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The evolution of egophoricity and evidentiality in the Himalayas
The case of Bunan

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The epistemic verbal categories "evidentiality" and "egophoricity" play an important role in the verbal systems of many Tibeto-Burman languages of the Himalayas. In the course of the past decades, our synchronic understanding of those grammatical categories has been considerably enhanced by numerous descriptive studies. However, little is still known about the diachronic processes that give rise to evidentiality and egophoricity. The article addresses this gap by discussing evidence from Bunan, a Tibeto-Burman language for whose past tense system the development of evidentiality and egophoricity can be reconstructed in detail. It is argued that the evolution of the two categories can be explained by reference to two processes: (i) the reanalysis of a resultative construction as an inferential past tense and (ii) the reanalysis of third person agreement markers as allophoric markers. In addition, it is maintained that the concept of Scalar Quantity Implicature is crucial to account for the evolution of the two categories.

Keywords: Tibeto-Burman, egophoricity, evidentiality, epistemic verbal categories, historical linguistics

1 Introduction

Many languages of the Himalayan region display grammatical categories that specify the relation that holds between the speaker (or other speech act participants) and the knowledge that is conveyed in a given proposition. In the following, these grammatical categories will be referred to as "epistemic" (see Section 2.1 for a discussion of this term). Since the 1980s, an ever-growing number of descriptive studies have considerably improved our synchronic understanding of epistemic grammatical categories. However, we are still largely ignorant of the diachronic mechanisms that have given rise to those categories. This article addresses this gap by describing the case of Bunan, a Tibeto-Burman language for whose past tense system the evolution of epistemic verbal categories can be reconstructed in detail.

Section 2 provides a general introduction to the topic. It discusses the categories

"egophoricity" and "evidentiality" and provides a synopsis of the Bunan verbal system, in particular the past tense domain. In Section 3, the development of a binary evidential contrast is reconstructed. Based on comparative considerations, it is shown that two of the three past tense morphemes of contemporary Bunan were grammaticalized from periphrastic constructions. This suggests that Bunan originally only displayed one synthetic past tense, which did not express any epistemic meaning, but gradually acquired direct evidential semantics when it began to contrast with a newly grammaticalized inferential past tense. It will be further maintained that the epistemization process can be explained with the concept of Scalar Quantity Implicatures. In Section 4, the development of egophoricity is reconstructed. Based on historical Bunan data, it will be demonstrated that the egophoricity system of contemporary Bunan developed from a person agreement system. Again, it will be argued that the concept of Scalar Quantity Implicatures played a crucial role in this process. Section **Fehler! Verweisquelle konnte nicht gefunden werden.**, finally, summarizes the major findings of the study.

2 Preliminaries

2.1 Egophoricity and other epistemic verbal categories

Traditionally, linguists use the term "epistemic" to refer to a subclass of modal categories that specify the factual status of a proposition (Palmer 2001 [[1]1986]: 8). In this article, the term is used in a broader sense to refer to any grammatical category that relates the knowledge that is conveyed in a proposition to the knowledge of a speech act participant. While epistemic categories prototypically relate to the speech act role of the speaker, cross-linguistic research suggests that they may also relate to the addressee or other referents (see Aikhenvald 2004: 244–249; San Roque et al. 2015). A detailed discussion of such "epistemic relations" would go beyond the scope of this study. For the sake of simplicity, I merely use the term "speaker" in the following (see Widmer forthcoming for a discussion of epistemic relations in Bunan).

In the following, the label "epistemic" is thus not only used to refer to grammatical categories that serve the primary function of indicating the certainty of knowledge. Rather, it is also used to refer to grammatical categories that serve the primary function of specifying one's source of knowledge, one's access to knowledge, one's familiarity / unfamiliarity with knowledge, etc. The present article is concerned with two epistemic verbal categories: (i) evidentiality and (ii) egophoricity, the latter of which is also known under the name "conjunct/disjunct" (see Hale 1980).

Following Aikhenvald (2004), I define evidentiality as a grammatical category that specifies the speaker's source of knowledge. Complex evidentiality systems may distinguish five or more distinct subcategories (Aikhenvald 2004: 60–63). In the context of the present study, we will only be concerned with a comparatively simple binary evidentiality system that distinguishes the subcategories "direct evidence" (based on direct perception of the event) and "inferential evidence" (based on direct perception of a result of an event, which allows one to infer that the relevant event took place).

Drawing on an approach by Hargreaves (2005), I define egophoricity as a grammatical category that specifies the speaker's access to knowledge as either privileged or non-privileged. Endings that encode privileged access are referred to as

"egophoric", while endings that encode non-privileged access are referred to as "allophoric".[1]

Since there is no universally valid definition of privileged access, languages with egophoricity systems draw idiosyncratic boundaries between the domains of egophoric and allophoric marking. Cross-linguistic evidence suggests that these typological differences can be captured by distinguishing constructions in which egophoric markers express "actional involvement" from constructions in which egophoric markers express "epistemic involvement" (see Widmer & Zúñiga forthcoming). Egophoric markers that express actional involvement indicate that the speaker has privileged access to knowledge about an event because she directly participated in it.[2] Accordingly, such markers profile the speaker in her role as an event participant. Egophoric markers that express epistemic involvement in turn indicate that the speaker has privileged access to knowledge about an event because she has experienced it at least once in the past. Accordingly, such markers profile the speaker in her role as a "knower" without specifying whether she was directly involved in the event as a participant. If an egophoric marker can express both types of involvement, the two interpretations are often associated with different aspectual values.

In the following, the difference between actional involvement and epistemic involvement is illustrated by means of the Shigatse Tibetan imperfective egophoric form *-kī=jœ*, which can express both types of involvement. If the marker is construed as expressing actional involvement, it profiles the speaker in her role as the willful and conscious instigator of a specific individualized event. Hence, the actional construal of *-kī=jœ* correlates with a progressive reading of the predicate. If the marker is construed as expressing epistemic involvement, it profiles the speaker in her role of a knower who experienced the relevant event in the past without indicating whether the assertor learnt about the relevant facts through direct participation or observation. The epistemic construal of *-kī=jœ* is thus associated with a habitual reading of the predicate. Consider examples (1)–(2) (Haller & Haller 2007: 97, 131).

(1) ŋa̲ pà sa̲-kī=jœ.
1SG roasted.barley.flour eat-NMLZ=IPFV.EGO
(a) 'I am eating roasted barley flour.' (actional involvement)
(b) 'I eat roasted barley flour.' (epistemic involvement)

[1] The term "egophoric" goes back to Tournadre (1991). I have adopted the conceptual pair "egophoric" – "allophoric" from Dahl (2000), who uses the two terms in a different sense, however. Since there is no standard terminology for egophoricity systems, several different terminologies can be found in the literature. The egophoric subcategory is sometimes referred to as "conjunct" (Hale 1980), or "assertor's involvement" (Creissels 2008), while the allophoric subcategory is sometimes called "disjunct" (Hale 1980), "heterophoric" (Tournadre 1991), "assertor's non-involvement" (Creissels 2008), or "alterphoric" (Post 2013).

[2] Throughout the article, I use female pronouns to refer to the generalized speech act role "speaker" and male pronouns to refer to the generalized speech act role "addressee". When making reference to individual speech acts participants that occur in example sentences, I use the personal pronoun that reflects the gender of the relevant person.

(2) ōlɔ̀e tsʰālūma się̣-nā, sṵkpō-la pṵrū
child.ERG orange eat.PFV-COND body-DAT rash
tʰɛ̃̀-kī=jœ
come.out-NMLZ=IPFV.EGO
'If (my) child eats oranges, it breaks out in rash.' (epistemic involvement)

In (1), the egophoric form *-kī=jœ* can be construed as expressing either actional involvement or epistemic involvement, as the speaker can both be profiled in her role as a conscious and intentional agent and her role as a knower. In (2), the egophoric form *-kī=jœ* can only be interpreted as expressing an epistemic construal. An actional construal is not possible since the speaker is not an agent argument of the predicate.

The reader should note that there is disagreement among linguists whether the descriptive concepts "evidentiality" and "egophoricity" should be postulated as separate grammatical categories. Aikhenvald (2004: 127) expresses the view that "egophoricity" (which she refers as "conjunct/disjunct") should be considered as a grammatical category distinct from evidentiality. Tournadre & LaPolla (2014), in turn, treat "egophoricity" as a subtype of evidential marking, thereby expanding Aikhenvald's (2004) definition of the term.

The present study follows Aikhenvald's (2004) approach and emanates from the assumption that egophoricity and evidentiality should be considered as distinct grammatical categories. One crucial piece of evidence for that assumption comes from Tsafiki, a Barbacoan language of Colombia. Tsafiki marks both egophoricity and evidentiality on the predicate. What makes Tsafiki remarkable from a cross-linguistic perspective is the fact that egophoricity and evidentiality are not expressed by portmanteau morphemes (i.e. in an instance of cumulative exponence), which is generally the case in Tibeto-Burman languages and also appears to be true for other Barbacoan languages. Rather, the two categories are encoded by distinct morphemes (i.e. in an instance of seperative exponence). Consider the following examples from Dickinson (2000: 412):

(3) la kuchi=ka tote-**yo**-e
1MASC pig=ACC kill-**EGO**-DECL
'I killed the pig.'

(4) la kuchi=ka tote-**i**-e
1MASC pig=ACC kill-**ALLO**-DECL
'I killed the pig (unintentionally).'

(5) la kuchi=ka tote-**i-nu**-e
1MASC pig=ACC kill-**ALLO-INFER**-DECL
'I must have killed the pig (unintentionally).'

As the examples illustrate, Tsafiki displays two different sets of morphemes for marking access to knowledge and source of knowledge. The egophoricity markers, which are directly suffixed to the verb root, specify the speaker's access to knowledge. For examples (3)–(5), privileged access can be defined as direct cognitive access to one's

intentions. In other words, the egophoric marker *-yo-* expresses actional involvement in combination with intentional and conscious agents. The evidential markers, which follow after the egophoricity markers, specify the speaker's source of knowledge. Note that direct evidentiality is not overtly marked in Tsafiki. Accordingly, the syntagmatic relationship between egophoricity and evidentiality only becomes apparent in (5), where the allophoric marker *-i* is followed by the inferential marker *-nu*.

There are clear restrictions on possible combinations of egophoricity markers and evidentiality markers in Tsafiki. While the allophoric marker *-i* can be combined with the inferential evidential marker *-nu* and a nominalized construction that expresses deductive evidentiality (the latter of which is not illustrated above), the egophoric marker cannot co-occur with either of these forms (Dickinson 2000: 410–413). These restrictions are sensible from a functional point of view. If a predicate takes an egophoric marker, this presupposes that the speaker directly witnessed the respective event. In other words, privileged access to knowledge entails direct perception of the relevant facts.

The grammar of Tsafiki thus offers two insights into the nature of egophoricity and evidentiality. First, the two categories stand in a syntagmatic relationship in Tsafiki, which suggests that they belong to independent grammatical subsystems. Second, the two categories show a considerable degree of interaction, which suggests that they nevertheless bear some kind of functional relation to each other. In this paper, I further elaborate on these insights. Based on diachronic considerations, I argue that egophoricity and evidentiality are functionally distinct categories that may, however, interact with each other in complex ways, both from a synchronic and a diachronic perspective.

2.2 The Bunan verbal system

Bunan (a.k.a. Gahri) is a Tibeto-Burman language that is spoken by between 3,500 and 4,000 speakers in the North Indian Himalaya. Within the Tibeto-Burman language family, the language belongs to the subgroup of West Himalayish languages (Widmer forthcoming). The morphological structure of a Bunan verb can be described with the scheme given in Table 1. Note that the scheme only includes productive suffixal morphology. Verbal prefixes and non-productive verbal suffixes are not listed in the table (see Widmer forthcoming for a detailed discussion).

Table 1: The structure of the Bunan verb (simplified)

Root	Slot 1 Derivational suffixes	Slot 2 Transitivity suffixes	Slot 3 Inflectional suffixes	Slot 4 Inflectional suffixes
	• detransitive	• intransitive • middle • transitive	• egophoricity (secondary)	• tense • mood • evidentiality • egophoricity (primary) • number

- (person)

As stated in Section 1, the egophoricity system of contemporary Bunan developed from a person agreement system. The reader may thus be surprised to find that the category "person" is listed under the categories that may be expressed in slot 4. While it is true that the former person agreement system of Bunan has been largely reanalyzed as an egophoricity system, conservative agreement forms can still be found in the genealect of old speakers. In addition, person marking has also been retained on the existential and the possessive copula (see (16)–(17); see Widmer forthcoming for a more elaborate discussion).

The following discussion will focus on the epistemic verbal categories that are encoded in slot 4, i.e. evidentiality and egophoricity, and discuss how these categories were grammaticalized in the past tense domain. Secondary egophoric markers, which occur in slot 3 and express actional involvement in combination with "object-like" participants in certain past tense constructions, are not discussed in this study (see Widmer forthcoming for discussion). Before going into the diachronic origins of the relevant categories, it is, however, necessary to give a brief overview of the past tense system of contemporary Bunan.

2.3 The past tense endings

Bunan possesses three sets of past tense endings, which I will refer to as set A, set B and set C. Set A endings express privileged access, set B endings express non-privileged access and direct evidence, and set C endings express non-privileged access and inferential evidence.[3] Set A and C endings show lexically conditioned allomorphy, with verbs belonging to the intransitive and middle conjugation taking different allomorphs than verbs belonging to the transitive conjugation. Set B and set C additionally index the number of the subject on the predicate. The following table gives an overview of the three sets of past tense endings.

Table 2: The Bunan past tense endings

	Set A	**Set B**		**Set C**	
	EGO	**DIR.ALLO**		**INFER.ALLO**	
		SG	**PL**	**SG**	**PL**
INTR	*-et ~ -etn*	*-dza*	*-ts^{h}a*	*-dzi*	*-tɕ^{h}ok ~ -tɕ^{h}wak*
MID	*-et ~ -etn*	*-dza*	*-ts^{h}a*	*-dzi*	*-tɕ^{h}ok ~ -tɕ^{h}wak*
TR	*-men*	*-dza*	*-ts^{h}a*	*-ta*	*-ta*

[3] Systems that are structurally and functionally similar to the Bunan past tense system can be found in various Tibetic languages. My categories "egophoric", "direct/allophoric", and "inferential/allophoric" largely correspond to Haller's (2000) categories "evidential/volitional", "evidential/non-volitional", and "non-evidential/non-volitional", which he uses to describe the verbal system of the Central Tibetan variety of Shigatse and the Amdo Tibetan variety of Themchen.

Within sets A and C, there is additional allomorphic variation in combination with intransitive and middle verbs, where we find the two variant forms *-et* and *-etn* [*-e^{ʔ}n*] as well as *-tɕ^{h}ok* and *-tɕ^{h}wak*. All members of the Bunan speaking community use the forms *-et* and *-tɕ^{h}ok*, whereas the forms *-etn* and *-tɕ^{h}wak* are only attested in the speech of my oldest informants, who were born in 1936 and 1939. This suggests that *-etn* and *-tɕ^{h}wak* are archaic pronunciations that have only been retained in the genealect of old speakers.

In the following, I provide a brief and condensed overview of the past tense system (see Widmer forthcoming for a more detailed discussion). Set A endings are egophoric markers and hence express that the speaker possesses privileged access to the knowledge conveyed in the proposition. Bunan egophoric markers primarily express actional involvement in combination with intentional and conscious agents as well as endopathic experiencers, that is experiencers of stimuli that occur inside of one's body (see Tournadre 1996). Consider examples (6)–(7).

(6) gi=dzi dzamen lik-Ø-**men**.
1SG=ERG.SG food make-TR-**PST.EGO**
'I cooked food.' (NN 22.3 [elicited])

(7) gi dunʈ^{h}ak=tiki ɕal-**et**.
1SG week=INDEF suffer.from.diarrhea-TR-**PST.EGO**
'I had diarrhea for one week.' (TD 103.10 [elicited])

Moreover, set A endings can also express epistemic involvement, in which case they evoke notions of intimate personal knowledge. This use of set A endings is pragmatically marked. Consider examples (8)–(9).

(8) itɕik bar dat-**et**!
how.many times fall-**PST.EGO**
'How many times have I fallen (from trees in the orchard)!' (TP unrec 3)

(9) … wa t^{h}e rinpotɕe=dzi gi=tok ɕat-Ø-**men**.
FOC this Rinpoche=ERG.SG 1SG=DAT tell-TR-**PST.EGO**
'… and this is what the Rinpoche told me.' (Tulshug Lingpa 225)

Note that the use of egophoric markers expressing epistemic involvement is subject to age-dependent variation. In the genealect of the oldest speaker generation, which roughly comprises speakers that were born before 1950, set A endings can express epistemic involvement regardless of the semantic role that the speaker assumes. In the genealect of younger speaker generations, set A endings have a narrower range of application and can only express epistemic involvement in contexts in which the speaker is co-referent with the most agent-like participant in the clause. Accordingly, example (9) is ungrammatical for speakers that were born in the second half of the 20th century.

Set B endings describe events that the speaker directly witnessed but to which she

does not possess privileged access. Consider examples (10)–(11).

(10) tal tɕʰandʐigar=maŋ el-**dza** apa.
3[SG] Chandigarh=ALL come-**PST.DIR.ALLO.SG** grandmother
'He has gone to Chandigarh, grandmother.' (Conversation 14.11)

(11) gi pitaŋ=ki taŋkar=tok bup-**dza**.
3[SG] door=GEN threshold=DAT stumble-**PST.DIR.ALLO.SG**
'I have stumbled over the door's threshold.' (TD 82.5 [elicited])

Set C endings, finally, describe events that the speaker did not witness directly or consciously and to which she does not possess privileged access. Consider examples (12)–(13).

(12) dordʐe=dzi dzamen lik-Ø-**ta**.
Dorje=ERG.SG food make-TR-**PST.INFER.ALLO**
'Dorje must have cooked food.' (NN 24.8 [elicited])

(13) o gi hãj tʰukpa tuŋ-**dʐi**!
INTER 1SG 2SG.GEN soup drink-**PST.INFER.ALLO.SG**
'Oops, I drank from your soup by mistake!' (TD 98.5 [elicited])

This Section has given a brief synchronic overview of the Bunan verbal system with a special focus on epistemic categories in the past tense domain. The next Section will consider the evolution of these categories from a historical-comparative perspective.

3 The evolution of evidentiality in Bunan

3.1 Preliminaries

When reconstructing the evolution of epistemic marking in Bunan, it is helpful to take into account evidence from closely related West Himalayish languages. In the following, the three sets of past tense endings are compared to related constructions in other West Himalayish languages to establish their relative age.

3.1.1 Set A endings

Cognates of set A endings can be found in other West Himalayish languages, e.g. in Tinan, where we encounter a past ending *-min* (Sharma 1989: 168–174), and in Shumcho, where we encounter a perfective ending *-min* (Huber 2013: 227). Based on this evidence, one might conclude that set A endings must go back to a paradigm that already existed in Proto-West Himalayish. However, there is evidence that prompts us to reject that conclusion. The respective endings that have been described for Bunan, Tinan, and Shumcho are not only attested as finite verbal endings, but also function as non-finite suffixes. In Bunan, the transitive set A ending *-men* is homophonous with the intransitive infinitive ending *-men* (Widmer forthcoming). In Tinan, the ending *-min* is also attested as a nominalizer (Sharma 1989: 167–168). In Shumcho, finally, the ending

-min also serves as a nominalizer / relativizer in certain constructions (Huber 2013: 227).

The fact that these morphemes both function as finite and non-finite markers strongly suggests that the finite constructions involving *-men* / *-min* attested in Bunan, Tinan, and Shumcho have not been inherited from a common ancestor, but represent language-specific innovations. In other words, we are dealing with an instance of parallel grammaticalization rather than shared inheritance. At the same time, the fact that these languages underwent similar grammaticalization processes suggests that these processes did not happen as spontaneous and independent events, but rather were induced through language contact. It would go beyond the scope of this article to offer a detailed investigation of the role that language contact played in this context. Suffice it to say that similar grammaticalization processes have been documented for western Tibetic varieties (see Section 4.1), which have been important contact languages for most West Himalayish languages for centuries.[4] This suggests that the relevant developments may have been brought about by contact with Tibetic languages.

The set A endings of contemporary Bunan thus must have developed from an analytic construction that consisted of a verb's infinitive form and a finite auxiliary. Historical evidence suggests that the relevant auxiliary was the equative copula *jen-*. This assumption is based on the following observation: Members of the oldest Bunan speaker generation still retain an archaic first person form *-(m)engja* '-PST.1SG', which historically consists of the past tense marker *-(m)en* and the first person element *-gja*. The latter element is also attested in the equative copula form *jen-gja* 'EQ-1SG', an archaic first person agreement form that exclusively occurs in the genealect of old speakers. This suggests that set A endings developed from a periphrastic construction that consisted of the infinitive form of the main verb and a finite form of the equative copula. This process is exemplified for third person endings in the Table 3. Note that the process is illustrated on the basis of third person endings because they are the direct predecessors of set A endings in contemporary Bunan (see Section 4.1).

Table 3: The grammaticalization of set A endings

	Analytic construction			**Synthetic construction**
INTR	*el-men *go-INF	jen EQ.3SG	>	*el-en *go-PST.3SG
MID	*rwal-ɕ-men *doze.off-MID-INF	jen EQ.3SG	>	*rwal-ɕ-en *doze.off-MID-PST.3SG
TR	*al-tɕ-men *open-TR-INF	jen EQ.3SG	>	*al-Ø-men *open-TR-PST.3SG

In the intransitive and middle conjugation, the original infinitive ending *-men* was truncated to *-en* in the course of the grammaticalization process. Subsequently, the resulting intransitive allomorphs underwent a number of additional changes, which are illustrated in

[4] Note that the grammaticalization of synthetic verb forms from periphrastic constructions is widely attested across the Tibeto-Burman language family (see DeLancey 2010 for an overview).

Table 4 based on the verb stems *dʑot-* ‘sit’ and *el-* ‘go’.

Table 4: The morphophonlogical development of intransitive set A endings

	***t*-final verb stems**	**Other verb stems**	**Process**
Stage 1	*dʑot-en	*el-en	
	↓	↓	rise of allomorphy: -en > -n / t _ #
Stage 2	*dʑot-n	*el-en	
	↓	↓	metanalysis: -n > -tn
Stage 3	dʑo-tn	el-en	
	↓	↓	levelling of allomorphy: -en > -etn
Stage 4	dʑo-tn	el-etn	
	↓	↓	loss of final nasal: -(e)tn > -(e)t
Stage 5	dʑo-t	el-et	

First, the ending *-en* was truncated to *-n* after verb stems ending in *-t* (Stage 2). In this phonological environment, the ending then underwent a metanalysis, with the stem-final sound *-t* being reanalyzed as part of the ending (Stage 3). This stage is attested in the historical materials by Francke (1909). The *t*-element was later analogically extended to other phonological contexts (Stage 4). This stage is still attested in the genealect of old speakers. Finally, the relevant endings lost their final nasal (Stage 5). This stage is attested in the genealect of young speakers.[5]

3.1.2 Set B endings

Like set A endings, set B endings (*-dza* / *-ts^{h}a*) have clear cognates in other West Himalayish languages. Christian Huber (personal communication) reports a third person past tense ending *-zu* for Sunnami, Willis (2007) describes a third person past tense ending *-su* for Darma, and Sharma (2007) reports a third person past tense ending *-sɔ* for Byangsi. Set B endings are compared with third person endings here because they developed from third person endings. The relevant diachronic process is described in Section 4. Note that none of the relevant morphemes has been described as expressing direct evidence or other evidential subcategories.

There is no evidence that set B endings are the outcome of a recent grammaticalization process. In the materials available to date, the endings have

[5] A reviewer raises the question of whether the Bunan ending *-et* may not have been borrowed from western Tibetic varieties, which display an egophoric present tense ending *-et* (see Zemp 2014, *inter alia*). Such a scenario is highly unlikely for two reasons. First, the Bunan ending *-et* has a solid West Himalayish etymology (see above). Second, the ending *-et* in Tibetic is a present tense/imperfective morpheme, while the ending *-et* in Bunan is a past tense morpheme.

exclusively been described as finite verbal markers. This suggests that set B endings belong to a comparatively old layer of verbal morphology. Note that there is language-internal evidence to support this claim. In Bunan, set B endings are the only verbal morphemes that can occur in certain subordinate clauses, e.g. imaginative conditional clauses. Consider the following example sentences:

(14) gi ɕen-s-ɕ-**et** / *ɕen-s-ɕ-**dza**
1SG rise-DETR-MID-**PST.EGO** / *rise-DETR-MID-**PST.DIR.ALLO.SG**
'I got up.' (TD 8.19 [elicited])

(15) gi ŋaj ɕen-s-ɕ-**dza**=naŋ / *ɕen-s-ɕ-**et**=naŋ ...
1SG early rise-DETR-MID-**PST.SG**=COND / *rise-DETR-MID-**PST.EGO**=COND ...
'If I had gotten up early, (I would have caught the bus).' (TD 211.17 [elicited])

In (14), the speaker states that he got up early on the day before. The verb is marked with a set A ending, as the action is prototypically controllable and the speaker consciously and willfully instigated the action. Note that example (14) is still grammatical if the set A ending *-et* is replaced with the set B ending *-dza*. However, the meaning of the utterance then changes to 'I saw myself get up'. Such a sentence is only appropriate in a context in which the speaker has an outside perspective on her own acting, e.g. when describing what she did in a video or a photograph.

In (15), the speaker states that he would have made it on the bus if he had gotten up early. As the example illustrates, imaginative conditional clauses are formed by attaching the conditional clitic *=naŋ* to set B endings. It is not possible to form imaginative conditional clauses with set A endings even if the relevant verb stem would usually take set A endings in a simple declarative clause. In other words, the opposition between set A and set B endings is neutralized in favor of set B endings in imaginative conditional clauses. This neutralization complies with the claim that B endings are historically older than set A endings, as it indicates that the relevant construction dates back to a time at which set A endings were not available for filling the corresponding suffixal slot in imaginative conditional clauses. Also note that set B endings do not express any epistemic distinctions in imaginative conditional clauses, which suggests that they did originally not express any epistemic semantics. This is in line with evidence from closely related languages, where the cognates of set B endings are not associated with direct evidence (see above).

3.1.3 Set C endings

Set C endings do not correspond to any finite verbal endings in other West Himalayish languages. However, the endings are formally reminiscent of some non-finite suffixes and copulas in Bunan. The intransitive/middle endings *-dzi* / *-tɕʰok* ~ *-tɕʰwak* are strikingly similar to the perfective converb endings *-dzi* / *-tɕʰi*, while the transitive ending *-ta* bears resemblance to the possessive copula *ta-*. This suggests that set C endings were grammaticalized from a periphrastic construction. The relevant grammaticalization process, which gave rise to the binary evidential distinction that we

encounter in contemporary Bunan, is discussed in Section 3.2 below. Before going into the details of this process, however, it is necessary to discuss the relative chronology of the three ending sets that have been discussed in the preceding sections.

3.1.4 Relative chronology

As noted above, there is compelling evidence that set B endings belong to an archaic layer of inflectional morphology, while set A and C endings are the outcomes of comparatively recent grammaticalization processes. This leaves us with the question of in which relative chronological order set A and C endings developed.

There is some evidence that set C endings were grammaticalized prior to set A endings. This evidence comes from Francke (1909), who published grammatical sketches of Bunan and the neighboring West Himalayish language Tinan in the early 20th century (see Section 4.1 for an assessment and discussion of Francke's data). Francke described Bunan and Tinan as having structurally similar past tense systems that revolved around three paradigms, which he referred to as "first perfect" (the paradigm ancestral to set A endings in Bunan), "imperfect" (the paradigm ancestral to set B endings in Bunan), and "second perfect" (the paradigm ancestral to set C endings in Bunan) (see Section 4.1 for a more elaborate discussion of those paradigms). However, Francke also reported differences between Bunan and Tinan with regard to the morphosyntactic make-up of "first perfect", "imperfect", and "second perfect". This is illustrated in Table 5. Note that Francke (1909) used superscript consonants to write syllable-final, unreleased stops. The endings displayed in the table are third person endings, which are ancestral to the epistemic past tense endings of contemporary Bunan (see Section 4.1).

Table 5: Francke's (1909) past agreement paradigms (verb *lig-* / *la(d)-* 'to make')

	First perfect	**Imperfect**	**Second perfect**
Bunan	*ligmen*	*ligza*	*ligta*
Tinan	*ladmin shu*^{d}	*lai*	*ladtse*

As Table 5 illustrates, the predecessors of the contemporary Bunan past tense endings were already fully grammaticalized one hundred years ago. This is only partly true for the corresponding forms in Tinan, where the "first perfect" was still a periphrastic construction, consisting of an infinitive form in *-min* followed by the equative copula *shu-*. Given the obvious structural parallels between the Bunan and Tinan past tense systems, it is sensible to assume that both past tense systems evolved in the same manner, the more so as Tinan set A and C endings share the same source constructions with their Bunan counterparts. As noted above, the Tinan set A form *ladmin shu*^{d} consists of the infinitive in *-min* and the equative copula *shu-* and is thus structurally identical to the source construction of the Bunan set A endings (see Section 3.1.1). The Tinan set C form *ladtse* appears to go back to an perfective converb form in *-(t)se*, which is described by Sharma (1989: 168–169) with the label 'conjunct participle'. This again is a clear structural parallel to Bunan set C endings, which also developed from perfective converbs (see Section 3.2 below). We may thus conjecture

that the relevant endings developed in the same relative chronological order in Tinan and Bunan. Since the grammaticalization of set C endings predated the grammaticalization of set A endings in Tinan, we may infer that the same was most probably true for Bunan as well.

Having addressed the relative chronology of the three sets of endings, I now reconstruct the relevant process and subsequently argue that the grammaticalization of set C endings laid the foundation for the development of a binary evidential contrast.

3.2 The rise of evidentiality

In Section 3.1.3, I noted that the intransitive/middle and transitive set C endings are phonologically similar to the perfective converb endings and the possessive copula *ta-* respectively. This suggests that the endings were grammaticalized from formerly periphrastic constructions that consisted of a non-finite verb form and a copula. Based on this insight, I first internally reconstruct the grammaticalization process of the intransitive/middle set C endings and then move on to transitive set C endings.

The singular intransitive/middle ending *-dʑi* is not useful for internal reconstruction, as it is formally identical to the perfective converb singular ending and does not give any information about the copula by which it was once followed. Things are different in case of the plural intransitive/middle ending *-tɕʰok ~ -tɕʰwak*, however. This ending is formally distinct from the perfective converb plural ending *-tɕʰi* and suggests that the following copula ended in */-ok/* or */-wak/*. In contemporary Bunan, there is one copula form that displays the rhyme */-wak/*. The relevant copula form is *gwak*, the suppletive non-first person plural form of the existential copula *ni-*.

This suggests that intransitive/middle set C endings may have been grammaticalized from a periphrastic construction with the structure *V-PCVB + EX-AGR*. Interestingly, this construction is attested in contemporary Bunan, where it is used to derive intransitive resultatives (see Widmer forthcoming). Bunan intransitive resultatives denote states that arose in consequence of a prior intransitive event and still hold at the moment of speaking. Consider the following examples.

(16) tal pʰirek=maŋ el-**dʑi** **ni**:.
3[SG] foreign.country=ALL go-**PCVB.SG** **EX.NON1SG**
'He has gone abroad (and has not returned yet).' (Conversation 36.69)
(lit. 'Having gone abroad, he is there.')

(17) jwaŋ-**tɕʰi** **gwak** ma?
grow.up-**PCVB.PL** **EX.NON1PL** CNS
'(The trees) have grown (to full size), haven't they?' (Conversation 16.125)
(lit. 'Having grown up, the trees are there, aren't they?')

We have thus identified a possible source construction for intransitive and middle set C endings, but we still have to find the source construction for their transitive counterparts. Above, I noted that the transitive set C ending *-ta* is formally reminiscent of the possessive copula *ta-*. By analogy with the source construction of intransitive/middle endings, we may conjecture that the transitive ending *-ta* derives

from a construction that consisted of a detransitivized perfective converb form and a finite form of the possessive copula. This construction is again attested in contemporary Bunan. Unsurprisingly, it is used to derive transitive resultatives. Transitive resultatives describe states that arose in the wake of a prior transitive event and still hold at the moment of speaking. Consider the following examples.

(18) gi buʈa=tiki rik-**s-ɕ-dʑi** **ta**:.
1[SG] tree=INDEF bring-**DETR-MID-PCVB.SG** **POSS.1SG**
'I have brought a tree.' (Conversation 36.132)
(lit. 'The tree having been brought, I have (it).')

(19) k^{h}jak kjum lik-**s-ɕ-dʑi** **tat**.
here house make-**DETR-MID-PCVB.SG** **POSS.NON1PL**
'They have built houses here.' (Devil Dance 2.18)
(lit. 'The houses having been built here, they own (them).')

Note that this scenario is also consistent with functional considerations. Resultative constructions are a well-known source for past tenses with inferential connotations (Aikhenvald 2004: 279–281). This diachronic transformation can be described as a hypoanalysis, i.e. a form-function reanalysis in the course of which a contextual semantic feature of a construction is reanalyzed as an inherent semantic feature (Croft 2000: 126–128). Resultatives are open to hypoanalysis because they make reference to two different events at the same time: (i) explicit reference to a resultant state and (ii) implicit reference to a past event that caused the resultant state. In the course of time, the semantic focus of a resultative construction may gradually shift from the resultant state to the associated past event. If this innovative construal becomes fully conventionalized, the construction develops into a past tense. The former semantic focus on a resultant state may be entirely lost in the process, but may also be retained. In this case, the construction develops an inferential connotation, since the resultant state allows the speaker to infer that the associated past tense event must have taken place. In Bunan, hypoanalysis not only changed the semantics of the resultative, but also brought about a shift in phonological prominence. The copula, which profiled the resultant state, gradually lost its distinct stress and hence its status as an independent phonological word and merged with the non-finite verb form, which profiled the prior event. This process is summarized in Table 6. The process is illustrated with third person endings because they are the direct predecessors of set C endings in contemporary Bunan (see Section 4.1).

Table 6: The grammaticalization of set C endings

	Analytic construction			Synthetic construction
INTR / MID	el-dʑi ni:		>	el-dʑi
	go-PCVB.SG EX.3SG			go-PST.INFER.3SG
	el-tɕʰi gwak		>	el-tɕʰwak
	go-PCVB.PL EX.3PL			go-PST.INFER.3PL
TR	lik-s-ɕ-dʑi	ta	>	lik-Ø-ta
	make-DETR-MID-PCVB.SG	POSS.3SG		make-TR-INFER.PST.3SG
	lik-s-ɕ-dʑi	tat	>	lik-Ø-tʰat
	make-DETR-MID-PCVB.SG	POSS.3PL		make-TR-INFER.PST.3PL

The scenario presented above accounts for the evolution of the inferential past tense in Bunan. However, the scenario does not explain how the inferential marker came to contrast with a direct evidential marker. In order to understand how the binary evidential contrast of contemporary Bunan emerged, we have to consider the evolution of the past tense domain from the perspective of conversational pragmatics. More precisely, we have to invoke the concept of Scalar Quantity Implicatures (Levinson 2000: 75–82). Scalar Quantity Implicatures build on Grice's (1975) Principles of Communicative Cooperation, in particular the maxims of Quantity, which are given below:

1. Make your contribution as informative as required (for the current purpose of exchange).
2. Don't make your contribution more informative than is required.

As demonstrated by Horn (1972), the two maxims specify a lower-bound value ("Make your contribution as informative as required") and an upper-bound value ("Don't make your contribution more informative than is required"). They thus define scalar orderings that are commonly referred to as "Horn scales", a term introduced by Atlas & Levinson (1981). Horn scales are scales of semantic concepts that belong to the same semantic field, that are in a salient opposition (which means that they belong to the same form class and are lexicalized to the same degree), and that are ranked in linear order according to their informativeness or semantic strength (Levinson 2000: 79–80). An often-cited example of a Horn scale is the scalar ordering of the English quantifiers <*all*, *most*, *many*, *some*>. The characteristic trait of Horn scales is that higher values always entail lower values, while lower values do *not* entail higher values. As a consequence, the assertion of a lower value implicates that higher values do not hold true. This follows directly from Grice's first Quantity maxim, according to which a speaker is always expected to contribute as much information as required. If one were to assert a lower value knowing that a higher value holds true, one would deliberately withhold

information from the hearer and thus be uncooperative.

Horn scales have been used to explain various grammatical phenomena such as constraints on the lexicalization of negative quantifiers in English (Horn 1972) or the variable meaning of pronominal roots and aspectual forms in the Tibeto-Burman language Belhare (Bickel 1996). In the following, I argue that the concept of Horn scales can also help us to account for the evolution of a binary evidential contrast in Bunan. In order to understand how Horn scales may explain this process, we first have to take a closer look at the scalar nature of evidential values.

In the literature, there is no consensus on how many evidential categories are needed to account for the evidential distinctions that are attested in the world's languages (see Hengeveld & Dall'Aglio Hattnher 2015: 494–496 for a recent overview). However, there appears to be tacit agreement that evidential categories form a continuum in terms of their "evidential strength". In any case, all typological models that are considered by Hengeveld & Dall'Aglio Hattnher (2015) arrange evidential categories on a scale that runs from the most direct to the most indirect types of evidence. As a consequence, we can argue that evidential categories constitute a Horn scale. The structure of such a Horn scale depends on the complexity of the individual evidential system. However, most typological studies agree on the fact that direct evidence (which is prototypically based on visual perception) constitutes the upper-bound value of this scale, while reported evidence is generally considered to represent the lower-bound value (cf. Aikhenvald 2004, San Roque & Loughnane 2012, Hengeveld & Dall'Aglio Hattnher 2015, *inter alia*). In addition, the relevant models agree that direct evidence and inferential evidence are adjacent on this scale. We may thus postulate the following Horn scale of evidential values: <direct, inferential, ..., reported>.

It is important to emphasize that the ordering of evidential values in this Horn scale is based on the notion of evidential strength and not on the notion of information source. In other words, the scale does not state that knowledge based on direct observation includes or presupposes knowledge based on inference. Rather, the scale states that the evidential strength of a direct evidential marker exceeds and thus entails the evidential strength of an inferential evidential marker.

Let us now consider how the concepts of Scalar Quantity Implicatures and Horn scales can explain the "epistemization" of the Bunan past tense domain. In Section 3.1, I argued that set B endings represent the oldest layer of past tense morphology in Bunan and originally did not express any epistemic distinctions. In other words, we may assume that set B endings could originally be used to describe any type of past event, regardless of whether or not the speaker had directly witnessed the relevant facts. This situation began to change when set C endings evolved from resultative constructions. At that point, set B endings and set C endings began to stand in a paradigmatic opposition and came to form a Horn scale <Ø, inferential>, in which the evidentiality-neutral set B endings formed the upper-bound value (indicated by "Ø"), while the inferential set C endings constituted the lower-bound value. Note that set B endings were automatically associated with the upper end of the scale, as all values lower than "inferential" were entailed by that very same value in terms of their evidential strength, leaving the upper-bound value "direct" as the only empty position on the scale. In order to understand how this Horn scale caused the epistemization of set B endings, we have to relate the scale to

Grice's Quantity maxims.

According to the first Quantity maxim ("Make your contribution as informative as required!"), a speaker is obliged to provide as much information as she possibly can in a given conversational context. With regard to the Horn scale <Ø, inferential>, this means that she is obliged to use an evidentiality-neutral set B ending if she has directly witnessed an event. If the speaker were to use an inferential set C ending in such a context, she would strictly speaking not be telling a lie. After all, where a stronger semantic value holds true, a weaker value holds true *a fortiori* (Bickel 1996: 15). However, the speaker would be uncooperative, since she would use a form that expresses a semantically weak value despite being entitled to use a form that is not associated with this semantically weak value. Accordingly, if a speaker uses set B endings, the hearer can infer that the statement cannot be based on inferential evidence and may thus arrive at two different interpretations. Either he may infer that the evidential status of the proposition is not at issue or he may infer that the proposition must be based on direct evidence. The second interpretation has clearly become prevalent in contemporary Bunan. However, set B endings may still receive a non-evidential interpretation in specific grammatical contexts such as imaginative conditional clauses (see (15) above).

The scenario that was outlined in this section explains how the binary evidential contrast in the Bunan past tense developed. However, the scenario does not account for the evolution of the egophoricity distinction that we find in contemporary Bunan. This issue is addressed in the following section.

4 The evolution of egophoricity in Bunan

4.1 Preliminaries

The earliest comprehensive description of the Bunan verbal system dates to the beginning of the 20th century and was published by Francke (1909). Francke's data are extremely valuable for this study as they allow us to describe the development of epistemic verbal categories in more detail. While Francke's materials suggest that the binary evidential contrast of contemporary Bunan already existed one hundred years ago, there is no evidence that the verbal morphology already encoded an egophoricity opposition at that time. To be sure, endings that are formally equivalent to the set A, B, and C endings are attested in the data. However, these forms do not constitute the ternary epistemic paradigm that has been described for contemporary Bunan in Section 2.3. Rather, the three sets of endings are parts of three distinct, full-fledged person agreement paradigms, which Francke refers to as "first perfect" (hence forth "A paradigm"), "imperfective" (henceforth "B paradigm"), and "second or proper perfect" (henceforth "C paradigm").

Table 7 illustrates the three agreement paradigms as described by Francke (1909). Recall that Francke used superscript letters to write unreleased syllable-final stops, which have allophonic status in Bunan.

Table 7: Francke's past tense agreement paradigms (verb *lik-* 'to make')

	First perfect (A)	Imperfective (B)	Second perfect (C)
1SG	*ligmengya*	*ligkiza*	*ligkita*
2SG	*ligmenna*	*ligzana*	*ligtana*
3SG	*ligmen*	*ligza*	*ligta*
1PL	*ligmen*	*li^{g}ithsa*	*li^{g}i thai^{g}*
2PL	*ligmenni*	*ligthsani*	*ligthadni*
3PL	*ligmen*	*ligthsa*	*ligtha^{d}*

The contrast between Francke's analysis and the account introduced in Section 2.3 is striking. As a consequence, one might wonder whether Francke's agreement analysis was based on a misconception of the epistemic system that is attested in contemporary Bunan. However, as I have argued elsewhere (Widmer 2015, forthcoming; Widmer & Zemp 2017), there is compelling evidence that Francke's analysis was correct and that Bunan indeed underwent a fundamental reorganization of its verbal system. This is not the place to recapitulate the evidence in favor of Francke's account. Suffice it to say that several of the agreement forms listed in

Table 7 have cognates in other West Himalayish languages, where they serve as agreement markers rather than epistemic markers. Accordingly, we have to consider Francke's analysis as reliable. This gives rise to two follow-up questions: (i) the question of what temporal/aspectual differences Francke's paradigms originally expressed and (ii) the question of how the transformation of person agreement into egophoricity marking went about. The first question, which is not directly relevant for this paper, is briefly touched upon in the following, while the second question is discussed in more detailed in Section 4.2 below.

In Section 3.2, it was shown that set C endings are the outcome of a

grammaticalization process in the course of which a periphrastic resultative construction developed into an inferential past tense. Accordingly, we may assume that the C paradigm was an inferential past tense from the beginning. This then leaves us with the reconstruction of the temporal/aspectual values that were expressed by the two remaining paradigms A and B. In Widmer (forthcoming), it is argued that the A paradigm expressed a remote past tense and an experiential aspect. The B paradigm, in turn, is best thought of as a semantically unmarked past tense that was initially not associated with any specific temporal/aspectual categories. As new past tenses were grammaticalized from formerly periphrastic constructions, the B paradigm first acquired a direct evidential interpretation by contrasting with the C paradigm and subsequently became associated with temporal proximity and resultativity by contrasting with the set A paradigm. I assume that paradigms A and C never directly influenced each other because they were both semantically marked and belonged to non-contiguous subdomains in the conceptual space of past tense marking. Accordingly, they only interacted with the semantically unmarked paradigm B, which subsequently became associated with the opposite temporal/epistemic values of paradigms A and C.

This reconstruction is based on both language-internal and language-external evidence. Language-internal evidence comes from members of the oldest Bunan speaker generation. These speakers occasionally use archaic agreement forms and are able to describe the temporal/aspectual connotations that are associated with the relevant endings. The following examples were elicited from a speaker born in 1936.

(20) gi=dzi len lik-Ø-**kidza**.
1SG=ERG work make-TR-[**RECENT.**]**PST.DIR.1SG**
a. ‘I did the work.’ (neutral interpretation)
b. ‘I have just finished the work.’ (recent/resultative interpretation)
(TD 329.15 [elicited])

(21) gi=dzi len lik-Ø-**mengja**.
1SG=ERG work make-TR-**REMOTE.PST.1SG**
a. ‘I did the work a long time ago.’ (remote interpretation)
b. ‘I have done that work several times.’ (experiential interpretation)
(TD 329.16 [elicited])

Language-external evidence comes from Ladakhi Tibetan, which was an important contact language of Bunan for centuries and strongly influenced both the lexicon and the grammar of the language. The conservative Purik variety of Ladakhi Tibetan displays a past tense system that revolves around similar functional contrasts (see Zemp 2014: 727–737). Moreover, some of the relevant verbal endings share analogous source constructions with their functional counterparts in Bunan. For example, Ladakhi Tibetan displays a past tense in *-pin*, which is functionally reminiscent of the conservative set A agreement forms that can still be found in the genealect of old Bunan speakers. The ending *-pin* is a contraction of the infinitive marker *-pa* and the equative copula *-in* and thus developed in a similar manner like the set A paradigm (see 3.1.1). These functional and formal parallels suggest that the Bunan past tense system described by Francke (1909) was shaped by longstanding contact with neighboring Tibetic varieties. A

detailed discussion of this aspect would go beyond the scope of this article, however.

4.2 The rise of egophoricity

Before discussing how egophoricity marking developed in the past tense domain, it is worthwhile to investigate the present tense domain, for which the functional transformation of person agreement into egophoricity marking has been described in a recent article (Widmer 2015). The relevant study argues that the Bunan person agreement system in the present tense was transformed into epistemic marking according to the scheme given in

Table 8.[6]

Table 8: The transformation of person marking into egophoricity marking

Person		**Egophoricity**
1st person	>	egophoric
2nd person	>	Ø
3rd person	>	allophoric

The question now is whether the diachronic process outlined in

Table 8 can also account for the rise of egophoricity in the past tense domain. Evidently, the scenario cannot explain the development of all forms. The process accounts for the reanalysis of the third person endings *-dza / -ts^{h}a* and *-ta* as allophoric endings, but it fails to capture the reanalysis of the third person endings *-et ~ -men*, which developed into egophoric markers. This raises the question of whether the scheme in

Table 8 has any explanatory power with regard to the rise of egophoricity marking in the past tense domain. Given the fact that there appears to be no alternative explanation for how the former third person endings *-dza* and *-ta* could have been reanalyzed as allophoric markers, it is sensible to assume that they underwent the reanalysis outlined in

Table 8. This assumption leaves us with the problem that the egophoric past tense form of contemporary Bunan cannot be explained as the outcome of this process. However, as I argue below, there is an alternative explanation for the origin of the

[6] It would go beyond the scope of this article to discuss the functional motivation of the diachronic process. Suffice it to say that the reanalysis appears to have occurred in a particular type of deictically mixed reported speech construction (see Widmer & Zemp 2017 for a more detailed discussion). Note that similar functional reanalyses have been reported for other Tibeto-Burman languages, viz. Dolakha Newar (Genetti 2007) and Wadu Pumi (Daudey 2014).

egophoric marker. In the following, I first discuss the development of the allophoric markers and then reconstruct the development of the egophoric marker.

As the person agreement system of Bunan was gradually transformed into an egophoricity system, the third person endings of the B and C paradigms were reanalyzed as allophoric markers. The corresponding first and second person endings were not integrated into the emerging egophoricity system. Most probably, the transformation primarily affected the third person endings because the two paradigms were already associated with evidential categories, viz. direct and inferential evidence respectively. Both evidential categories are prototypically used in contexts in which the speaker observes an event from an epistemic outside perspective. Accordingly, they easily combine with allophoric semantics, which also entails an epistemic outside perspective on an event. However, they cannot easily be reconciled with the epistemic inside perspective that is expressed by egophoric markers. As a consequence, the B and C paradigms only contributed allophoric markers to the emerging egophoricity system.

The reanalysis of the person agreement system did not only have a bearing on the B and C paradigms, but also affected the A paradigm. However, the consequences were different here. A comparison of Francke's (1909) materials with my data suggests that the changes did not directly lead to an epistemization of the paradigm, but initially only brought about a collapse of the person distinctions. The only form that survived this process was the third person ending, while the first and second person endings became obsolete. Admittedly, there is a possibility that set A endings could have developed from first person plural endings, which according to Francke (1909) were identical with third person singular/plural endings one hundred years ago (see

Table 7). However, there is evidence that the first person forms described by Francke were not really agreement forms, but rather have to be interpreted as forerunners of the epistemic system that was emergent at the time. In the *Linguistic Survey of India* (Grierson 1909), which is mainly based on materials collected by Francke, Bunan is described as a language in which "[t]he various persons are, to some extent, distinguished by means of pronominal suffixes. In the first person singular *gya* [...] is added" (473). However, it is also stated that "[t]he personal suffixes are often dropped altogether; thus, *elen*, I went [instead of *elengya*, see Francke (1909: 76)]" (473). This statement suggests that the "first person plural" form *ligmen* in

Table 7 is not an agreement form in the true sense of the word, but rather bears witness to the incipient collapse of person distinctions. This analysis can be

corroborated by an additional observation: Apart from the set A paradigm given in in

Table 7, Francke (1909: 74) describes another set A paradigm for the verb stem *jod-* ‘to sit’. In this paradigm, there is only one singe plural form *jo^{d}n*, which is used for the first, second, and third person. This substantiates the claim that the homophony between “third person singular” forms and other “agreement” forms in Francke’s data does not reflect formal syncretisms between different person categories but more generally the incipient collapse of the person marking system.

This raises the question of why it was the third person ending that survived the collapse of person distinctions and eventually developed into an egophoric maker. After all, the process outlined in

Table 8 suggests that it would have been more natural for the first person ending to develop into an egophoric marker. It is not possible to give a conclusive answer based on the evidence that is currently available. However, I suspect that the third person ending was recruited as an egophoric marker because that morpheme already stood in a direct functional contrast with set B and set C endings when all three morphemes were still third person markers. In this way, the emerging egophoricity system integrated a direct functional counterpart of set B and set C endings from a different paradigm.

We then still have to explain how the third person ending of paradigm A acquired egophoric semantics. In the following, I argue that this process can again be explained with a Horn scale, a concept that was already introduced in Section 3.2. In this section, it is maintained that evidentiality values can be arranged on a scale according to their informativeness and semantic strength. It appears natural, then, that the same should also be possible for egophoricity, which qualifies the speaker’s access to knowledge as privileged or non-privileged. Privileged access is based on an exclusive inside perspective on certain types of knowledge and can thus be regarded as semantically stronger than non-privileged access, which presupposes an outside perspective on knowledge. We can thus postulate a Horn scale <egophoric, allophoric> with egophoric and allophoric as upper-bound and lower-bound values respectively.

When the person agreement system of Bunan was gradually transformed into an egophoricity system, set A endings gradually acquired an egophoric function due to the Horn scale <Ø, allophoric>. In other words, they were associated with the empty upper-bound position of the Horn scale because they directly contrasted with markers that expressed the lower values on the scale. Set A endings may have been particularly suitable to be reanalyzed as egophoric because they were associated with notions of temporal remoteness and experientiality. Both semantic concepts are conceptually related to the egophoric domain. If a person has privileged access to a past event, this suggests that the relevant event probably took place in the remote past and that the person has at least experienced the event once.

5 Summary of the reconstructed processes

This Section summarizes the diachronic processes that have been reconstructed in the preceding Sections. Based on comparative considerations, I first argued that Bunan originally only displayed one past tense (paradigm B), which did not express any epistemic semantics. This situation began to change when an inferential past tense (paradigm C) was grammaticalized from a periphrastic resultative construction. The innovative C paradigm began to contrast with the already existent B paradigm, which caused the latter to acquire direct evidential semantics through a Scalar Quantity Implicature. This binary epistemic distinction became more complex when the conservative person agreement system was transformed into an egophoricity distinction. In the course of this process, the third person endings of the B and C paradigm were reanalyzed as allophoric markers. An egophoric marker was eventually recruited from the A paradigm, which had developed from a formerly periphrastic remote past tense. This process is again explicable in terms of a Scalar Quantity Implicature. The development of the Bunan past tense domain is illustrated in Table 9 based on the transitive verb *lik-* 'to make'. Stages 1 and 2 have been reconstructed internally. Stage 3 represents the system that was described by Francke (1909). Stage 4, finally, represents the system of contemporary Bunan. Labels in square brackets refer to grammatical values that initially arose in consequence of Scalar Quantity Implicatures, but were later conventionalized. Forms given in pale gray in Stage 4 are archaic agreement forms, which can only be found in the genealect of old speakers.

Table 9: The evolution of epistemic distinctions in the Bunan past tense

	Paradigm A		Paradigm B		Paradigm C
Stage 1				SG / PL 1 **likkidza* / **likkits^{h}a* 2 **likdzana* / **likts^{h}ana* 3 **likdza* / **likts^{h}a* PST	
Stage 2				SG / PL 1 **likkidza* / **likkits^{h}a* 2 **likdzana* / **likts^{h}ana* 3 **likdza* / **likts^{h}a* PST.[DIR]	↔ SG / PL 1 **likkita* / **likkit^{h}at* 2 **liktana* / **likt^{h}atni* 3 **likta* / **likt^{h}at* PST.INFER
Stage 3	SG / PL 1 *likmengja* / *likmen* 2 *likmenna* / *likmenni* 3 *likmen* / *likmen* REMOTE.PST	↔	SG / PL 1 *likkidza* / *likkits^{h}a* 2 *likdzana* / *likts^{h}ana* 3 *likdza* / *likts^{h}a* [RECENT].PST.DIR	↔ SG / PL 1 *likkita* / *likkit^{h}at* 2 *liktana* / *likt^{h}atni* 3 *likta* / *likt^{h}at* PST.INFER	
Stage 4	SG / PL 1 *likmengja* / *likmen* 2 *likmenna* / *likmenni* *likmen* PST.[EGO]	↔	SG / PL 1 *likkidza* / *likkits^{h}a* 2 *likdzana* / *likts^{h}ana* *likdza* / *likts^{h}a* PST.DIR.ALLO	↔ SG / PL 1 *likkita* / *likkit^{h}at* 2 *liktana* / *likt^{h}atni* *likta* PST.INFER.ALLO	

6 Conclusion

The present study reconstructs the mechanisms that have given rise to epistemic verbal categories in the Tibeto-Burman language Bunan. The article thus offers new insights into the emergence of epistemic verbal systems in the Himalayan area and demonstrates that epistemic distinctions may not only arise through the epistemization of person deixis (Widmer 2015; Widmer & Zemp 2017) but also through the epistemization of aspectual distinctions, viz. the reanalysis of resultative constructions as inferential past tenses. Moreover, the study shows that conversational pragmatics and the notion of Scalar Quantity Implicatures offer a powerful tool for explaining the evolution of epistemic contrasts.

Finally, the study has implications for the status of evidentiality and egophoricity in the theory of grammatical description. As shown in this article, the evolution of evidentiality and egophoricity in Bunan cannot be explained by reference to a single mechanism. Evidentiality evolved when a periphrastic resultative construction developed into an inferential past tense. Egophoricity, in turn, developed when former third person endings were reanalyzed as allophoric markers. Moreover, two different Horn scales need to be invoked to explain the development of the relevant epistemic contrasts. This suggests that evidentiality and egophoricity belong to two distinct semantic fields, as only one Horn scale would be needed if the two categories were part of the same semantic field. This, in turn, suggests that, evidentiality and egophoricity should be considered as distinct grammatical categories that belong to different functional domains. To be sure, there is a considerable degree of interaction between the two categories. However, this is not because they belong to the same semantic field, but because they are both epistemic in nature.

Eventually, evidentiality and egophoricity appear to interact much in the same way like the well-established grammatical categories “tense” and “aspect”. It is common knowledge that tense and aspect can be entangled in such complex ways that it is difficult to tease them apart. Still, few linguists would argue that we should therefore abandon the basic distinction of tense and aspect as separate grammatical phenomena and, for example, treat aspect as a particular type of tense. It seems that we should handle the distinction between evidentiality and egophoricity in the same manner. The two grammatical phenomena may not show up as formally distinct categories in all languages. In such cases, it may be feasible to describe the grammatical system “in its own terms” (Haspelmath 2008) and treat “access to knowledge” and “source of knowledge” as parts of one single grammatical subsystem. However, when conducting typological research into epistemic marking, the two categories should be treated as separate phenomena.

This article focuses on the functional reconstruction of diachronic processes that have given rise to evidentiality and egophoricity in Bunan. Several related aspects of the relevant processes concerned have not been addressed in this study. For example, I have not discussed the formal reconstruction of individual endings and paradigms in a systematic manner. Also, I have not gone into the details of language contact with Tibetan-speaking populations, which must have played a crucial role in the evolution of epistemic verbal categories in Bunan. Moreover, we have not discussed whether the evidence that has been presented here may help to explain the rise of epistemic verbal

categories in other Tibeto-Burman languages. Accordingly, much research remains to be done on the diachrony of such grammatical phenomena. Future studies will hopefully address the aforementioned gaps, thus contributing to more complete and fine-grained picture of the processes that give rise to evidentiality, egophoricity, and other epistemic categories.

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Abbreviations

1 = first person
2 = second person
3 = third person
ACC = accusative
ALL = allative
ALLO = allophoric
CNS = consent
COND = conditional
DAT = dative
DECL = declarative
DETR = detransitive
DIR = direct evidence
EGO = egophoric
EQ = equative copula
ERG = ergative
EX = existential copula
FOC = focus
GEN = genitive
INDEF = indefinite
INF = infinitive
INFER = inferential
INTER = interjection
INTR = intransitive
IPFV = imperfective
MASC = masculine
MID = middle
NMLZ = nominalizer
PCVB = converb
PFV = perfective
POSS = possessive copula
PST = past
SG = singular
TR = transitive

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