzhi grammar of space

Nakh-Daghestanian languages are famous for their extraordinary inventory of spatial cases, transcending the borders of the small field of Caucasian linguistics as numerous publications on this topic show (e.g. Comrie & Polinsky 1998; Comrie 1999; Daniel & Ganenkov 2009; Ganenkov 2009; Ganenkov 2010; Forker 2012). Sanzhi Dargwa, with its 15 spatial cases (Section 3.4, Table 4) can be situated in the middle between Nakh-Daghestanian languages that (almost) lack spatial cases such as Khinalugh, Budukh and Udi and the champion, Tsez, that has 56 spatial cases. Yet Sanzhi has more than spatial cases for the expression of space in language. In this section, I provide a description of some interesting features relating to elevation and point out open questions and promising research areas.

It is not particularly surprising that elevation plays an important role in Sanzhi and other Nakh-Daghestanian languages, because the languages are spoken in mountainous territory in which people, animals, and objects constantly move upwards or downwards. In Sanzhi Dargwa, elevation is a deictic category that is paradigmatically opposed to participant-oriented deixis, or,

more generally, horizontally-oriented directional deixis,⁷ with which it is formally in complementary distribution. What makes Sanzhi and other Dargwa varieties remarkable is that elevation and participant-oriented deixis show up as two distinct sets of formatives on different parts of speech. The division is based on the differences in the forms of the exponents. The first set consists of the exponents *k'* ‘above, up’ and χ ‘below, down’; the second set contains *h(a)* ‘up(wards)’ and *k(a)* ‘down(wards)’.

First set of formatives *k'/χ* (Table 2):

- demonstrative pronouns (=nominal demonstratives)
- spatial and manner adverbials (=adverbial demonstratives)
- locational/existential copula verbs

Second set of formatives *h/k*

- spatial preverbs (28), (29)
- spatial cases (Table 4)

Table 2: Demonstrative pronouns (nominal demonstratives) and locational copulas.

Singular			Plural			Copula	Meaning
iC	heC	hiC	i(C):i	he(C):i	hi(C):i		
<i>iž</i>	<i>hež</i>	<i>hiž</i>	<i>išt:i</i>	<i>hešt:i</i>	<i>hišt:i</i>	-	this / these; close to the speaker
<i>ij</i>	<i>hej</i>	<i>hij</i>	-	-	-	-	this / these; close to the speaker
<i>il</i>	<i>hel</i>	<i>hil</i>	<i>ilt:i</i>	<i>helt:i</i>	<i>hilt:i</i>	<i>le-b</i>	that / those; close to the addressee
<i>it</i>	<i>het</i>	<i>hit</i>	<i>it:i</i>	<i>het:i</i>	<i>hit:i</i>	<i>te-b</i>	that / those; away from speaker and hearer
<i>ik'</i>	<i>hek'</i>	<i>hik'</i>	<i>ixt:i</i>	<i>hext:i</i>	<i>hixt:i</i>	<i>k'e-b</i>	above the deictic center
<i>iχ</i>	<i>heχ</i>	<i>hiχ</i>	<i>iχt:i</i>	<i>heχt:i</i>	<i>hiχt:i</i>	<i>χe-b</i>	below the deictic center

It is not only the forms of the exponents that differ, but also their morphosyntactic properties. Thus, elevation in Sanzhi (and some other languages) is a primary example of what Levinson and Burenhult (2009) call a *semplate*, that is, a structured set of opposing distinctions that show up in disparate form classes or semantic fields and serve to organize the lexicon of a language. Due to its pervasive occurrence in different formatives and also in terms of token frequency

⁷ Participant-oriented deixis takes the speech-act participants, i.e. speaker and addressee, as deictic center. By ‘horizontally-oriented directional deixis’ I refer to a more general deictic system in which the deictic center can also be another reference point instead of speech-act participants.

(i.e. frequency of the given formatives in texts) elevation represents a characteristic trait of Sanzhi that significantly shapes its typological profile.

In the following Subsections 3.2–3.4, I describe how elevation is expressed, beginning with the first set of formatives found with demonstratives and locational copulas, and then continuing with the second set of formatives (preverbs, spatial cases).

3.2 Elevation as a semantic category of demonstratives

3.2.1 The typology of demonstratives

There is a growing body of literature on demonstratives, and the more demonstrative systems are described in detail, the more linguists have to revise their traditional assumptions in different areas of theoretical and descriptive linguistics. For instance, analyses of the meaning of demonstratives in terms of a simple classification of spatial distance (proximal vs. distal or proximal vs. medial vs. distal) is unwarranted for many languages and instead joint attention and accessibility (Levinson et al. 2018) or contact and control play a role (Imai 2003). In addition to distance, other semantic categories are equally important for demonstrative systems that make more distinctions than the familiar two-term (proximal vs. distal) or three-term (proximal vs. distal vs. medial//close to speaker vs. close to addressee vs. far from both) systems. One of those additional distinctions is elevation. In Diessel's (1999) sample of 85 languages elevation is attested in 9 languages, of which the Nakh-Daghestanian language Lezgian is one.

Demonstratives occur in a variety of syntactic forms or positions and normally have several uses. There are three basic formal subclasses, namely pronominal, adnominal and adverbial demonstratives. In the following, I adopt the typology of Levinson (2004, 2018). The first basic distinction is deictic vs. non-deictic. Deictic uses can be exophoric (e.g. gestural) or discourse deictic when demonstratives refer to a chunk of discourse (*She said this*). Non-deictic uses can be anaphoric/cataphoric, empathetic (*that idiot*) or recognitional (*I will never forget that concert*).

Following Levinson (2018), the classification of functions into deictic and non-deictic and all other subcategories is cross-cut by further semantic categories of which distance, other spatial meanings, accessibility and attention, gesture and pointing are relevant for Sanzhi. 'Distance' refers to the distance to the deictic center, which is commonly divided into three or more categories (proximal, medial, distal, far distal, neutral, etc.). The other spatial meanings are, for instance, absolute geocentric directions (seawards/landwards, upriver/

downriver) or other types of direction (location above or below the deictic center). These meanings have been called ‘environmental space deixis’ (Bickel 1997), ‘spatial coordinate systems’ (Burenhult 2008) or ‘topographical deixis’ (Post 2011).

‘Attention’ is a semantic dimension that Diessel (2006) considers to be one of the two core functions of demonstratives. He suggests that in addition to the spatial function of indicating the location of a referent relative to the deictic center, demonstratives serve a closely related function that consists in coordinating the interlocuters’ joint focus of attention. ‘Accessibility’ refers to the spatial proximity, but also to the cognitive accessibility of referents. Therefore, ‘accessibility’ also relates to attention, because without attention, referents are not accessible. Other semantic features that provide classificatory information about the referent are called ‘qualitative features’ by Diessel (1999). Among them, gender and number play a role in Sanzhi Dargwa (whereas animacy, humanness, etc. are not relevant).

Most of the uses of demonstratives identified by Levinson (2018) are tied to the spatial function of demonstratives. However, discourse deixis, anaphoric, and cataphoric uses of adnominal and pronominal demonstratives can also occur without any spatial meaning component and instead only express the non-spatial meaning of joint attention focus. Up to now, such uses have mainly been investigated for small demonstrative systems, mostly with distance-based meanings. The general tendency is that distal demonstratives (as opposed to proximal ones) are preferred in the anaphoric function or even the only choice available (Diessel 1999: 119), but this is not a universal rule. The data reported in Himmelmann (1996) show a preference for distal demonstratives to be used as anaphors in Indonesian and Tagalog, but not in Ik and English. We lack cross-linguistic data on the discourse deixis and anaphoric uses of more elaborate demonstrative systems, although we have a few descriptions of individual languages that touch upon this topic (e.g. Aikhenvald 2015).

3.2.2 The demonstrative system of Sanzhi

Sanzhi Dargwa has a rich inventory of demonstrative pronouns (=nominal demonstratives), 18 in the singular, 15 in the plural (Table 2). To these we can add 18 locational adverbial demonstratives, 18 spatial adverbials expressing origin or source, a substantive number of further derived spatial adverbial demonstratives and 15 demonstrative manner adverbials. All these nominal and adverbial demonstratives transparently share their roots and meanings.

The entire system is extraordinarily rich and complex, and this type of complexity is typical for demonstratives in the Nakh-Daghestanian languages (Schulze 2003). Furthermore, there are four existential/locational copula verbs that are formally and semantically similar to the demonstratives.⁸

The full system and paradigms of all different types of demonstratives can be found in Forker (In preparation). Demonstrative adverbials express location, source, goal, path and manner, e.g. *heχ-tu-b* ‘there below’ (5), (13), (18), *heχ-kit:u-rka* ‘from down to there, past, by’, *heχ-it:e* ‘like this/that below’ (11).

From a formal perspective we can split up the roots of the demonstratives into three parts: a root-initial part CV, a consonant and an optional suffix, schematically $i^{\text{9}}\text{(C)-(X)}$, $he\text{(C)-(X)}$ and $hi\text{(C)-(X)}$. The initial part of the demonstrative expresses, broadly speaking, access, in particular in anaphoric uses (visibility, givenness, familiarity, etc.). The root-final consonant expresses deictic features. The optional suffixes following the root express number (plural) (Table 2), or are derivational suffixes that express manner, spatial localization, and meanings of directed motion such as goal, source, and path (and to a limited extent gender). The adverbial demonstratives can be inflected for the cases expressing directed motion (essive, lative, ablative, see Table 4).

The deictic meaning is participant-oriented. It makes three distinctions according to the proximity/distance to speech act participants: (i) near hearer (root-final consonants \check{z}/\check{s} and j), (ii) near addressee (l), and (iii) undifferentiated or not close to speaker or addressee (t).

Another aspect of the deictic semantics of the Sanzhi demonstratives is related to elevation, namely higher (up) or lower (down) location in relation to the deictic center. Elevation distinctions in demonstratives are widespread in Daghestanian languages (Schulze 2003).

An open question is whether the demonstratives expressing elevation are also participant-oriented. Schulze (2003) treats all demonstratives expressing elevation as distal demonstratives (i.e. not in the proximity of speaker or addressee), but this assumption needs to be tested individually for the relevant Nakh-Daghestanian languages because not all grammars suggest this meaning. For Sanzhi, the assumption seems to be unwarranted.

⁸ It is well-known that copulas can develop from anaphoric personal pronouns or anaphoric demonstrative pronouns (Diessel 1999: 143–148). For Sanzhi, it is unclear whether the development was from the pronouns to the existential / locational copulas (with perhaps the iC pronouns as the source) or whether demonstratives and copulas derive from the same source, but the similarities suggest cognacy in one way or another.

⁹ Initial vowels are obligatorily preceded by a glottal stop that is not indicated in the transcription.

In the following, I concentrate on the spatial and non-spatial uses of adnominal and pronominal demonstratives, largely leaving aside adverbial demonstratives. In particular, I will focus on anaphora and discourse deixis. Anaphoric uses of demonstratives include their use as pronouns as well as modifiers in noun phrases. The demonstratives in the form given in Table 2 are typically used as anaphoras (and cataphoras) with third person referents because Sanzhi Dargwa does not have personal pronouns for third person. They can be inflected in the same way as nouns and other types of pronouns for all grammatical and spatial cases. For discourse deixis, pronominal demonstratives are mainly used.

3.2.3 BELOW and ABOVE demonstratives in Sanzhi texts

In their spatial use, the ABOVE demonstrative pronouns are used when referring to items or people located above the level of the speaker (1), e.g. in the mountains as in (2) or higher than some other point of reference that is taken as the deictic center.

- (1) [talking about a woman who lives in the part of the village that is closer to the mountains]

hana **hek'** **hek**-ka ka-r-ε̃-ij=al gargar
 now DEM.AB DEM.AB-ABL DOWN-F-go.PFV-INF=INDQ trembling
 gargar r-ik'-ud du
 trembling F-say.IPFV-1 1SG

'Now **she** (DEM.AB) probably comes from **over there** (DEM.AB), I (fem.) am trembling.'

- (2) [referring to the inhabitants of a legendary village that is supposed to have existed on the mountains above Sanzhi]

islam prinimat b-irq'-an zamana **hex**-t-a-l prinimat
 Islam accept N-do.IPFV-PTCP time DEM.AB-PL-OBL-ERG accept
 b-arq'-ib-le a-b-urč:i
 N-do.PFV-PRET-CVB NEG-HPL-be.IPFV-HAB.PST

'At the time when we became Muslims, **they** (DEM.AB) did not become Muslims.'

The BELOW-demonstratives denote referents located below the deictic center. Example (3) describes a man in a picture. In the bottom half of the card, he is shown with handcuffs, and above his head are two bubbles depicting his

thoughts.¹⁰ Thus, the demonstrative seems to express the location of the man on the bottom of the picture, possibly in addition with respect to the thought bubbles that contain another depiction of him. This means that the deictic center is not the speaker, but the items in the picture are located with respect to each other. In the following discourse, when the speaker talks about the experiences of the imprisoned man, he mostly omits reference to elevation and uses *hez* for referring to him.

- (3) **hex** insan tusnaq-le w-ič-ib ca-w
 DEM.BEL person prison-SPR M-occur.PFV-PRET be-M
 ‘**The** (DEM.BEL) person (masc.) is in prison.’

Example (4) originates from a conversation about a woman who lives in the part of the village closer to the sea (conceptualized as ‘lower’) and the speaker continuously uses *iχ* with reference to that woman. Thus, it is not necessarily the location at the time of speaking that is relevant, but the usual location of the referent in relation to the deictic center can be decisive for the use of demonstratives.

- (4) ce ag-ur-re=l iχ-i-j?
 what go.PFV-PRET-CVB=INDQ DEM.BEL-OBL-DAT
 ‘What had happened to **her** (DEM.BEL)?’

Higher or lower than the deictic center can also be interpreted in terms of distance. For instance, when referring to cards on a table placed in front of the speaker, BELOW-demonstratives were occasionally used to refer to cards (or objects and people on the cards) that were closer to the speaker and ABOVE-demonstratives for cards further away. The first clause in (5) describes a picture that was located closer to the speaker on the table (*hextuw*) than the picture on which the same man was depicted beating his wife (*hek*). Thus this is an intrinsic frame of reference (the side of the table that is close to the speaker is ‘down’, the opposite side of the table that is further away from the speaker is ‘up’). This way of projecting the meaning of elevational demonstratives onto the horizontal plane is cross-linguistically common. It can be explained by the fact that in order to look at proximal items human beings have to move the head downwards whereas in order to look at distal items the gaze goes upwards (Bickel 1997: 58–60, 68).

¹⁰ This example and many others in this paper have been uttered while running the *Family Problems Picture Task* (San Roque et al. 2012). The Sanzhi data have been gathered for the *Social Cognition Parallax Corpus* (SCOPIC) (Barth & Evans 2017) and are available at PARADISEC (<http://catalog.paradisec.org.au/collections/SocCog>).

- (5) **hext**:u-w uč:ib-le; **hek'** r-it-ib ca-r
 there.BEL-ESS.M drink.IPFV.M-PRET-CVB DEM.AB F-beat.up-PRET be-F
 'There down he drank; (he) beat **her** (=DEM.AB) up.'

In translated narratives (from Russian or Standard Dargwa) and similarly fictive narrations which cannot be spatially located by speakers, the ABOVE and BELOW-demonstratives occur only very rarely and only with clear spatial semantics. Otherwise, mainly *hel* is used, which represents the default demonstrative for expressing anaphoric relationships (and which is also mostly used when translating third person pronouns from Russian), but *hej*, *het*, and *hež* also occur. The ABOVE and BELOW-demonstratives are used in personal anecdotes, autobiographies and similar stories to which speakers have a personal relationship, for instance about the history of the village in example (2), and are therefore able to locate referents in space (4). Some speakers use them also in the narratives of the *Family Problems Picture Task* (San Roque et al. 2012), in which the BELOW-demonstratives are much more frequent than the ABOVE-demonstratives. It is perhaps possible to explain the difference in frequency by the location of the pictures in front of the speakers on a table (or by locations of individual figures on the pictures), which seems to have been conceptualized as 'below' by some Sanzhi speakers (3).

Elevation cannot be the only criterion that governs the use of the BELOW-demonstratives vs. ABOVE-demonstratives. This becomes apparent in uses that do not express spatial deixis, but are anaphoric and or have a discourse deictic function. In (6), the speaker talks about his experiences in the Baltic States, in particular about the Estonians and the Latvians. The use of the different demonstratives can be explained by diverging geographical locations (Estonia is located further to the north than Latvia) and, additionally, by contrast. First, the speaker talks about the Estonians (this sentence is not given here). He then contrasts them with the Latvians (*iχ*), and later returns to the Estonians (*hexti*) again. In example (7), the money had been mentioned a couple of utterances earlier. It is neither contrastive nor a continuous topic and there are no precise indications about its location.

- (6) a **iχ** latiša-lla naaborot=de [...]. a **hex**-ti
 but DEM.BEL Latvian.OBL.PL-GEN contrary=PST but DEM.AB-PL
 estonca-be ik'-ul=da dik'ar-dex ak:w-ar
 Estonian-PL say.IPFV.M-ICVB=1 different-NMLZ be.NEG-PRS.3
 uc'ran-t-a-j miši ka-b-ic:ur dam
 Icarian-PL-OBL-DAT similar DOWN-HPL-stand.PFV-PRET 1SG.DAT
 'But with **the** (DEM.BEL) Latvians (in Latvia) it was the other way around.
 [...]. But **the** (DEM.AB) Estonians, I think, are very similar to the Icarian
 people, no difference, I guess.'

- (7) [telling how a man who had received sick-pay left the place where he was supposed to stay]

hek' arc hi-l luk:-an-te=ja?
 DEM.BEL money who.OBL-ERG give.IPFV-PTCP-ATTR.PL=Q
 'Who should give **the** (DEM.BEL) money (back)?'

In the discourse deictic function, mostly the BELOW-demonstratives occur (8), (9), but the ABOVE-demonstratives can also occasionally be found (10).

- (8) taman ca-b **hex**

end be-N DEM.BEL
 'This (DEM.BEL) is the end.'

- (9) da^ʕʔa^ʕn a-b-irq'-an=da **hex** xabar
 secret NEG-N-do.IPFV-PTCP=1 DEM.BEL story

'I will tell **the** (DEM.BEL) (true) story.' (lit. 'not make the secret story')

- (10) **hek'**=sat du-l namus b-irq'-ul,
 DEM.AB=as.much 1SG-ERG conscience N-do.IPFV-ICVB

hek'=sat dam b-irq'-ul
 DEM.AB=as.much 1SG.DAT N-do.IPFV-ICVB

'That much (DEM.AB) did I do for others, **that** much (DEM.AB) did they for me.'

Example (11) shows a deictic manner adverbial derived from the BELOW demonstrative that is also used to express discourse deixis with no obvious spatial reference, and (12) shows a causal adverbial with the meaning 'therefore, because of' (synchronically and diachronically this is the dative case of the demonstrative pronoun). In both functions, the forms based on *hel* 'close to the addressee' (i.e. *helij*, *helite* (28)) are more common and can be viewed as the default way of expressing these functions.

- (11) hana **hex**-ite zu qumurt-ul ca-d di-la
 now DEM.BEL-ADVZ name forget.IPFV-ICVB be-NPL 1SG-GEN

durh-n-a-lla
 boy-PL-OBL-GEN

'Now I forget the names of my children like **this** (DEM.BEL).'

- (12) na **hex**ij b-ix^w-ij **hex**-ti dig-be
 now therefore.BEL N-be.PFV-INF DEM.BEL-PL meat-PL
 sa-ha-d-ax-ul, xaj r-ik^w-ij a-r-irx-ul=da

ANTE-UP-NPL-go-ICVB word F-say.IPFV-INF NEG-F-be.able.IPFV-ICVB=1

‘**Therefore** (DEM.BEL) probably **the** (DEM.BEL) teeth ridge came out and I (fem.) am not able to speak.’

Similarly, for the expression of temporal deixis, *hel* or *il*, and *het* ‘away from speaker and hearer, undifferentiated’ or occasionally other demonstratives unmarked for elevation are used. It is nevertheless possible to find the BELOW-demonstrative expressing temporal deixis (13). A few sentences after (13) the postpositional phrase *hex-i-la hiti* (DEM.BEL-OBL-GEN after) ‘after that’ occurs, and later *hex=q:ella* (DEM.BEL=when) ‘at that (time)’.

- (13) **hex** zamana hex:t:u-r čar Ø-ix-ub-le, ...
 DEM.BEL time there.BEL-ABL back M-be.PFV-RET-CVB
 ‘at **that** (DEM.BEL) time when/after he came back from there ...’

It seems that the use of the BELOW-demonstrative in (13) and in the following utterances for expressing a temporal meaning is conditioned by the fact that already in the sentence preceding (13) the man about whom the speaker is talking is referred to with the BELOW-demonstrative. This can probably be explained by the fact that the speaker is talking about a picture depicting the man that is closer to the speaker on the table (i.e. ‘below on the table’) as opposed to the other pictures showing the same man placed farther away. In this case, the spatial location of the man would be transferred to the temporal location of an event in which the man is involved. Otherwise in the same discussion mostly demonstratives unmarked for elevation are used in reference to the man. Thus, another explanation would be that in (13) the BELOW-demonstrative no longer expresses an elevational meaning.

The preceding examples showed that ABOVE and BELOW-demonstratives can be used in contexts that do not allow for direct spatial interpretation, namely:

- discourse deixis (8), (9) and other endophoric uses (11, 12, 13)
- anaphoric use with referents that are not spatially located at all (7) or whose actual spatial location is not congruent with the meaning of the demonstratives (6)
- temporal meanings (13)

So far there appears to be no correlation between the use of demonstratives and the expression of emotions. Positive emotions are not referred to by demonstratives with the meaning ‘above, higher’ or negative by the demonstrative with the opposite meaning. Similarly, I could not detect any pragmatic extension to evaluations. Negative evaluations are not referred to with the demonstratives

that mean ‘below, lower’. Moreover, there are no connotations associated with these demonstratives for higher or lower social status.

3.2.4 Elevation in demonstrative systems of Nakh-Daghestanian languages

As mentioned above, elevation is also found in demonstrative systems of other Nakh-Daghestanian languages and seems to be an old semantic feature of demonstratives in these languages. The following Nakh-Daghestanian languages have demonstrative pronouns that express elevation:

- Avar
- most Andic languages (Andi, Karata, Tindi, Akhvakh, Chamalal, Godoberi [reduced system, only ‘distal below’])
- Lak (reduced system)
- most if not all Dargwa languages (e.g. Akusha, Icari, Tanti, Chirag)
- some Lezgian languages (Agul, Archi, Lezgian, Tabasaran)
- Khinalug

Among these languages most languages distinguish only two terms (above vs. below). Only a few Andic languages have a three-term system with regards to elevation (above vs. below vs. same level), e.g. Akhvakh (Table 3).

Table 3: Demonstrative pronouns in Akhvakh (Magomedova & Abdulaeva 2007: 682).

	Close to speaker	Close to addressee
Unmarked for elevation	<i>hae</i>	<i>hue</i>
Same level	<i>ha-dee</i>	<i>hu-dee</i>
Lower (below)	<i>ha-gee</i>	<i>hu-gee</i>
Higher (above)	<i>ha-ġee</i>	<i>hu-ġee</i>

Elevation as a semantic category of demonstratives is absent from Nakh and Tsezic languages as well as from the Andic languages Bagvalal and Botlikh and the Lezgian languages Tsakhur, Kryz, Budukh, Udi, and Rutul. Lak and Godoberi have reduced systems. It seems that Godoberi has only a demonstratives with the meaning ‘below, distal’, but the data are contradictory. Saidova (1973: 100–101) cites *ho-B* ‘lower than speaker & hearer’, whereas Gisatullina and Toldova (1996: 42) give *he-* and add that this demonstrative is rarely used and speakers do not agree about its meaning. Gisatullina and Toldova (1996: 42) furthermore write that *ho-B* is a distal demonstrative that is primarily used as an anaphoric pronoun (as the numerous examples in the grammar show). It

might thus be the case that *ho-B* changed its meaning from ‘lower’ to anaphoric pronoun and that *he-B* is an innovation that partially took over the ‘lower’ meaning, but has not really gained ground because it lacks a corresponding ‘higher’ term.

In literary Lak the situation is partially similar. The demonstrative root *ga* that originally meant ‘below’ has largely lost the spatial meaning and is now the default anaphoric demonstrative (Zhirkov 1955: 71; Friedman 1994). Its counterpart has preserved the spatial meaning ‘higher than the deictic center’. Friedman’s (1994) account matches my own observations regarding the Lak texts published by Xalilov (1976). In these texts, there are more than 200 occurrences of the demonstrative *ga* ‘that (lower)’ with usually no spatial semantics, but less than 20 occurrences of the *k’a* ‘that higher’ of which at least some have a clearly spatial meaning.

Based on these observations, we can propose the following hierarchy for elevational meanings in Nakh-Daghestanian languages (14). A language that distinguishes any of the domains on the right must also cover all other domains to the left of it.

(14) above / below > level

Furthermore, languages that lose elevational distinctions lose them from right to left. There are Andic languages such as Akhvakh, Andi, Karata, Chamalal, and Tindi that distinguish all three levels; Avar distinguishes only above vs. below; Godoberi has kept ‘below’ and Lak has kept ‘above’. Botlikh and Bagvalal have lost elevation altogether.

In a number of languages it is demonstratives with the meaning ‘below’ that first undergo bleaching of their spatial semantics when they are used with non-spatial meaning with increasing frequency. This has been shown with the Sanzhi examples (11)-(13) above, and mentioned for Lak. The tendency is paralleled in other Nakh-Daghestanian languages. Ganenkov et al. (2009) noticed that the demonstrative *ge* ‘lower than the deictic center’ is the default choice for anaphoric reference in Agul, in particular for referring to participants that have just been introduced into the discourse by means of a full noun phrase. This analysis is supported by the Agul texts published in Maisak (2014) that contain 85 occurrences of the demonstrative root *ge* ‘lower than the deictic center’ and only 50 occurrences of *le* ‘higher than the deictic center’. The Archi texts¹¹ contain 10 occurrences of *gudu* ‘that below’ (in the form of gender 1) used as

¹¹ The corpus is available at <http://www.philol.msu.ru/~languedoc/rus/archi/corpus.php>

an anaphoric pronoun with no obvious spatial meaning, but none of *ɣudu* ‘that above’ (gender 1). The Avar texts in Charachidzé (1981) and Axlakov (1976) have around a dozen occurrences of anaphoric uses of *ɣo-B* and *ħaħa-B* ‘away from the speaker and lower than the speaker’ which cannot be explained by their spatial meaning, and only one of *to-B* and *ħala-B* ‘away from the speaker and higher than the speaker’. A possible explanation for the tendency to neutralize the BELOW demonstrative will be discussed in Section 4.

3.3 Elevation as a semantic category of preverbs

3.3.1 Preverbs in Sanzhi

Sanzhi Dargwa has the typical Dargwa system of preverbs that in their original spatial meaning express location, direction and deixis including elevation (see van den Berg 2003 for a useful overview on Akusha Dargwa). There are a number of bound verbal roots for which preverbs are obligatory, but not all verbs have preverbs. There is a tight connection between spatial preverbs and verbal stems and normally they form a single phonological word. Spatial preverbs can be divided into two groups. The first group denotes localization and directed motion and bears strong formal resemblances to spatial cases and spatial postpositions and adverbials. The second group denotes horizontal directional deixis/elevational deixis and shows partial identity with spatial cases. Between the two groups of preverbs only negation prefixes and some enclitics (e.g. the additive=*ra* and *arraħ* ‘at least’) can intervene. The order of preverbs is given in (15).

(15) [(localization)-(motion)]-(horizontal deixis/elevational deixis)-(gender)-VERB

For a full list of Sanzhi spatial preverbs see Forker (In preparation). In the following, I concentrate on the four deictic preverbs (16). They precede the verbal root and are separated from the root only by gender agreement prefixes (for those verbs that have gender agreement prefixes).

(16) deictic preverbs

ħa- ‘up, upwards from the deictic center’

ka- ‘down, downwards from the deictic center’

sa- ‘to the deictic center, hither’

B-it- ‘away from the deictic center, thither’

All preverbs of the first group (localization and directed motion) can be combined with the deictic preverbs in (16), and almost all of the logically possible combinations are attested in natural texts. Verbs of motion and position have the greatest freedom since the preverbs have spatial meanings. Furthermore, combinations of spatial preverbs and verbs of motion and position are semantically transparent. Thus, the system is, in principle, compositional (Tatevosov 2000). However, other verbal roots allow only for certain preverbs and combinations of preverbs to be attached, resulting in semantically opaque combinations, e.g. *ha-ʔ-* (PFV)/*h-erʔ-* (IPFV) ‘say’ (lit. ‘UP-say’). The verbal roots *-ʔ-* and *-erʔ-* can, in principle, be used without the respective spatial preverbs. However, in natural texts, such a usage is almost completely absent. This means that the use of preverbs is largely lexicalized. The preverbs are not used for the expression of aspectual oppositions, that is, for the formation of perfective aspect or other aspectual values as it is common for preverbs in other languages (Arkadiev 2015). They do not trigger valency changes in the predicate.

The first three deictic preverbs *ha-*, *ka-*, and *sa-* are far more often used than the fourth preverb *B-it-*. For instance, the verb ‘carry’ takes the first three preverbs, but not the fourth, i.e. *haq:-*, *kaq:-*, *saq:-*, **b-it-aq:-*. It is unclear whether this is due to formal reasons (presence vs. absence of gender prefixes or morphophonological restrictions) or if it can be explained in some other way.

From a Nakh-Daghestanian perspective, the Sanzhi system of preverbs can be characterized as somewhere in between regular (productive and semantically transparent) systems such as the ones found in Agul, Tabasaran and Rutul and non-regular systems as found in Budukh, Kryz, Tsakhur, and Lezgian (Ganenkov 2007).

The meaning of the deictic preverbs appears to be straightforward. They predominantly occur with verbs of motion and posture.¹² The deictic preverbs *sa-* and *B-it-* denote motion to (17) and away from (18) the deictic center, which can be the location of the speaker, but also some other location. In (18), the preverb expresses that the speaker went away from his usual location (i.e. from the deictic center).

- (17) c'ili ʔaʳmija-le-r sa-jʃ-ib-le, hiti x:unul
 then army-SPR-ABL HITHER-COME.PFV.M-PRET-CVB after woman
 ka-r-iž-ib=da
 DOWN-F-be.PFV-PRET=1
 ‘When I (masc.) came back from the army, I married.’

¹² Posture verbs are dynamic and denote the situation of getting into the position, i.e. ‘sit down’ (20), ‘lay down’, ‘get up.’

- (18) het:u **w-it-εx-ib=da**, hešt:u **w-it-εx-ib=da**
 there.LAT M-THITHER-go.PFV-PRET=1 here.LAT M-THITHER-go.PFV-PRET=1
 Ø-ik'-ul
 M-say.IPFV-ICVB
 ‘‘I went there, I went there,’’ he says.’

The preverbs *ha-* and *ka-* mean ‘up(wards)’ and ‘down(wards)’. The preverbs are most commonly used with verbs that imply motion, whether motion of an animate referent or an inanimate object that is moved by an agent. But it is also possible to use them with other verbs that do not imply motion (27), (28), (29). They are not used with the essive preverb that expresses the absence of motion, but only with the lative (19), (20) or ablative preverbs (29) or without preceding preverbs (21).

The meanings of the preverbs *ha-* ‘up(wards)’ and *ka-* ‘down(wards)’ bear a certain closeness to the meanings of two localization preverbs, namely *čĭ-* (SPR) ‘on’ and *gu-* (SUB) ‘under’, in particular when the latter are combined with the directed-motion preverb for the lative. The movement of a figure onto a ground is frequently a movement upwards, and movement under something often means movement downwards. For example, in (19) and (20), the elevational preverbs occur together with the localization preverbs *čĭ-* and *gu-* and the directed motion preverb (zero-marked lative). In example (19), the first verb expresses upwards motion onto the ladder or the tree; the second verb describes the positioning of the ladder under the treetop down onto the ground. In (20) the positions of the hands and of the man are described. Note that these positions have been reached after the respective movement: downwards movement of the ladder in (19) and upwards movement of the hand in (20). The preverbs actually express the motion, but the perfective aspect of the verbal stem in combination with the TAM suffix refers to the resulting state after the motion.

- (19) čĭ-**ha-w-q-un-ne** k:anc:up:e
 SPR.LAT-UP-M-go.PFV-PRET-CVB ladder
gu-ka-d-iš:ib-le kalk:i-le, ...
 SUB.LAT-DOWN-NPL-put.PFV-PRET-CVB tree-SPR
 ‘He climbed on the ladder that he had put onto the tree ...’
- (20) qajqaj-li-gu nu^ɕq-be=ra **gu-ha-d-uc-ib-le**,
 jaw-OBL-SUB.LAT hand-PL=ADD SUB.LAT-UP-NPL-catch.PFV-PRET-CVB
ka-jž-ib ca-w
 DOWN-remain.PFV.M-PRET be-M
 ‘He is sitting with his hands holding his head (lit. keeping the hands under the jaw).’

What counts for the elevational meaning is the perceived or assumed final destination of the motion. This means that when the goal is located lower than the starting point of the motion, then the *ka-* preverb is used, even if the trajectory of the path is not uninterruptedly downwards. When describing walks from Sanzhi to Icari, speakers consistently use *ka-* although the usual way from Sanzhi to Icari first leads upwards. But Icari is located a few kilometers down the river Uluchaj and therefore classified as ‘downwards’ (21).

- (21) Sanži-r **ka**-d-ax-a-di Uc’ari
 Sanzhi-ABL DOWN-1/2PL-go-HAB.PST-1 Icari
 ‘We (habitually) went from Sanzhi (down) to Icari.’

It is not always clear from the context that elevation is the only thing that matters. Some examples suggest that *ha-* ‘up’ can also express ‘to the deictic center’. In example (22), the speaker is telling a narrative based on the *Family Problems Picture Task*. He refers to the moment when the main character comes back home from prison. The speaker uses the locational verb *χe-B* ‘be located down’ to refer to the man, and immediately afterwards he makes use of the preverb *ha-* ‘up’ because for the man on the picture his home is the deictic center.

- (22) **χe-w** **ha**^ς-q’-u^ςnne, sumk’a=ra **χe-b** q:aq-le-b
 exist.BEL-M UP-go-ICVB bag=ADD exist.BEL-N back-SPR-N.ESS
 ca-w=ra **ha**^ς-q’-u^ςnne durhu^ς **le-w**
 REFL-M=ADD UP-go-ICVB boy exist-M
 ‘He is there going with a bag on his back, the boy is going (home).’

Sanzhi speakers frequently use elevational preverbs to express entrance into and exit from settlements, buildings and similar locations (village, home, water mill on the river, ...) because the village is located relatively high up in the mountains or because Daghestanian houses are usually elevated with respect to the ground (with barns or cellars on the ground floor). It seems that the preverb *ha-* ‘up(wards)’ has been conventionalized to mean UP=to the village/home even in context where there is no spatial elevation (e.g. *ha-čij* ‘lead, bring home’). Examples (22) and (23) do not refer to locations in Daghestan but to locations on the pictures of the *Family Problems Picture Task*.

- (23) iž hin-ne ag-ur-re, **ha**-jβ-ib ca-w
 this water-SPR.LAT go.PFV-PRET-CVB UP-come.PFV.M-PRET be-M
 ‘He went for water and **came** (back home).’

With respect to the preverb *ka-* ‘down(wards)’ the picture is less clear. There are a number of examples for which it remains to be clarified if the speakers intended to express an elevational meaning. For instance, in (24) the speaker talks about how her daughter-in-law and her son who live in a different place whose spatial location in relation to the location of the working place is unknown and irrelevant. Example (25) originates from a fairy tale and is a narrative of the actions of a witch. In the narration, no specific spatial information is given. Sentence (26) is a comment by the speaker about her hard life and thus the meaning of the preverb in combination with the verb of motion may be interpreted as metaphorical. Examples such as (22), (23), (24), and (25) suggest that Sanzhi speakers conceptualize motion in unknown or fictive environments as progressing along an elevational trajectory or that the elevational meaning of the preverbs *ka-* and *ha-* is bleached in certain contexts.

- (24) na hej da^ʃrχa^ʃlla **ka-r-eβ-ib** ca-r ʔa^ʃči-le-r,
 now this in.the.evening DOWN-F-go.PFV-PRET be-F work-SPR-ABL
 w-ak:u sub
 m-be.NEG husband
 ‘Then in the evening she came from work, and (her) husband is not at home.’
- (25) [She stopped to pee, took off the sack and went to pee under the bushes.]
ka-r-eβ-ib cari ik’, daci či-r-d-arq’-ib-le,
 DOWN-F-go.PFV-PRET be.F DEM.AB urine SPR-ABL-NPL-do.PFV-PRET-CVB
 či-h-as:-ib ca-b
 SPR.LAT-UP-take.PFV-PRET be-N
 ‘She came back. Having peed she lifted up the sack.’
- (26) q’adar **ka-b-eβ-ib-il**, hel at χabar
 destiny DOWN-N-go.PFV-PRET-PTCP that 2SG.DAT story
 ‘(I am) the one to whom the destiny comes (lit. ‘the destiny goes down’),
 that is a story for you.’

Tatevosov (2000) claims that the meanings of the horizontal directional deixis preverbs and the elevational deixis preverbs given in (16) do not exclude each other, e.g. a movement can be upwards and away from the speaker, but only one of these meanings can be realized through the use of the relevant preverb. The data from Sanzhi suggest that things are not that simple because the semantics of *ha-* seem to also include horizontal directional deixis to some extent (22), (23). The exact functional range as well as which preverb is chosen in ambiguous

contexts (e.g. motion upwards and away from the deictic center) needs to be clarified by future research.

In my corpus, the preverbs *ha-* and *ka-* are the only deictic preverbs that are occasionally used with non-spatial meanings and with verbs that do not express directed motion (27)–(30). For instance, the verb *ha-biχ^wij* (UP-be/become) translates as ‘live, survive’ (27). The second sense seems to be a metaphorical extension that recalls German *überleben*, Italian *sopravvivere*, English *survive*, etc. Another example is the verb *ha-ʔ-* (PFV) ‘say’ (lit. ‘UP-say’) already mentioned.

- (27) *guna mus:a-b ha-b-iχ-ub χalq’ ca-b*
 warm place-HPL.ESS UP-HPL-be.PFV-PRET people be-HPL
 ‘These people live in a warm place.’

The verb stem *B-erχ:-* (PFV) does not occur without spatial preverbs in the Sanzhi corpus or dictionary. In combination with *ha-* it means ‘finish, end’ (28), and with *či-r-ka-* (‘from on down’) the meaning is ‘forgive’ (29). The verb in (30) literally translates as ‘do on something upwards’ and matches the English verb ‘stirr’ used together with the spatial preverb ‘up’.

- (28) *hel-it:ε ha-b-erχ:-ur*
 that-ADVZ UP-N-fulfill.PFV-PRET
 ‘Like that it (=the story) ended.’

- (29) “*ka-b-ič-ib χat’a,*” *ik’-ul ca-w,*
 DOWN-N-occur.PFV-PRET mistake say.IPFV.M-ICVB be-M
 “*či-r-ka-r-erχ:^w-e!*” *ik’-ul ca-w*
 SPR-ABL-DOWN-F-fulfill.PFV-IMP say.IPFV.M-ICVB be-M
 ‘He says “A mistake occurred, forgive me!”’

- (30) *du či-h-aχ-ib=da*
 1SG SPR.LAT-UP-do.PFV-PRET=1
 ‘I have been stirred up.’

The preverb *ka-* ‘down(wards)’ is commonly used in compound verbs of speech and cognition prefixed to the light verb *B-ik^w-* ‘say, think, move’ or some other light verb. The use of the preverb is optional in such compounds and does not seem to have a noticeable impact on the meaning of the verbs, e.g. *ɤaj (ka-)B-ik^w-* ‘say, tell, talk’, *iχtilat (ka-)B-ik^w-* ‘chat’, *gap (ka-)B-ik^w-* ‘praise’, and *pikri (ka-)B-ik-* (PFV) ‘think’ (lit. ‘thought down occur’). I do not have an explanation for this use. Other speech verbs make use of different preverbs (e.g. *ha-ʔ-* ‘say’

contains the preverb ‘up, upwards’). In another verb, *han k.elg-* (PFV) ‘remember’, the use of the preverb is more transparent because *han* (which never occurs on its own but only in compound verbs) means ‘remember/memory’ and *k.elg-* translates as ‘remain, stay down’.

In these non-spatial usages often additional localization and directed-motion preverbs or other items that are employed for the formation of complex verbs, occur (29), (30). For instance, the verb ‘sit down’ (20) is regularly used in the construction ‘take a wife’ *x:unul ka-r-iž-ij* (woman/wife DOWN-F.be.PFV-INF) (17).

3.3.2 Spatial preverbs in Nakh-Daghestanian

Within the Nakh-Daghestanian family, the complex system of preverbs expressing localization, directed motion and person/elevation deixis is (almost) unique to Dargwa varieties. The Dargwa preverbal systems are comparatively transparent both in their morphological make-up and their semantics. Spatial preverbs are also widespread in Lezgian languages (e.g. Ganenkov 2007; Tatevosov 2000; Maisak & Merdanova 2002), and to a lesser extent found in Tsezic (Comrie et al. 2014) and Nakh (Nichols 2003). Udi has residual preverbs for all the semantic domains that are common in Dargwa, but the total inventory of spatial preverbs in Udi is much smaller and only a few verbs can have preverbs at all (Harris 2003; Ganenkov 2007).

Ganenkov (2007) posits the following hierarchy for the spatial preverbs in Nakh-Daghestanian (31). If a language has preverbs expressing any of the domains on the right, it must also have preverbs covering all other domains to the left of it. Sanzhi Dargwa has preverbs for all positions on the hierarchy (as many other Dargwa varieties), and the hierarchy in (31) reflects their order given in (15) above. Not only from a Nakh-Daghestanian perspective but also cross-linguistically the impressive number of three slots for spatial preverbs is a rare feature.

(31) localization > directed motion > elevation > horizontal directional deixis

Elevation is a very common, but not universally attested meaning of spatial preverbs (Plungian 2002: 78). Plungian notices that it is difficult to describe precisely the meaning of spatial preverbs expressing elevation because it seems that the elevational meaning in preverbs is always conflated with the meaning of directed motion. In fact, when the preverbs in (16) are prefixed to verbs of motion but without additional localization and directed motion preverbs, the resulting predicates nevertheless imply movement to a goal (22), (23). Even with

a verb such as *B-ik-* ‘be, occur’ the combination with the preverb *ka-* results in a verb with the meaning ‘sit down’ which implies a goal.

3.4 Elevation as a category encoded in the spatial case systems of Dargwa languages and beyond

Spatial cases express two dimensions: localization, i.e. basic topological relations, and directed motion. Sanzhi Dargwa has 15 spatial cases (Table 4). The essive case stands out because it is solely expressed through gender/number agreement suffixes. Agreement of the essive adjunct confirms to the general rules of gender agreement, i.e. the agreement controller is normally the absolutive argument (Section 2). However, under certain circumstances, agreement with arguments in cases other than the absolutive is also possible.

Table 4: Spatial cases in Sanzhi.

location/directed motion	‘on’ (SPR)	‘at’ (AD)	‘in, among’ (IN)	‘under’ (SUB)	‘in front’ (ANTE)	‘behind’ (POST)
lative	<i>-le/-(j)a</i>	<i>-š:u</i>	<i>-c:e</i>	<i>-gu</i>	<i>-sa</i>	<i>-hara</i>
essive	<i>-le-B/-(j)a-B</i>	<i>-š:u-B</i>	<i>-c:e-B</i>	<i>-gu-B</i>	<i>-sa-B</i>	<i>-hara-B</i>
ablative	<i>-le-r(-ka)/-(j)a-r(-ka)</i>	<i>-š:u-r(-ka)</i>	<i>-c:e-r(-ka)</i>	<i>-gu-r(-ka)</i>	<i>-sa-r(-ka)</i>	<i>-hara-r(-ka)</i>

The system of spatial cases in Sanzhi as shown in Table 4 does not include cases expressing elevation. However, when comparing Sanzhi to other Dargwa varieties it becomes clear that the complex ablative suffix *-r-ka* derives from a combination of the ablative case and an elevational case marker.

As Ganenkov (2010) notes, in a number of Dargwa varieties (e.g. Qunqi, Tanti, Urakhi, Kaitag) a third morphological slot is added to the localization and directed motion markers, which expresses elevation and participant-oriented deixis.¹³ Lander (2010) and Sumbatova and Lander (2014: 57–74) discuss the

¹³ Tsez, another Nakh-Daghestanian language, also adds suffixes in a further slot, but the suffixes express additional distance (Comrie & Polinsky 1998; Comrie 1999). This is another instance that shows that the reference to distant locations is more elaborate in the languages of the world. In contrast to the elevation and participant-oriented deixis markers in Dargwa languages, the distal suffix in Tsez appears between the localization and directed motion suffixes, and its origin is unknown. The Lezgian language Tabasaran has also been described as expressing elevational distinctions through additional suffixes on nominals that functionally resemble very much the Dargwa suffixes (Magometov 1965: 119). It is, however, unclear, if they

system of Tanti Dargwa. Table 5 illustrates the Tanti Dargwa system for the ablative case. The deictic cases in Tanti Dargwa have a long (full) and a short variant (with *-le* or without *-le*), of which the shorter variants can only be used with the ablative case (32).

Table 5: Elevation and participant-oriented deixis cases in Tanti Dargwa (Sumbatova & Lander 2014: 58).

Stem	Localization	Directed motion	Deixis & elevation
mountain-OBL	'on' (SPR)	'from away' (ABL)	
<i>dubur-li</i>	<i>-ja</i>	<i>-r</i>	<i>-ka(le)</i> 'down'
<i>dubur-li</i>	<i>-ja</i>	<i>-r</i>	<i>-ha(le)</i> 'up'
<i>dubur-li</i>	<i>-ja</i>	<i>-r</i>	<i>-se(le)</i> 'hither, to the speaker'
<i>dubur-li</i>	<i>-ja</i>	<i>-r</i>	<i>-de(le)</i> 'thither'

Apart from a few exceptions, the use of the elevation and participant-oriented deixis markers is obligatory with the ablative case, but optional with the lative case, and ungrammatical with the essive case. The reason for the ungrammaticality is that elevation and participant-oriented deixis cases always express movement and therefore cannot be used with the essive, which denotes absence of motion. The same restriction has been observed for the elevational preverbs in Section 3.3.1. Lander (2010) posits the elevation and participant-oriented deixis markers outside of the core spatial case system and compares them to adjuncts in a clause because they provide only additional, optional information and they “merely specify the direction of motion relative to another reference point.” As Table 5 shows, the order of morphemes is the same as for the spatial preverbs given in (15), but the place of the host is reversed, i.e. with spatial cases elevation and participant deixis are the outermost categories, whereas with verbs they come closest to the verbal stem. Examples of the Tanti elevation markers in use are provided in (32) and (33).

(32) Tanti (Sumbatova & Lander 2014: 299)

herk^w-li-ja, c:ena-la dubur-li-ja-r-ka kat'
 river-OBL-SPR.LAT Shundag-GEN mountain-OBL-SPR-ABL-DOWN down
 b-ax-u-se-li-ja, b-ik^w-ar Aquš:a
 N-flow-PRS-ATTR-OBL-SPR.LAT N-say.IPFV-PRS Akuša
 'The river that flows down from the mountain Shundag is called Akuša.'

really belong to the system of spatial cases or should rather have the status of syntactically independent adverbs (Kibrik 2003: 46). They are clearly cognates of the elevational demonstrative pronouns and might be simply spatial adverbials derived from demonstratives.

- (33) Tanti (Sumbatova & Lander 2014: 677)
 helt:u-r-**se.le** b-ač'-ib-le, hil halmaβ=ra sun-ni-la
 here-ABL-UP HPL-come.PFV-PRET-CVB this fiancé=ADD REFL-OBL-GEN
 s:ak:a-se x:unul=ra [...] k'a^ɕlɕ-n-a^ɕ-ha^ɕ-**ka.le**
 new-ATTR.SG wife=ADD ... palace-PL-OBL.PL-IN.LAT-DOWN
 ka-b-iž-ib-le sai
 DOWN-HPL-sit.PFV-PRET-CVB COP<HPL>
 'After they came there, the fiancé and his young (lit. new) wife settled [...] in the palace.'

In Sanzhi, only relics of this system are detectible in the form of the suffix *-ka*. Within the spatial case system, this suffix marks the ablative case. There is a short variant of the ablative *-r* and a long form *-rka* that have the same meaning (Table 4). However, the suffix *-ka* can also occur independently and then has either its original meaning 'down' as in (34) where it is added to the first part of a compound verb *lak* 'throw', or it can express motion from a source, i.e. the ablative meaning (1).

- (34) d-ac' šuš-ne le-d lak-**ka** ka-d-arq'-ib-le
 NPL-empty bottle-PL exist-NPL throw-DOWN DOWN-NPL-do.PFV-PRET-CVB
 'Empty bottles are there, thrown down.'

D. Ganenkov (p.c.) suggests that first *-ka* was part of a regular paradigm (Table 5). Its use was or became obligatory with the ablative case. This is in contrast to the other elevation and participant-oriented deixis cases, which is the present situation in Tanti. Subsequently, the other markers got lost, and only *-ka* remained in combination with the ablative case, which led to its semantic bleaching, as we observe in present-day Sanzhi (Table 4). We thus see in Sanzhi a grammaticalization path that leads from a suffix with elevational meaning to a suffix for directed motion (35). It is not surprising that it was the DOWN-marker and none of the other three suffixes occurring in the same slot that developed an ablative meaning. When reporting downwards directed motion, the existence of a reference point from which the downwards motion started is cognitively more salient than the goal of that motion.

- (35) DOWN > ablative

In other Dargwa varieties, the grammaticalization process went even further and *-ka* altogether disappeared from the system of spatial case markers (e.g. Icarl Dargwa, Sumbatova & Mutalov 2003: 21).

Spatial preverbs and cases are often the result of grammaticalized adverbs that fused with the following verb and turned into preverbs, or fused with preceding nouns and turned into spatial case suffixes or postpositions (Craig & Hale 1988; Lehmann 2015). This has also been proposed for Dargwa (van den Berg 2003). For the localization preverbs, the grammaticalization path is beyond a doubt, since Sanzhi has homophonous spatial adverbs and postpositions. However, for the elevation and participant-oriented deixis markers, found in preverbs (16) and in the spatial case systems of some Dargwa dialects (Table 5), the development is less clear. In contemporary Sanzhi, there is a spatial adverb *kat* ‘down’ that might be a cognate of the preverb and the case suffix *-ka*. The deictic preverb *sa-* ‘hither’ is homophonous with localization preverb *sa-* ‘in front’ and the spatial case suffix *-sa* (ANTE) (Table 4) and cognacy seems to be plausible. For Proto-Dargwa, van den Berg (2003: 209) reconstructs the spatial adverbs **(h)ad* ‘up’, **kad* ‘down’, and **sad* ‘hither, to the speaker’. Markers with the meaning ‘thither, away from speaker’ are formally more heterogeneous. Tanti and Qunqi have the spatial case suffix *-de* (Ganenkov 2010, Table 5) and Urakhi has the spatial case suffix *-B-it* (van den Berg 2003). Sanzhi and Akusha do not have deictic spatial cases, but they have the spatial preverb *B-it-* with the same meaning, and Icari Dargwa has *B-e-/-B-i-/-B-u-* (Sumbatova & Mutalov 2003: 63).

3.5 The vertical axis in Sanzhi and other Nakh-Daghestanian languages

The vertical dimension is one of the major axes that Sanzhi people use for the linguistic expression of spatial orientation. In addition to the vertical up/down axis, the horizontal front/back axis is almost equally well elaborated through various terms for ‘front’ and ‘back, behind’ (the postpositions/adverbs *sa(la)* ‘in front, before’, *hila*, *hiti* ‘behind, after’, the spatial cases *-sa* ANTE and *-hara* POST (Table 4) and the spatial preverbs *sa-* ‘in front of’ and *hit-i-* ‘behind, after’). By contrast, the horizontal left/right axis plays only a very minor role. The Sanzhi words for right *laʃq:aʃn* and left *lejlan* are native words, but very rarely used. I do not know if the correlation with evaluation (i.e. the right side is the good side and ‘right’ can also be referred to with the adjective *ʃaʃh* ‘good’) is due to influence from other cultures and languages. In my Sanzhi corpus, there are no naturally occurring examples of the terms for ‘left’ and ‘right’. Furthermore, absolute coordinate systems such as cardinal directions or landmark systems are largely absent. The words for the cardinal directions *maʃriq* ‘east’ and *mavrib*

‘west’ are loan words ultimately from Arabic and rarely heard in Sanzhi. Other Nakh-Daghestanian languages such as Avar or Bezhta alternatively have words linked to the path of the sun (Comrie & Khalilov 2010: 578–580). For ‘south’ the phrase *s:analla š:al* ‘sana-GEN side’ is used where *s:ana* is a toponym designating the sunny side of the mountains in the Uluchay valley. But this term is not used in the lowlands inhabited by Sanzhi people. Many other Nakh-Daghestanian languages refer to the south with *q’ibla* (from Arabic *qibla*=the direction for Muslim prayers, which is towards the south for Caucasian Muslims). I did not find any expression for ‘north’ in Sanzhi Dargwa. According to Comrie and Khalilov (2010: 580), most Nakh-Daghestanian languages use the Russian word *sever*, but some Dargwa varieties have *qarزاب* ‘upper’ and the Tsezic languages Bezhta and Khwarshi have phrases that translate as ‘shadow area’.

The focus on the vertical up/down axis is well documented for the languages of the Himalayas (e.g. Ebert 1994; Bickel & Gaenszle 1999; Bickel 1997; Bickel 2000). It is not surprising that Nakh-Daghestanian languages show a similar tendency. Sanzhi people used to live in central Daghestan in the Caucasian Mountains, and upwards and downwards movement as well as location at various heights are an essential part of everyday life of the speakers. Elevation distinctions are also found in demonstratives of other Nakh-Daghestanian languages, but only Dargwa varieties also make use of them in the preverbal system and the case systems.

4 Beyond the Caucasus: Grammaticalized elevation worldwide

Not only in Nakh-Daghestanian, but worldwide, grammaticalized elevation is mainly found with demonstratives and spatial preverbs. Elevational distinctions in demonstratives seem to be particularly common in specific areas of the world and in particular language families:

- Sino-Tibetan (Bodic languages, Kiranti languages, others)
- languages of Papua New Guinea, Malaysia/Indonesia (in particular Timor-Alor-Pantar languages)
- Nakh-Daghestanian languages
- Eskimo-Aleut languages

They are also attested in Austroasiatic and in Pama-Nyungan languages of Australia. For the following short overview I surveyed 24 languages (in addition

to the Nakh-Daghestanian languages) with elevational distinctions in their system of demonstratives (see the Appendix for the list and references).

In some of the languages sampled, ELEVATION (above/below the deictic center) is opposed to LEVEL (i.e. same level as the deictic center) and another unmarked, neutral term (e.g. Bantawa, Blagar, Andic languages). But in most languages there is no special demonstrative for LEVEL (e.g. Sanzhi Dargwa, Makalero, Zayse, Kurtöp).

The demonstratives expressing elevation can be unmarked for distance as in Sanzhi Dargwa, Bantawa, Lahu, Khasi, Kurtöp, and Tidore. These languages instead have separate distance-marking demonstratives. In Jahai, it is rather the deictic center (and not distance) that is expressed separately from elevation. In yet other languages, elevation and distance combine (Andic languages, Tauya, Dyirbal, Daga, Ngiyambaa, Manambu,¹⁴ Nungon, Eipo, Yale). In this case, the usual order of morphemes is DISTANCE-ELEVATION as in the Akhvakh demonstratives given in Table 3, Section 3.2.4.

In some languages, only distal demonstratives express elevation (Muna, Usan, Sougb, Jingpo, Galo, Archi, Avar, Agul), and in Yupno only medial and distal ones. This means that elevation is conditioned by distance. I did not find any language where only proximal demonstratives express elevation and can thus confirm the observation by Imai (2003: 42) that “if a language encodes verticality in a deictic of a certain distance, it also encodes verticality in a more distal category.” Imai gives the following explanation for his finding: as a referent or a region becomes farther from the speaker, the search domain becomes larger, and then the speaker has to give more specific descriptions of the referent/region to help the addressee identify it. I hypothesize that it is possible to integrate these findings into a larger generalization: for demonstrative systems whose semantics are mainly based on distance, the distal demonstrative is the more elaborated and more basic term. Languages that have distance-based demonstratives are generally assumed to have minimally two opposing terms, a proximal and a distal demonstrative (Diessel 2014). However, Lao contradicts this claim because in this language the main distinction is ‘distal from speaker’ vs. ‘neutral’ (Levinson 2018). Only in the distal domain, but not in the proximal domain some languages distinguish between ‘distal’ and ‘far distal’.¹⁵ In the proximal domain, fine grained semantic distinctions are

¹⁴ With the restriction that the additional distance marker is mutually exclusive with the elevation markers (Aikhenvald 2015).

¹⁵ This seems to be in analogy with tense. In many languages, the basic distinction is between past and non-past. Languages tend to have more past tenses than present or future tenses and thus past tenses make more fine grained semantic distinctions than present or future tenses. As

superfluous since this domain is accessible to the interlocutors who in the default case of a normal conversation are located in close proximity to each other.

In Muna, only the meaning ‘above the deictic center’ is expressed by a dedicated demonstrative (*a*)*tatu*. The neutral demonstrative (*a*)*watu* only means ‘below the deictic center’ when it is used in opposition to (*a*)*tatu* (van den Berg 1989: 90). Muna shows thus the same tendency for neutralization of the BELOW meaning as Lak and other Nakh-Daghestanian languages. I suggest that we can use the same explanation to explain the dominance of distal demonstratives over proximate demonstratives. In the default case, the space below the interlocutors is limited by the ground and is therefore close and accessible. By contrast, the space higher than the interlocutors is potentially unlimited and can also be further away and therefore potentially needs more and more specific linguistic expressions to make the reference clear (see also Imai 2003: 37 for a slightly diverging explanation).

Co-expression with cardinal direction meanings is attested in Bantawa and other Kiranti languages (high=north; low=south) (Bickel 1997; Doornenbal 2009), Sougb (up=west; down=east) and West Greenlandic (out to the sea=in the west=(way) down there; inland=in the east=up there). Which elevational meaning is co-expressed with which cardinal direction depends on the geographic terrain where the respective languages are spoken.

Languages that have demonstratives with elevational meanings do not always occur in all morpho-syntactic positions as allowed by Sanzhi Dargwa. In some languages, they can only be used in adnominal function in addition to the adverbial use (Usan, Sougb, Hatam, Abui), but not as anaphoric pronouns. In other languages, the use as anaphoric pronouns is allowed, but only with inanimate referents (Daga, Zayse, Kurtöp). The free use as anaphoric pronouns with animate/human referents is mainly found across three families/subgroups (Nakh-Daghestanian, Eskimo-Aleut, Kiranti languages), but also in Jahai. Furthermore, the deictic-temporal use as illustrated in (13) and the use in a variety of derived manner adverbials (i.e. quantitative adverbials ‘that much’ as well as other types of adverbials such as ‘therefore’, ‘thus’, etc.) does not seem to be possible or common in languages other than Nakh-Daghestanian, Kiranti and Eskimo-Aleut. For instance, the Kiranti elevational markers seem to be used to derive manner adverbials (in addition to spatial adverbials) (e.g. *hya*-‘level’ > *hyatni* ‘sideward, level, that way’; Doornenbal 2009: 95, 104), although

with spatial proximity, the present moment is accessible to the interlocutors in a way that is fundamentally different from access to the past or future.

the grammar does not provide examples with the other elevational markers ‘up’ and ‘down’, and I did not find examples of temporal or quantitative adverbials.

Spatial preverbs are found in many Eurasian languages. In particular, studies of Indo-European languages, and to a lesser extent Finno-Ugric languages, have received a lot of attention in the literature (see, e.g. Rousseau 1995; Booij & van Kemenade 2003; Plungian 2002; Arkadiev 2014; Arkadiev 2015 among many others). The other two indigenous language families in the Caucasus, West Caucasian and Kartvelian as well as Ossetic also have preverbs (for Kartvelian see Harris 2003; Rostovtsev-Popiel 2016 and references therein; Adyghe examples can be found in Tatevosov 2000; Mazurova 2009; Arkadiev 2015; for Abkhaz examples see Hewitt & Khiba 1979; Chirikba 2003).

So far, comprehensive typological studies dedicated to spatial preverbs and their specific semantic properties are lacking. It is clear that the hierarchy in (31) cannot be transferred to all languages with preverbs because there are languages that have horizontal directional deixis preverbs, but no elevation preverbs. Furthermore, the vast majority of languages with spatial preverbs have only two slots that thus necessarily conflate some of the distinctions that Sanzhi makes into one slot. For instance, the Kartvelian language Svan has only two slots, of which the outer slot expresses localization and elevation and the inner slot participant deixis (Table 6). The outer preverbs can be separated from the verb, whereas the inner preverbs occur in close connection to the verbal stem. There are no specialized preverbs for directed motion, which is instead expressed through verbal semantics. The same order of preverbs, but filled with formally and semantically diverging preverbs is found in other Kartvelian languages (Harris 2003; Rostovtsev-Popiel 2016).

Table 6: Preverbs in Svan (Tuite 1997; Rostovtsev-Popiel 2016).

Localization/elevation	Participant deixis
<i>ži-</i> ‘up’, <i>ču-</i> ‘down’, <i>sga-</i> ‘in’, <i>ka-</i> ‘out’	<i>an-</i> ‘hither’, <i>ad-</i> ‘thither’ (PFV), <i>es-</i> ‘thither’ (IPFV), <i>la-</i> (not specified)

Data from Homeric Greek, which allowed for up to three spatial preverbs in a row, can only serve as partial support for (15). Imbert (2010) provides the following preverb-order constraints for Homeric Greek (Table 7).

Table 7: Preverbs in Homeric Greek (Imbert 2010).

Path/ground relation	Localization	Path orientation/median path
<i>eis-</i> ‘to’	<i>apó-</i> ‘off’	<i>aná-</i> ‘up, back’
<i>ek-</i> ‘out’	<i>en-</i> ‘in, into’	<i>katá-</i> ‘down’
<i>epí-</i> ‘at, onto’	<i>pará-</i> ‘beside’	<i>pró-</i> ‘forth’
<i>amphí-</i> ‘about, all ways’	<i>perí-</i> ‘around’	<i>diá-</i> ‘through’
	<i>hupér-</i> ‘above’	
	<i>hupó-</i> ‘under’	

The leftmost slot refers to reaching or approaching the ground, extraction from the ground, etc. and seems to express at least in part directed motion. The middle slot contains the highest number of preverbs that largely express localization. The rightmost slot contains again four preverbs and expresses elevation and path. All preverbs are here also used as adpositions. Multiple combinations of preverbs in Homeric Greek are not very common. In the majority of the examples in Imbert’s corpus, preverbs from the leftmost slot are combined with preverbs from the middle or the rightmost slot (to-up, to-off, out-off, out-up, at-forth). The only possibility of filling all three slots is the combination *ek-hupó-aná-* ‘out-under-up’.

In German, preverbs with elevational meaning appear close to the verb stem and can be preceded by preverbs expressing participant deixis, e.g. *her-runter-schlagen* (deixis-downwards-strike) ‘strike down’.

From these few examples we can conclude that there is no universal position for elevational preverbs nor is there a universal rule that states with which other preverbs they are in complementary distribution. In Svan and other Kartvelian languages, they occur in the same slot as localization preverbs and precede the participant-deixis preverbs. By contrast, in Sanzhi and Homeric Greek they represent the innermost preverbs and can be preceded and thus combined with localization preverbs.

Spatial preverbs represent a fruitful topic for future research because they are found across the globe in many different language families. Studies of spatial preverbs in minority languages often focus on grammaticalization or morphosyntactic properties without detailed semantic analysis (e.g. Craig & Hale 1988; Schultze-Berndt 2003). In order to allow for a systematic cross-linguistic study of the spatial meanings of preverbs, including their deictic meaning, the works by Levinson and colleagues on the spatial meanings of adpositions/spatial cases (Levinson & Wilkins 2006) and demonstratives (Levinson et al. 2018) can be taken as role models to develop cross-linguistically

applicable categories and stimuli that allow the systematic elicitation and description of spatial preverbs in individual languages.

Spatial cases are found in languages across the globe, but case markers expressing elevation are cross-linguistically rare. They have been attested for a number of Kiranti languages such as Camling, Bantawa, Puma, Thulung, Khaling (Ebert 1994); Yamphu (Rutgers 1998: 72); Belhare (Bickel 1997; Bickel 2001); Chintang (36)-(38) (Dirksmeyer 2008) and a few others, and are generally referred to as ‘vertical case’ (e.g. Ebert 1994) or ‘altitudinal case markers’ (Ebert 1999).

- (36) Chintang (Dirksmeyer 2008: 62–63)

khim-ban-du
house-LOC-UP
‘at the house up there’

- (37) khim-ban-du-ʔni

house-LOC-UP-DIR
‘towards the house up there’

- (38) khim-ban-du-ʔna

house-LOC-UP-ABL
‘(away) from the house up there’

When comparing the meaning and use of the vertical cases in Kiranti languages with elevational case markers in Dargwa languages we notice a number of similarities and differences. First, as in Dargwa languages, the Kiranti vertical cases are deictic with the speaker usually representing the deictic center (e.g. Rutgers 1998: 72), but they also co-express cardinal directions. Second, Kiranti languages not only have suffixes for ‘up’ and ‘down’, but they also have one for ‘level’. These languages, however, do not have participant-deictic markers (Table 8).

Table 8: Third person singular pronouns/demonstrative pronouns and vertical cases in Bantawa (Doornenbal 2009: 83, 95).

Pronouns		Vertical cases			
visible proximal	<i>o</i>	level	<i>hya-</i>	locative (level), essive	<i>-ya</i>
visible distal	<i>mo</i>	low	<i>hyu-</i>	locative (low, down), subessive	<i>-yu</i>
invisible	<i>k^ho</i>	up	<i>d^hu-</i>	locative (high, up), superessive	<i>-du</i>
		neutral	<i>d^ha-</i>	locative, inessive, adessive	<i>-da</i>

Third, the vertical case markers in Kiranti occur more frequently than the elevational markers in Dargwa. Fourth, the morpheme order in Kiranti languages differs from the one observed in Dargwa languages and can be schematized as in (39). Furthermore, ablative and directive/allative markers can only be suffixed to the vertical cases and not directly to the stem (Doornenbal 2009: 84).

(39) ROOT-localization-elevation-directed motion

Fifth, the roots of the vertical cases in Kiranti are the same as the roots of the demonstratives (Table 8), whereas in Dargwa they are identical to the spatial preverbs.

5 Elevation as a category of grammar

In this paper, I have analyzed the morphosyntactic and semantic properties of elevation in Sanzhi Dargwa and the extension of elevation to non-spatial uses, thereby making cross-linguistic comparison to other languages. The paper is intended to lay the foundation for a typological investigation of the category of elevation and its formal expression in grammars of the languages of the world.

More generally, elevation can be studied as a subcategory within an overarching category of topographical deixis or as spatial coordinate systems, as proposed by Burenhult (2008: 109–112). A typological study should include functional extensions of linguistic items with elevational meaning to non-spatial domains (e.g. anaphoric reference, temporal deixis, social deixis, evaluation) in order to substantiate observations that have been made on the basis of individual languages. For instance, it has been claimed that non-spatial uses of demonstratives are restricted to only a subset of the demonstratives that languages have at their disposal (Bickel 1997: 52). For Sanzhi, this is not absolutely true, because every demonstrative root given in Table 2 can serve all functions that demonstratives generally serve. From all roots manner adverbial demonstratives can be derived that have non-spatial uses. However, statistically there are clear tendencies to use the non-elevational demonstratives more often than the elevational demonstratives in non-spatial functions, and among the latter to prefer the BELOW-demonstratives to the ABOVE-demonstratives.

The grammaticalized expression of elevation can also be studied with respect to the *Topographic Correspondence Hypothesis*, which has been suggested by Palmer (2015). According to the latest version of the hypothesis,

languages spoken in similar topographic environments tend to have similar systems of absolute spatial reference, whereby social and cultural factors also play a role (Palmer et al. 2017). The hypothesis has been supported by data from atoll-based languages (Palmer 2015; Palmer et al. 2017) and two languages spoken in the Hindu Kush mountain range (Heegård & Liljegren 2018).

However, Caucasian languages do not support the Topographic Correspondence Hypothesis. Among the three indigenous language families of the Caucasus, which have all been spoken in the topographically similar area of the Caucasian mountains for thousands of years and share numerous cultural and social traits, only Nakh-Daghestanian languages have elevational demonstratives that seem to fall within the category of absolute spatial reference systems as defined by Palmer (2015). None of the other two indigenous Caucasian families nor other languages spoken in the Caucasus have grammaticalized elevation demonstratives (or case markers) similar to those found in the Nakh-Daghestanian languages.

6 Summary and conclusion

This paper has discussed the semantic category of elevation in different parts of the grammar of the Nakh-Daghestanian language Sanzhi Dargwa, in particular in demonstratives, preverbs and to a restricted extent in spatial cases. In Sanzhi, elevation is a deictic category that is partially in opposition with participant-oriented deixis/horizontally-oriented directional deixis. In addition to the spatial meaning, elevational demonstratives and preverbs also have non-spatial meanings. For Sanzhi the major spatial and non-spatial functions of demonstratives, preverbs and spatial cases with elevational meanings have been described.

I have pointed out cross-linguistic parallels and suggested possible topics for future typological studies of elevation and other types of topographical deixis expressed through demonstratives, preverbs, spatial cases and other form classes. In particular, future research should address morphosyntactic and functional interrelations between different form classes that express elevation within individual languages and extensions to non-spatial uses.

Another totally different direction of research that is almost, if not entirely, unexplored with respect to Nakh-Daghestanian languages including Sanzhi, is the notion of space from an interdisciplinary perspective. This includes not only linguistics but also anthropological and cultural studies. Such studies have been done for other mountainous areas, e.g. for the Himalayas (e.g. Bickel & Gaenszle 1999). For Nakh-Daghestanian languages, the linguistic representation of space has been well described in the area of spatial cases, but there is apparently little

interest for the cultural dimensions of space and the interplay of space with language. Similarly, I do not know of any anthropological studies on spatial orientation as reflecting social and cultural categories and everyday practices or ritual practices tied to them (e.g. Holy Mountains as the Shalbus-Dag in the south of Dagestan or Mount Kkheetashoo-Korta near the village of Tsentoroi in Chechnya that functioned as meeting place for the Chechen council when discussing issues of *adat*, i.e. the customary law, see Jaimoukha 2005: 130).

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Abbreviations

AB	‘above the deictic center’
ABL	ablative
ADD	additive
ADVZ	adverbializer
ANTE	spatial case, preverb ‘in front’
ATTR	attributive
BEL	‘below the deictic center’
COP	copula
CVB	converb
DAT	dative
DEM	demonstrative
DIR	directive
ERG	ergative
ESS	essive
F	human feminine singular
GEN	genitive
HAB	habitual
HPL	human plural
ICVB	imperfective converb
IMP	imperative
IN	spatial case, preverb ‘in, into’
INDQ	embedded question
INF	infinitive
IPFV	imperfective
LAT	lative

LOC	locative
M	human masculine singular
N	neuter singular
NEG	negation
NMLZ	nominalizer
NPL	neuter plural
OBL	oblique stem marker
PFV	perfective
PL	plural
POST	spatial case 'behind'
PRET	preterite
PRS	present
PST	past
PTCP	participle
Q	question
REFL	reflexive
SG	singular
SPR	spatial case, preverb 'on'
SUB	spatial case, preverb 'under'

Appendix: List of languages with elevational demonstratives

Language	ISO 639-3 (glottocode)	Family	Subfamily/Genus	Reference(s)
Dyirbal	dbl	Australian, PN		Dixon (1972: 48)
Ngiyambaa	wyb	Australian, PN		Donaldson (1980: 139–143)
Khasi	kha	Austroasiatic	Khasi-Palaung	Diessel (1999: 43)
Jahai (Jehai)	jhi	Austroasiatic	Aslian	Burenhult (2008)
Muna	mnb	Austronesian	Malayo-Polynesian	van den Berg (1989: 90)
Daga	dgz	Dagan		Murane (1974: 38–39)
Sougb	mnx	East Bird's Head (Papuan)		Reesink (2002: 224–226)
Central Alaskan Yupik	esu	Eskimo-Aleut	Eskimo	Miyaoka (2012: 345–381)
Kalaallisut (West Greelandic)	kal	Eskimo-Aleut	Eskimo	Fortescue (1984: 259–263)
Hatam	had	Hatam-Mansim (West Papuan)		Reesink (1999: 60–61)
Avar	ava	Nakh-Daghestanian	Avar	Charachidzé (1981: 77–79)
Andi	ani	Nakh-Daghestanian	Andic	Saidova (2000: 282)
Karata	kpt	Nakh-Daghestanian	Andic	Magomedbekova (2000c: 416)
Tindi	tin	Nakh-Daghestanian	Andic	Magomedova (2000a: 429)
Akhvakh	akv	Nakh-Daghestanian	Andic	Magomedova & Abdulaeva (2007: 682)
Chamalal	cji	Nakh-Daghestanian	Andic	Magomedova (2000b: 475)
Godoberi	gdo	Nakh-Daghestanian	Andic	Saidova (1973: 100–101), Gisatullina & Toldova (1996: 42)
Lak	lbe	Nakh-Daghestanian	Lak	Zhirkov (1955: 71); Friedman (1994)
Akusha Dargwa	akus1238	Nakh-Daghestanian	Dargic	van den Berg (2001: 27)
Icari Dargwa	itsa1239	Nakh-Daghestanian	Dargic	Sumbatova & Mutalov (2003: 37–38)
Tanti Dargwa		Nakh-Daghestanian	Dargic	Sumbatova & Lander (2014: 77–89)
Chirag Dargwa	chir1284	Nakh-Daghestanian	Dargic	D. Ganenkov, p.c.
Agul	agx	Nakh-Daghestanian	Lezxic	Ganenkov et al. (2009)
Archi	aqc	Nakh-Daghestanian	Lezxic	Kibrik (1977: 124)
Lezgian	lez	Nakh-Daghestanian	Lezxic	Haspelmath (1993: 190–192)
Tabasaran	tab	Nakh-Daghestanian	Lezxic	Babalieva (2013: 73–75)

(continued)

(continued)

Language	ISO 639-3 (glottocode)	Family	Subfamily/Genus	Reference(s)
Khinalug	kjj	Nakh-Daghestanian	Khinalug	Ganieva (2000: 523)
Manambu	mle	Ndu		Aikhenvald (2015)
Usan	wnu	Nuclear Trans New Guinea	Madang	Reesink (1987: 68–73)
Nungon		Nuclear Trans New Guinea	Finisterre-Huon	Sarvasy (2014: 404–419)
Eipo (Eipomek)	eip	Nuclear Trans New Guinea	Mek	Heeschen (1982: 84–88)
Yale (Kosarek Yale)	kkl	Nuclear Trans New Guinea	Mek	Heeschen (1982: 89–95)
Yupno (Yopno)	yut	Nuclear Trans New Guinea	Finisterre-Huon	Cooperrider et al. (2017)
Bantawa	bap	Sino-Tibetan	Kiranti	Doornenbal (2009: 95)
Kurtöp (Kurtokha)	xkz	Sino-Tibetan	East Bodish (Bodic)	Hyslop (2017: 161–166)
Galo	adl	Sino-Tibetan	Macro-Tani	Post (2011)
Zayse	zays1236	Ta-Ne-Omotiic		Hayward (1990: 273–275)
Abui	abz	Timor-Alor-Pantar	Alor-Pantar	Kratchovil (2007: 111–118)
Blagar	beu	Timor-Alor-Pantar	Alor-Pantar	Steinhauer (2014: 181)
Makalero	mkz	Timor-Alor-Pantar	Alor-Pantar	Huber (2011: 232–233)

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