

Aspect and Evidentiality in Four Bantu Languages

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Abstract

Fully grammaticalized, obligatory evidentiality systems are thought to be rare in the languages of Africa, and in Bantu languages in particular. However, ongoing semantic research in Bantu languages continues to uncover systems that are primarily evidential in their semantics, as well as other grammatical categories that can be exploited secondarily to express evidential distinctions. In this chapter, we discuss Fwe, Nyamwezi, Nzadi, and Ikoma, four geographically and typologically diverse Bantu languages in which distinct grams with overlapping tense-aspect readings exhibit salient distinctions in their evidential force. The evidentiality distinctions seen in these languages add further support for the robust cross-linguistic link between resultatives and indirect evidentials. Links between progressive aspect and ‘authoritative’ (first-hand sensory or trusted second-hand) evidentials are also suggested.

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1 Introduction

Grammaticalized evidentiality is thought to occur in about 25% of the world's languages. It is most common in the indigenous languages of the Americas, the Caucasus, and the Tibeto-Burman family (Aikhenvald 2004: 17). Evidential-marking systems have not been widely reported in Bantu languages or in African languages more generally (Aikhenvald 2004: 291; De Haan 2013). However, as Storch (2018: 610) points out, a lack of documentation of evidentiality in an African language does not necessarily equate to its non-existence: the phenomenon of evidentiality has not, until recently, been a significant focus of researcher attention in this part of the world, and evidential systems may therefore be missing from language descriptions. In studies of Bantu languages, detailed semantic work has led to the discovery of ever more evidential contrasts (for overviews, see, e.g., Botne 2020; Roth 2018).

This chapter describes four Bantu languages – Fwe, Nyamwezi, Nzadi, and Ikoma – in which evidential distinctions appear to have developed between forms that are (or were) primarily aspectual in nature. Evidentiality is known to interact with, or even be fused with, tense and aspect marking in many languages worldwide (Aikhenvald 2004: 261–7; Forker 2018).

We aim to show that aspectual markers across the Bantu family may be repurposed to express evidential meanings ('evidentiality strategies' in the terms of Aikhenvald 2004: 105), especially when several forms exhibit fully or partially overlapping tempo-aspectual functions.

2 Evidentiality

We define evidentiality simply as 'the grammatical marking of information source' (Boye 2018: 261). Cross-linguistically, evidential systems are known to encode visual, sensory, inference, assumption, hearsay, and quotative sources of information (see Aikhenvald 2004; 2018 for a more detailed classification). Botne (2020) notes that additional categories are also needed for the analysis of evidential expressions in African languages and posits that what he calls 'authoritative' information, stemming from a trusted second-hand source, is treated on a par with first-hand information in the evidential systems of some African languages, such as Lega (D25, DRC).¹ The concept of an authoritative information source may be relevant in the evidential contrasts seen in Nzadi (Section 4.3).

¹ Bantu languages are traditionally classified using a 'Guthrie' code, based on a geographical reference system originally developed by Malcolm Guthrie (1967–1971). Each Guthrie code consists of a capital letter A–S (or sometimes two) for a regional zone and (most often) a two-digit number, e.g., Tswana, S31. In this chapter, we identify Bantu languages and varieties using the Guthrie codes given in Hammarström (2019), in addition to the country or area in which they are spoken.

In literature on evidentiality, a distinction is sometimes made between (true) evidentials and *evidential strategies*. Aikhenvald (2004) suggests that evidentials have a primary (and often exclusive) meaning related to information source, while evidential strategies have a primary meaning elsewhere, with the expression of information source as a secondary semantic function. Especially as we deal with tense/aspect markers that also function as expressions of evidentiality, the line between evidentials and evidential strategies sometimes becomes blurry. Nevertheless, we try to distinguish between the two categories in our analysis, and apart from Ikoma *Vká-* (Section 4.4), which has both evidential and aspectual meanings, we do not consider the forms we discuss to represent fully grammaticalized evidential markers with an evidential value as their primary semantics.

We also distinguish between evidentiality and the separate but conceptually related domain of epistemic modality. Epistemic modality is the expression of speaker stance towards the likelihood that a proposition is true. Aikhenvald notes that ‘[e]videntials may acquire secondary meanings—of reliability, probability, and possibility’ (Aikhenvald 2004: 6). For example, it is easy to see the connection between visual/eyewitness/first-hand evidentials and certainty. However, these ‘epistemic overtones’ are not always present (Aikhenvald 2018: 16). Connections between evidentiality and epistemic modality are especially salient in Nyamwezi (Section 4.2) and Nzadi (Section 4.3).

3 Tense, aspect, and actionality in Bantu

Bantu languages are famed for their complex verbal morphology. Many Bantu languages mark multiple degrees of temporal distance (remoteness distinctions) in the past and in the future (see, e.g., Nurse 2008; Botne 2012). Most languages morphologically or tonally mark at least two degrees of past reference (e.g., near vs. distant past), and some distinguish as many as four or five different pasts. The number of future distinctions is typically smaller, but multiple futures are also common (Nurse 2008: 89).

Bantu languages, while remarkable for their highly elaborated tense systems, belong to the Niger-Congo phylum, which is frequently described as being primarily aspect-based (see, e.g., Nurse et al. 2016). While tense systems vary widely across Bantu, aspectual systems show – broadly construed – remarkably similar categories, including perfective and imperfective aspects, progressive, habitual, perfect, and persistive, the last being a phasal polarity category roughly translatable as ‘still’ (Nurse 2008: 24; Nurse and Devos 2019: 211). The similarity of categories endures despite remarkably rapid grammaticalization, change, and repurposing of aspectual markers in Bantu (Nurse 2008: 25).

A crucial feature of Bantu aspectual systems is their interaction with *actional* systems (also referred to as lexical aspect, , among other terms). Because the interaction of aspect and actionality is the locus of many of the evidentiality effects described in this chapter, we first describe some key features that are typical of Bantu actional systems, and their interactions with grammatical aspect.

Bantu languages – which typically have a small, closed class of adjectives (Van de Velde 2019: 258) – frequently express stative (including ‘adjectival’) meanings using verbal predicates and perfective morphology,² as in the first interpretation of (1), from Southern Ndebele (S.407, South Africa). The present-state reading is often the default, and sometimes the only, reading available for such constructions. However, in some cases, perfective forms can also target the change leading up to the state, as in the second reading of (1). Such state-change readings commonly involve additional linguistic or contextual temporal information, such as a temporal adverbial, and their salience and availability differ across languages and verbal predicates.

² Nzadi is an exception to this tendency.

- (1) I-komo i-non-ile.
 NP₉-cow SBJ₉-become_fat-PFV
 ‘The cow is fat.’
 ‘The cow got fat.’

Many of the same verbs that can have state readings with perfective morphology can also have uncompleted coming-to-be readings (that is, readings that depict a state change in progress) when inflected in the imperfective. Such verbs can be argued to lexically encode *two* phases (see, e.g., Crane & Persohn 2019; Polančec 2021). That is, they have as a part of their lexical make-up, targetable by tense-aspect constructions, both a temporally extended coming-to-be phase prior to the change and a resultant state after the change. A Southern Ndebele example is shown in (2).³ Unlike English ‘be clever’, Southern Ndebele *-hlakanipha* ‘be(come) clever’ expresses a coming-to-be phase (the process of becoming clever), when inflected in the imperfective (2a). The default reading with perfective aspect is that of a resultant state: being clever, (2b).

- (2) a U-Sipho u-ya-hlakaniph-a.
 NP_{1A} -Sipho SBJ₁-PRS-become_clever-FV
 ‘Sipho is becoming clever.’ (e.g., his test scores are showing improvement)
 b U-Sipho u-hlakaniph-ile.
 NP_{1A}-Sipho SBJ₁-become_clever-PFV
 ‘Sipho is clever.’

Following Crane and Persohn (2019), from which these examples are drawn, we call verbs like the ones in (1–2) *change-of-state* (COS) verbs. These verbs lexically encode a change, on the part of the subject, from one state to another. As noted, in addition to the state change, some COS verbs also encode a coming-to-be phase (the temporally extended change process, as in 2a) and/or a resultant state after the change (see, e.g., Crane & Persohn 2019 for further discussion). The most important subclass of COS verbs for our purposes are those that encode a resultant state, as shown in (1–2) above. When we discuss COS verbs in this chapter, it can be assumed that they encode at least a resultant state, and, for some verbs, also a coming-to-be phase.

Non-COS verbs encompass, very roughly speaking, Vendlerian states, activities, and many accomplishments (see, e.g., Vendler 1957; Smith 1997; see Crane & Persohn 2019 for more detailed discussion of the instantiation of these classes in Bantu). We will refer to a large subclass of non-COS verbs – those denoting situations that are extended in time, as *durative* verbs. Some Bantu languages also have a small subset of verbs within their class of non-COS verbs that depict states when used with imperfective morphology, in addition to the (usually much larger) set of COS verbs that use perfective morphology to depict such states.

Example (3) shows that the Southern Ndebele perfective and imperfective forms shown in (1–2) have the typically expected readings for (im)perfective aspect when paired with non-COS verbs. Note that (as is not uncommon cross-linguistically) the grams we label ‘perfective’ have some, but not total, functional overlap with so-called ‘perfect’ grams. The extent of perfect-like semantics associated with such grams varies across Bantu languages.

³ Present-tense morphology is associated with a range of imperfective meanings in Southern Ndebele, and can also express habitual or repeated changes with many COS verbs.

- (3) a U-Sipho u-ya-cul-a.
 NP_{1A}-Sipho SBJ₁-PRS-sing-FV
 ‘Sipho is singing.’
 ‘Sipho sings.’
- b U-Sipho u-cul-ile.
 NP_{1A}-Sipho SBJ₁-sing-PFV
 ‘Sipho sang.’
 ‘Sipho has sung.’

Other actional classes have also been proposed for various Bantu languages, and both COS and non-COS verbs have far more granular distinctions than can be discussed here (see the online appendix to Crane & Persohn 2019 for summary and extensive references).⁴ For the purposes of this chapter, we distinguish primarily between COS and non-COS verbs, with other details introduced as necessary in the discussion of particular languages.

4 Aspect and evidential strategies in four Bantu languages

The rapid grammaticalization of tense/aspect markers, in interplay with the COS/non-COS divide in many Bantu languages, frequently leads to a situation in which several verbal forms have the same, or partially overlapping, tempo-aspectual reference. Tempo-aspectual overlap often leads to the development of other semantic or pragmatic distinctions between the forms in question (see Nurse 2008: 13; Bybee et al. 1994). In the Bantu languages Fwe, Nyamwezi, Nzadi, and Ikoma, distinctive tense/aspect forms with overlapping tempo-aspectual interpretations have developed contrastive evidential force.

In two of the languages, Fwe (Section 4.1) and Nyamwezi (Section 4.2), evidential contrasts involve an aspectual affix related to the forms *-ile* and *-ite*. The historical relationship between these two suffixes is somewhat opaque (see the appendix of Crane 2012 for discussion and references), but synchronically, they are used interchangeably in most of the languages that employ both suffixes. They are semantically contrastive in only a few languages, with functions that might plausibly derive from one another (Crane 2012: 91). The *-ile* and *-ite* suffixes are typically reconstructed as historical perfects or perfectives. Botne (2010) and Crane (2012) argue for the significance of resultative semantics in the markers’ origins. (Botne describes the original function as ‘resultative perfective’.) In both Fwe and Nyamwezi, these suffixes are synchronically best analysed as stative markers, as evidenced both by their interpretive functions and by their restriction to (or preference for) particular actional classes. In Fwe and Nyamwezi, the *-ite/-ile* suffixes are used to indicate indirect evidence on the part of the speaker.

Resultative semantics do not play a role in the evidential functions seen in Nzadi (Section 4.3). Nzadi has two present-tense forms, which might roughly be analysed as a habitual vs. a progressive, but which in practice show overlap in both their temporal and their aspectual interpretive possibilities. When contrasted, the progressive-like forms have epistemic overtones implying greater certainty, based on either first-hand sensory information or authoritative second-hand eyewitness information.

Unlike the other tense and aspect forms discussed in this chapter, the Ikoma prefix *Vká-* (Section 4.4) has evidentiality as its primary semantic feature. Like Fwe *-ite* and Nyamwezi *-ile*, *Vká-* may have resultative origins. Interestingly, the *Vká-* marker can be used

⁴ Classifications of Bantu verbs have been inspired in large part by the work of Robert Botne and Tiffany Kershner (Botne & Kershner 2000; Kershner 2002; among many others).

(with certain lexical verbs). Formally and functionally similar suffixes occur in the closely related languages of the Bantu Botatwe cluster (Crane 2012).

With COS verbs, the stative in Fwe expresses a present state (7).

- (7) Àrwarîtè.
 a-rwar-íte
 SBJ₁-become_sick-STAT
 ‘He is sick.’

The stative differs from the near past perfective in a number of respects. First of all, with non-COS verbs the stative gives a present progressive interpretation, as in (8). While Fwe has various other strategies for expressing progressive aspect, the progressive use of the stative with non-COS verbs particularly refers to events with a longer duration (Gunnink 2018: 373). Perfective-like readings, common with the near past perfective, are only possible if the present relevance is strong, as in (9).

- (8) Ndizánîtè.
 ndi-zan-íte
 SBJ_{1SG}-dance-STAT
 ‘I am dancing.’
- (9) Ndiβárîtè èmbúká 'yémiràhò.
 ndi-βar-íte e-m-buká i-é-mi-raho
 SBJ_{1SG}-read-STAT AUG-NP₉-book PP₉-CON-NP₄-law
 ‘I’ve read a law book (i.e. ‘I know the law’).’

Secondly, whereas the near past perfective can reference either a result state (5) or the preceding change in state (6), the stative only references the result state (10).

- (10) Ndirwárîtè.
 ndi-rwar-ite
 SBJ_{1SG}-become_sick-STAT
 ‘I am sick.’
 *‘I got sick.’

Since the near past perfective can reference the preceding change in state, it can co-occur with an agent phrase that describes the agent that caused the change-of-state, as in (11), but the stative cannot, as shown in (12).

- (11) Cíàzò cáàrúki kúrù:hò.
 cí-azo ci-a-aruk-i kú-ru-uho
 SBJ₇-door SBJ₇-PST-open.INTR-NPST.PFV AG-NP₁₁-wind
 ‘The door is opened by the wind.’
- (12) *Cíàzò càrúkìtè kúrù:hò.
 cí-azo ci-aruk-ite kú-ru-uho
 NP₇-door SBJ₇-open.INTR-STAT AG-NP₁₁-wind
 Intended: ‘The door is opened by the wind.’

Another implication of this difference between the near past perfective and the stative is that a temporal adverb referencing the change in state is allowed with the near past perfective, but not with the stative.

- (13) Òmwíni wàcò:kì jùnu.
 o-mu-íni u-a-cò:k-i junu
 AUG-SBJ₃-handle SBJ₃-PST-break.INTR-NPST.PFV today
 ‘The handle broke today.’

- (14) *Èténdè ryómbwà wángù ricó:kétè zónà.
 e-ténde ri-ó-mbwa u-angú ri-co:k-éte zóna
 AUG-5.leg PP₅-CON-dog PP₅-POSS_{1SG} SBJ₅-break.INTR-STAT yesterday
 Intended: ‘My dog’s leg broke yesterday.’

The difference between the near past perfective and stative can be exploited to express differences in evidentiality. When consultants were presented with contexts in which the speaker has first-hand knowledge of the preceding state change (for instance, having witnessed it personally), they used the near past perfective, as in (15). The stative, on the other hand, was used to express states about which the speaker does not have first-hand knowledge as to how it came about, as in (16).

- (15) Èzókà rínáfwì.
 e-zóka ri-na-fw-í
 AUG-5.snake SBJ₅-PST-die-NPST.PFV
 ‘The snake is dead.’ (the speaker just having killed the snake himself)

- (16) Òzú mbwà áfwitè.
 ózú mbwa a-fw-ite
 DEM₁ dog SBJ₁-die-STAT
 ‘This dog is dead.’ (the speaker coming across an apparently dead dog in the middle of the road)

Further examples showing the evidential potential of the stative and near past perfective are given in (17–18). The near past perfective in (17) can only be used when the speaker watched the ball get inflated, while no such restriction applies to the use of the stative in (18).

- (17) Ndiβwèné mbórà jiyákùti.
 ndi-βwene m-borá jì-i-á-kut-i
 SBJ_{1SG}-see.STAT NP₉-ball INC-SBJ₉-PST-become_full-NPST.PFV
 ‘I see the ball is full.’ (said by someone who watched the ball get inflated)

- (18) Ndiβwèné mbórà ikúsì.
 ndi-βwene m-borá i-kusí
 SBJ_{1SG}-see.STAT NP₉-ball SBJ₉-become_full.STAT
 ‘I see the ball is full.’

Narratives also provide examples of the evidential use of the near past perfective and stative. In (19), taken from a narrative context in which the speaker has not witnessed the subject putting on a hat but merely sees him wearing it, the verb *βika*⁶ is used in the stative aspect.

- (19) βàβíkítè náβò ènkwâni.
 βa-βík-íte ná-βo e-n-kwâni
 SBJ₂-put-STAT COM-DEM₂ AUG-NP₉-hat
 ‘He⁷ also wears a hat.’

Example (20) is taken from the same narrative context, in which the speaker did witness the fruits scattering, using the verb *-hasana* ‘scatter’ in the near past perfective.

- (20) Mìsèrò yàtikì yàhásàni.
 mi-sero i-a-tík-i i-a-hásan-i
 NP₄-fruit SBJ₄-PST-roll-NPST.PFV SBJ₄-PST-scatter-NPST.PFV
 ‘The fruits have rolled out, are scattered.’

Although further research is needed into the semantics of the evidential use of these constructions, the data so far support at least a binary analytic distinction between the use of the near past perfective when the speaker has personally witnessed the change in state, and the stative in other cases.

4.2 Nyamwezi

Nyamwezi (F22A) is a Tanzanian Bantu language with 1,470,000 speakers (Gary and Fennig 2018). It is closely related to Sukuma (F21), discussed in 3.2 above. This study focuses on the Dakama lect of Nyamwezi, which is spoken in the area just north of Tabora.

As in Fwe, evidentiality in Nyamwezi is expressed through tense and aspect categories, especially in contexts where these categories have readings that overlap. In Nyamwezi, there are three tense-aspect categories with overlapping readings: the hodiernal past, stative aspect, and imperfective aspect. The overlapping of the readings of these tense-aspect categories is, again, limited to certain actional classes.

In addition to the change-of-state (COS) and non-COS verbs described in Section 3, in Nyamwezi non-COS motion verbs with directional interpretation such as *ja* ‘go’, *shooka* ‘return’, *iza* ‘come’ and *peela* ‘run’, play a vital role in the expression of evidential meaning. We will refer to these verbs as directionals, following Kanijo (2019).

These three types of actional classes – COS, non-COS, and directional – generate different readings when interacting with the hodiernal past, stative aspect, and imperfective aspect. The interaction of these tense-aspect categories with actional classes is briefly discussed below, before we show the evidential distinctions that arise when the categories overlap.

With non-COS verbs, the hodiernal past construction SBJ-*á*-vb-*ag-á* refers to an event that was completed on the day of speaking, as exemplified in (21).

- (21) Wìmbágá.
 u-á-imb-ag-á

⁶ Fwe and Nyamwezi verbs cited in isolation are given as verb stems, which include the extended or bare lexical root, followed by the default final vowel suffix *-a*.

⁷ In Fwe, class 2 agreement markers can be used with a third person plural interpretation, or with a third person singular interpretation to mark respect towards the referent. It is this singular, respectful interpretation this is intended in example (19).

SBJ₁-PST-sing-HODPST-FV
'S/he sang (a while ago).'

In COS verbs (22) and directional verbs (23), the hodiernal past carries an assertion of a continued state: it asserts that the resultant state still holds at utterance time.

(22) W-aa-gín-ag-a. (COS)
SBJ_{2SG}-PST-be(come)_fat-HODPST-FV
'You are/have become fat(ter)!'

(23) W-aa-j-áag-a. (directional)
SBJ₁-PST-go-HODPST-FV
'S/he is/has gone.'

The imperfective construction SBJ-*lii*-vb-*a* represents a situation as incomplete or unbounded. In all actional classes, the imperfective construction expresses a progressive or ongoing reading, as exemplified in (24–26).⁸

(24) A-*lii*-zog-á. (non-COS)
SBJ₁-IPFV-cook-FV
'S/he is cooking.'

(25) A-*lii*-líin-a. (COS)
SBJ₁-IPFV-climb-FV
'S/he is climbing (a tree).'

(26) A-*lii*-peel-a. (directional)
SBJ₁-IPFV-run-FV
'S/he is running.'

The stative aspect is expressed with the SBJ-vb-*ile*⁹ construction, which in previous work on Nyamwezi (Maganga and Schadeberg 1992) is analysed as 'perfect' aspect. We follow Kanijo (2019) in arguing that SBJ-vb-*ile* can best be analysed as a stative construction. It is limited mostly to COS verbs and expresses a present state reading, as exemplified in (27).

(27) A-zwaál-ilé.
SBJ₁-get_dressed-STAT
'S/he is dressed in or wearing (a garment).'

The stative SBJ-vb-*ile* construction is generally unacceptable with non-COS verbs, as shown in (28). However, it can occur with directional verbs. With these verbs, SBJ-vb-*ile* denotes an ongoing or progressive reading, as exemplified in (29). It is unclear why only directionals among all non-COS verbs are acceptable with SBJ-vb-*ile*. It is interesting to note that Crane (2011: 294) identifies similar verbs in Totela (K41, Zambia and Namibia) as a potential

⁸ Especially when occurring with time adverbials, the imperfective aspect may generate a future or habitual reading in these classes.

⁹ Kanijo (2019) analyses this construction as involving a null-morpheme (SBJ- \emptyset -vb-*ile*). For simplicity of presentation, we omit the null morpheme in our representations here and refer interested readers to Kanijo (2019) for a fuller morphosemantic analysis of the construction and its place in the Nyamwezi tense/aspect system.

bridging context between COS verbs and non-COS verbs in the grammatical development of *-ite*), and that Botne and Kershner (2000: 165) describe Zulu (S42, South Africa) ‘inchoative’ verbs as ‘express[ing] a change of condition *or location* of the experiencer or patient, many expressing the change or transition from one state to another’ (emphasis ours).

(28) #A-sek-ilé.
 SBJ₁-laugh-STAT
 Intended: ‘S/he is (in the state of) laughing.’ or ‘S/he (has) laughed.’

(29) A-peel-ílé.
 SBJ₁-run-STAT
 ‘S/he is running (towards the shops).’

The readings associated with the interactions of Nyamwezi hodiernal pasts, imperfectives, and statives with various actional types are summarized in Table 1.

Table 1: Readings of selected tense-aspect categories by actional class in Nyamwezi

Tense-aspect category	Actional class	Temporal reading
Hodiernal past	COS	Resultative
	Non-COS	Past tense
	Directionals	Resultative
Imperfective aspect	COS	Progressive
	Non-COS	Progressive
	Directionals	Progressive
Stative aspect	COS	Present state
	Non-COS	Infelicitous
	Directionals	Progressive

In COS and directional verbs, these three tense-aspect constructions can express readings in which the temporal values overlap. For example, in COS verbs, both the hodiernal past and the stative aspect can be used to refer to an ongoing result state of the event. This is exemplified in (30) and (31), respectively.

(30) Hodiernal past
 Wiikálaga.
 u-á-ikal-ag-a
 SBJ₁-PST-sít-HODPST-FV

The stative aspect is infelicitous in contexts where the speaker perceives the action described by the verb, like the one exemplified in (37). *Lolagáa!* indicates that the speaker has visual access to the event and is therefore incompatible with the stative.

- (37) #Lol-ag-áa! A-z-iilé.
 look-IMP-FV SBJ₁-go-STAT
 Intended: ‘Look! S/he is going.’

In contrast to the stative construction, the hodiernal past and imperfective aspect are not restricted to a specific context. They are acceptable regardless of whether the speaker has visual access to the event. This is exemplified in (38), where the hodiernal past is acceptable because the event referred to takes place at the location where the utterance is spoken, and in (39), where the event referred to and the place where the utterance is spoken are not the same.

- (38) Lol-ag-áa! W-aa-laál-ag-a.
 look-IMP-FV SBJ₁-PST-be(come)_asleep-HODPST-FV
 ‘Look! S/he is asleep/sleeping.’
- (39) W-aa-laál-ag-a m-kááyá.
 SBJ₁-PST-be(come)_asleep-HODPST-FV LOC-homestead
 ‘S/he is asleep/sleeping in the house.’

Generally, Nyamwezi does not have a gram specifically dedicated to expressing evidentiality. Instead, evidential meanings come into play when the interpretations of the three tense-aspect constructions discussed in this section overlap. Further research in other tense-aspect constructions in Nyamwezi may reveal other instances of evidentiality.

4.3 Nzadi

Nzadi (B865) is a Bantu language spoken in several villages along the Kasai River in Bandundu Province in the Democratic Republic of the Congo. Crane et al. (2011: 3) estimate Nzadi to have several thousand speakers.

Semantic and pragmatic data for Nzadi are somewhat tentative, because only a single speaker (Nzadi historian and grammar co-author Simon Nsielanga Tukumu) could be consulted. Although this situation did not allow for naturalistic observations of the language in use, Nsielanga Tukumu’s judgments regarding the evidential and epistemic functions discussed below, while nuanced and complex, were relatively consistent across time, and we consider them to be strong evidence that these functions play an important role. Examples not taken from Crane et al. (2011) come from unpublished notes.

Nzadi is somewhat unusual among Bantu languages in that it is generally isolating rather than agglutinating, and the great part of its vocabulary consists of monosyllabic words. Unlike the other languages discussed in this chapter, Nzadi does not have a large class of COS verbs – Crane et al. (2011: 123) list only two – and COS verbs do not play a role in Nzadi’s evidential functions, which are instead found in two contrasting present-tense forms. We will refer to these forms by the shorthand A-PRESENT (APRS in interlinear glosses) and E-PRESENT (EPRS).

A-PRESENTS include the tense-aspect auxiliary *a*, followed by the bare verb root with a HL melodic tone (40). E-PRESENTS are formed with auxiliary *ê*, along with more complex stem-tone pattern changes and, sometimes, changes to the stem vowels (41). Crane et al. (2011) describe these patterns in detail.

(40) A-PRESENT in Nzadi
 Mí a lyáà.
 1SG APRS cry.APRS
 ‘I cry. / I am crying.’ (Crane et al. 2011: 125)

(41) E-PRESENT in Nzadi
 Mí é líí.
 1SG EPRS cry.EPRS
 ‘I am crying. / I cry.’ (Crane et al. 2011: 125)

The A-PRESENT tends to be used more with habitual reference, while the E-PRESENT is used more frequently with ongoing situations.¹⁰ This tendency is also seen in the narrative texts appended to Crane et al. (2011), as in the excerpts in (42), taken from the text entitled ‘The Nzadi Market’ (Crane et al. 2011: 274-7).

(42) Adzín a fá bǎ man é bǎ,
 Dzing.people APRS come_from.APRS 3PL¹¹ villages POSS 3PL

bǎ a tswá ba-ntswǎó ... Nǎ é ye
 3PL APRS bring.APRS PL-cassava 3SG.NPERS EPRS cop

okal ómǎtúk baar á 'yá bǎ sám bǎ
 place one people PERF come 3PL reason 3PL

e zí mpíi ndáá mpil 'é lǐ
 SBJV know also news manner EPRS pass.EPRS

nǎ kó ntǎt...
 3SG.NPERS LOC world

‘The Dzing people come from their villages, they bring cassava... It is a place people come so that they may also know the news of what is happening in the world...’ (Crane et al. 2011: 274-5)

Despite this general tendency, both forms can be used with both kinds of aspect, as seen in (40–41) above, and the aspectual distinction becomes even less clear in complex TAM expressions (see Crane et al. 2011: ch.7 for more details and examples). Crane et al. (2011) gloss the A-PRESENT as HAB (and sometimes PRES) and the E-PRESENT as PROG. In this chapter, we abstract away from these labels in order to focus on the overlapping tempo-aspectual readings and their evidential distinctions. However, the progressive flavor of the E-PRESENT likely plays a role in its evidential uses, as we discuss below.

¹⁰ Crane et al. (2011: 128) note a possible further tonal distinction between A-PRESENT progressives and A-PRESENT habituals, but this distinction was not seen consistently, and was mainly evident in monosyllabic H-toned stems (and sometimes with monomoraic L-toned stems).

¹¹ Note that Nzadi distinguishes human from non-human pronouns in both singular and plural paradigms (Crane et al. 2011: 46). Since the examples we give with plural subjects only involve human referents, we do not make this distinction in our glossing.

Crane et al. (2011) propose that the distinction between the two forms lies more in the domain of degree of epistemic certainty, with E-PRESENTS requiring greater speaker certainty than A-PRESENTS. Here, we will suggest that an important – if not the main – component of the epistemic certainty of E-PRESENTS, when used in contrast to A-PRESENTS, is visual in nature; this eyewitness evidence can either be first-hand or reported directly from a participant or eyewitness. Thus, the tentative Nzadi data do not appear to strictly follow the evidential hierarchy presented in Willett (1988: 57) and elsewhere, in which direct sensory information is more highly valued than indirect (inferred) information (with direct visual information trumping other sensory input; see Faller 2002), and in which hearsay is treated as the least reliable evidence. Rather, direct sensory evidence, especially visual evidence, on the part of the speaker, seems to be the prototypical condition for the use of E-PRESENTS; A-PRESENTS may either lack evidential value or be used when the truth of a statement is inferred; and either form appears to be licit when reporting information from a direct participant in or witness to the event reported. This split may be related to the possible progressive origins of the E-PRESENT; Caudal and Roussarie (2005) note that ‘testimonials’ often derive from progressive aspectual forms. As noted above, Botne (2020) also posits an evidential category he calls ‘authoritative’, in which the information comes from a trusted second-hand source and can therefore be attributed a degree of confidence similar to that of direct first-hand evidence.

The most common contextual distinction Nsielanga Tukumu suggested when presented with examples only differing in the aspectual marking, is that of direct visual evidence, as in (43–44) (see Crane et al. 2011: ch. 7 for further discussion of Nzadi’s two copula).

(43) a Bɔ a pɔ tɔ.
 3PL APRS sleep.APRS sleep
 ‘They are sleeping.’
 Context: the speaker doesn’t see them (Crane et al. 2011: 126)

b Bɔ é pɔ tɔ.
 3PL EPRS sleep.EPRS sleep
 ‘They are sleeping.’
 Context: the speaker sees them (Crane et al. 2011: 126)

(44) a Bɔ a máŋ 'kó ntse kó ngyě òté.
 3PL APRS COP LOC down LOC under tree
 ‘They are sitting under the tree.’
 Context: the speaker doesn’t see them

b Bɔ é ye 'kó ntse kó ngyě òté.
 3PL EPRS COP LOC down LOC under tree
 ‘They are sitting under the tree.’
 Context: the speaker sees them

The contrast in (45) suggests that visual evidence is more important than other evidence, at least when the activity in question is primarily visually perceived. Nsielanga Tukumu judged (45a), with the A-PRESENT, to be felicitous if the speaker inferred that dancing was occurring through auditory evidence, while (45b), with the E-PRESENT, would be appropriate if the speaker could see the dancing event.

(45) a Bɔ à mên.

3PL APRS dance.APRS
'They are dancing.'
Context: the speaker hears the dancing

b Bɔ ê mén.
3PL EPRS dance.EPRS
'They are dancing.'
Context: the speaker sees them

The distinction between visual and inferred evidence is also seen in (46), where Nsielanga Tukumu also allowed for the use of the E-PRESENT in other cases of direct sensory input and even of epistemic certainty (46b).

(46) a Bɔ a sónka.
3PL APRS write.APRS
'They are writing.'
Context: the speaker knows they are in a classroom, and is making a confident guess about what they are doing, but doesn't want to make a strong assertion of knowledge (Crane et al. 2011: 127)

b Bɔ é 'sónka.
3PL EPRS write.EPRS
'They are writing.'
Context: the speaker sees or hears them writing, or is otherwise certain (Crane et al. 2011: 127)

On the other hand, the E-PRESENT can occur in cases where epistemic certainty is explicitly not asserted, as in (47b).

(47) a Mi a bántsa bɔ á dza.
1SG APRS think.APRS 3PL APRS eat.APRS
'Maybe they're eating.' (lit. 'I think they're eating.')

Context: the speaker is making a presumption

b Mi a bántsa bɔ ê dzé.
1SG APRS think.APRS 3PL EPRS eat.EPRS
'Maybe they're (still) eating.' (lit. 'I think they're eating.')

Context: the speaker knows for certain that they *started* eating, because, for example, he saw them

In general, the direct (usually visual) evidence does not have to overlap with the time of utterance in order for the E-PRESENT to be felicitous (48).

(48) Bɔ ê báán.
3PL EPRS go_up.EPRS
'They are going upriver.'
Context: the statement is made at noon. The speaker knows [probably through direct visual evidence] that they left in a boat at 11.00, and also knows they won't reach their destination village until 13.00 (Crane et al. 2011: 127, paraphrased)

Finally, both forms are felicitous with hearsay evidence (49), with the E-PRESENT possibly preferred when the evidence comes from participants or direct witnesses (see also the note above about the evidential category ‘authoritative’, in Botne 2020.). Note that even the use of the E-PRESENT in (42) above, taken from a text describing a habitual occurrence, is related to testimony (‘...news of what is happening in the world’).

(49) a Bɔ̃ a mên.
 3PL APRS dance.APRS
 ‘They are (probably) dancing.’
 Some possible contexts: they told me this morning that they would dance; they usually dance at about this time

b Bɔ̃ ê mén.
 3PL EPRS dance.EPRS
 ‘They are dancing.’
 Some possible contexts: I just talked to them on the phone and they told me; somebody who saw them told me; the A-PRESENT would also be possible in these contexts

In summary, Nzadi’s two present-tense forms, while tending to pattern with habitual vs. progressive aspect, are not restricted to the contexts of these respective aspectual categories. Although Nzadi does not have a fully developed evidential system in the present tense, when the two forms overlap in their aspectual expressions, they tend to express evidential differences: E-PRESENTS are used with direct, usually visual evidence; the visual evidence may also be trusted second-hand testimonial, while A-PRESENTS are neutral in terms of evidentiary source, and they tend to be the form chosen when the truth value of an utterance is inferred rather than directly observed. Although further textual and diachronic evidence are still needed, the connection between progressive aspect and testimonial functions are telling.

4.4 Ikoma

Ikoma (JE45) is spoken by nearly 20,000 people in northwest Tanzania near Serengeti National Park (Muzale and Rugemalira 2008). Together with Nata and Ishenyi, it is listed under the so-called Western Serengeti languages. In terms of evidentiality, the three of them appear to function in much the same way (Roth 2017). We focus specifically on the Ikoma variety here.

The *Vká-* prefix¹² in Ikoma marks first-hand evidentiality, typically visual or auditory, as in (50a) and (50b), respectively. Non-first-hand evidentiality is normally indicated by the perfective (*-iri*), as in (50c).

(50) Context: A child is taking a nap in the bedroom of a house.

a A-ká-βook-a.
 SBJ₁-EVID-wake_up-FV
 ‘S/he is waking up.’
 ‘S/he has just woken up.’

¹² In Ikoma, the unspecified vowel, which we identify by means of *V*, assimilates completely to the preceding vowel (as in 51a). However, long vowels are not permitted word-initially and so there is no unspecified vowel in those environments (as in (50a–b) below). Additionally, there is a segmentally identical morpheme (*Vka-*) with a L tone that forms the narrative past.

Further context: Speaker is in the same room and can see the child.

b A-ká-βook-a.

SBJ₁-EVID-wake_up-FV

‘S/he is waking up.’

‘S/he has just woken up.’

Further context: Speaker is in an adjacent room but can hear the child.

c N-a-βook-iri.

FOC- SBJ₁-wake_up-PFV

‘S/he has just woken up.’

‘S/he is awake.’

Further context: Speaker is outside the house and cannot see or hear the child.

(Roth 2018: 89)

In (50c), the speaker is outside the house and has not witnessed the child waking up. Someone else has told the speaker (report) the child is awake. In (51a), the evidential marker is again used because the event is witnessed by the friend. In (51b), non-first-hand evidentiality is expressed by the non-past consecutive form (*βa-βuy-a* ‘they say’).

(51) a Context: The old men are having a village meeting. You have to step away from the meeting for a few minutes. When you come back your friend is able to whisper to you:

βa-aká-βuy-a

SBJ₂-EVID-say-FV

‘[The old men] say..., have (just) said...’

b Context: The old men are having a village meeting. You have to step away from the meeting for a few minutes, but regrettably so did your friend. The old men must have said something important, and so right after the meeting your friend’s friend reports to him what they said. Your friend then tells you:

βa-βuy-a

SBJ₂-say-FV

‘[The old men] say...’

(adapted from Roth 2018: 93)

Ikoma can also use *Vká-* for inference. In (52), the context is the familiar Biblical story of Noah and the flood. It is toward the end of the story where the water has been receding, and Noah has sent out a dove to test how much water was left on the land.

(52) Genesis 8: 11

Asárarí íyo e-ya-γaruk-a oNúhu omuyɔrɔɔβá, enyí ne eriito
9.dove that SBJ₉-NARR-return-FVto.Noah in_evening and_indeed with leaf

iβése re musayitúuni momonu wááche. Nihó Núhu
raw of olive_tree in_mouth her so Noah

a-ka-meny-a kuβá amánche ya-ayá-tiβok-a mose.

‘And the dove came back to him in the evening, and behold, in her mouth was a freshly plucked olive leaf. So Noah knew that the waters had subsided from the earth.’
(adapted from Roth 2018: 94)

Noah sees the olive leaf in the dove’s mouth in the first sentence, but the direct evidential – indexing Noah’s perspective – is not marked until the second sentence with *yaayátiβoka* ‘[the waters] had decreased’. There is a connection between Noah’s observation of the olive leaf in the dove’s mouth and the knowledge that the waters had decreased a certain amount. But this does not change the fact that Noah did not actually see what the dove saw. There is a step of deductive logic between the actual observation and the conclusion Noah draws. *Vká-* is marked not on what is being directly observed but on the result of a process of reasoning.

So far, we have just been labelling *Vká-* forms as evidentials (EVID). However, *Vká-* also has aspectual force. Roth (2018) argues that *Vká-* is an evidential fused with a secondary aspectual value that he terms *nucleative*, or a ‘pseudo-perfective/progressive’ (2018: 86). The term *nucleative* has to do with actional considerations, specifically the idea of the ‘nucleus’, defined as the central or ‘characteristic’ event phase (Botne and Kershner 2000: 165). In this chapter, we modify Roth’s (2018) analysis slightly, abstracting away from the concept of a nucleative aspect and instead analysing *Vká-* as a present perfective.

Let us first compare *Vká-* with the perfective *-iri*. Perfectives have both completive (past) and resultative (present) senses depending on the actional profile of the verb (e.g., Botne 2010, Nurse 2008: 97–8). Typical examples of this are demonstrated with COS verbs in (53). In these examples, the resultative (present) sense is listed first while the completive (past) is in parentheses.

- (53) a N-a-kari-ire.
 FOC-SBJ₁-be.angry-PFV
 ‘S/he is angry.’
 ‘S/he has become angry.’
- b N-a-many-iri.
 FOC-SBJ₁-know-PFV
 ‘S/he knows.’
 ‘S/he has come to know.’
- c N-a-βook-iri.
 FOC-SBJ₁-wake.up-PFV
 ‘S/he is awake.’
 ‘S/he has woken up.’
 (adapted from Roth 2018: 106-107)

The *Vká-* marker functions much like the perfective does with COS verbs, with both past completive and present resultative readings, as in (54). The major difference is that *Vká-* typically has a stricter time boundary than the perfective *-iri*, much like an immediate past, that is, ‘has (just) V-ed (within the past twenty minutes)’.

- (54) a A-γá-karar-a.
 SBJ₁-EVID-be.angry-FV
 ‘S/he is angry, has (just) become angry.’

- b A-ká-many-a.
 SBJ₁-EVID-know-FV
 ‘S/he knows, has (just) come to know.’
- c A-ká-βook-a.
 SBJ₁-EVID-wake.up-FV
 ‘S/he is waking up (now), has (just) woken up.’
 (adapted from Roth 2018: 106-7)

Unlike Fwe and Nyamwezi, which have a dedicated stative aspect form, Ikoma does not (see discussion in Roth 2018: 101–3). For COS verbs in Ikoma, the use of *Vká-* can either accompany first-hand witnessing of the state change or first-hand witnessing of the state concurrent with utterance time. When inflected with the perfective gram *-iri*, durative verbs – that is, non-COS verbs representing situations that are extended in time – only yield a past completive reading, as in (55).

- (55) a A-kúru i_yey-iri eky-óra a-mu-yóngo.
 9-tortoise SBJ₉-carry-PFV 7-frog 9-3-back
 ‘The tortoise (has) carried (*carries) the frog on its back.’
- b Aβa-chúngu m-ba-yor-iri a-sé.
 2-foreigner FOC-SBJ₂-buy- PFV 9-land
 ‘The white foreigners (have) bought (*buy) the land.’
 (adapted from Roth 2018: 59–60)

Durative verbs with *Vká-*, on the other hand, can yield not only past readings but also present ones, the context disambiguating between the two. However, *Vká-* does not function as a prototypical ‘progressive’. Examples (56) and (57) show that *Vká-*, while overlapping with reference time, represents events more as instantaneous than as ongoing. In (56), the speaker, a hare, shouts out that, at utterance time, the lion is on his way and is relatively close to him (the speaker).¹³

- (56) Waka a-ká-ách-a!; Uú! Masaaní wááne, Waka a-ká-ách-a!
 Lion SBJ₁-EVID-come-FV woah friend my Lion SBJ₁-EVID-come-FV
 ‘Whoa! My friend, Lion is coming! My friend, Lion is coming!’
 (adapted from Roth 2018: 99)

Another instantaneous example of *Vká-* is shown in (60). In this example from a Biblical text, the midwife is in the middle of helping a woman give birth and the biological sex of the baby can now be identified. She says:

- (57) O-ta-tiin-a, yó kuβá o-ká-βon-a wiikí omóóna
 SBJ_{2SG}-NEG-fear-FV because SBJ_{2SG}-EVID-get-FV again child
 owónde o yesúβe

¹³ In this example (from a folktale) and many the others in this section, the progressive *ra-* is used as a narrative past (see Roth 2018: 78).

another of male

‘Do not fear, for you are getting (giving birth to) another son.’
(Genesis 35: 17; adapted from Roth 2018: 93)

The midwife’s utterance coincides with the event itself. Thus, while this type of use requires a progressive translation in English, it does not mean these forms are progressives in Ikoma. This coinciding of the event with utterance time is not unusual for evidentials, although it is important to understand that they do not always function this way. ‘The time of verbal report about something happening may coincide with its actual happening, or the two may be different. That is, the time reference of an evidential does not have to coincide with that of the event’ (Aikhenvald 2004: 99). Example (58) shows that this type of coinciding is not necessary.

- (58) Hano á-mar-iri yo-yá-h-a ishébyara Ishebyara yuyɛ
when SBJ₁-finish-PFV INF-OBJ₆-give-FV father-in-law father-in-law go
- yo-yá-nyo haɲú a-ra-βúy-a: ‘Iβeére iyé niye,
INF- OBJ₆-drink in_this_way SBJ₁-PROG-say-FV now you indeed
- o-yo-kwír-a omúúke wááne. O-ká-n-dæɛɛɛr-a
SBJ_{2SG}-IPFV-marry-FV daughter my SBJ_{2SG}-EVID-OBJ_{1SG}-bring-FV
- amanché yáno hene n-ga Mashéu’.
NP₆.water this truly it_is-6 Masheu

‘When he finished giving [the water] to his (future) father-in-law, the father-in-law went ahead and drank [the water], and said: “Now, you indeed will marry my daughter. You have (just) brought me this water. Truly, it is the water of Masheu”.’
(adapted from Roth 2018: 85)

In the context of (58), the future father-in-law has not only received the water; he has already drunk it. The event of bringing the water occurred in the immediate past. Again, despite the stricter time constraint here (represented by ‘just’), this is the same reading we would expect for duratives with the perfective. But as we have seen, unlike the *-iri* perfective, the *Vká-* construction often has the possibility of past and present senses regardless of actionality. *Vká-* also resembles the progressive in that it can represent a situation in progress at and around reference time. However, situations with *Vká-* do not seem to be conceptualized as unbounded, as there is typically a strict time boundary.

As noted above, we analyse *Vká-*’s aspectual contribution as ‘present perfective’. Of course, this analysis brings up issues of its own. For instance, Bybee et al. (1994: 83) say that ‘the notion of a perfective present event is anomalous, since by definition such a situation could not be viewed as bounded’. Malchukov (2009) coined the term ‘present perfective paradox’ to refer to the semantic incompatibility of the perfective aspect and the present tense. Other studies have noted this same phenomenon (e.g., Comrie 1976: 66–71; Dahl 1985: 80–1; De Wit 2016). So how does a rare (or non-existent, if, by definition, present and perfective are incompatible) category apply in the case of Ikoma?

First, while taking first-hand evidentiality out of the picture as much as possible, it explains the ‘right now’ uses of the *Vká-* construction (as in 56 and 57). Despite Bybee et

al.’s (1994: 83) assertion that these types of examples ‘could not be viewed as bounded’, this appears to be exactly the case in Ikoma. Like the perfective, these events in Ikoma are represented ‘as having temporal boundaries, as being a single, unified, discrete situation’ (Bybee et al. 1994: 83). This is happening even though the event coincides with utterance time, and the event is not necessarily complete. As De Wit (2016: 1–2) says, ‘grammar users of different languages possess various strategies to overcome the [present perfective] paradox, sometimes even in such a way that there do not appear to be any incompatibility problems at all’.

Second, how does this analysis fit with the immediate past examples of *Vká-*, as in (58)? Some of the ‘various strategies’ languages have for handling this intersection of the present, perfective, and dynamic verbs are a reinterpretation of the combination as either past or future (De Wit 2016: 35–37). Generic and habitual uses are among other possibilities (e.g., Malchukov 2009). If we are able to think of the present as fleeting and mostly an abstraction anyway, or the present moment as constantly becoming the immediate past, we can begin to see one of the extended uses of *Vká-* here. *Vká-* can be thought of in this sense as an ‘ever-vanishing’ present. Consider example (59).

- (59) Iβeeré [Moseβoká] a-ra-βóók-a, a-ra-βúγ-a
 Now Moseboka SBJ₁-PROG-rise.up-FV SBJ₁-PROG-say-FV
- ‘Wóri eni chaa-síko che-ene che-eyá-suuh-a.
 SBJ_{1SG}.say PRON_{1SG} 7-day 7-POSS_{1SG} SBJ₇-EVID-decrease-FV
- N-diγi ne-eyo-kú. Iβeeré Aβí-íkoma βá
 SBJ_{1SG}-see SBJ_{1SG}-IPFV-die now 2-Ikoma ASSOC
- wiito n-da-acha go-kú [...]’
 homeland SBJ_{1SG}-PROG-about.to 15-die
- Iβeeré Moseβoká a-ra-βóók-a, a-ra-kú.
 Now Moseboka SBJ₁-PROG-rise.up-FV SBJ₁-PROG-die

‘Now he [Moseboka] rose up and said, “I say, for me my days have (just) decreased. I see [that] I will die. Now, Ikoma of our homeland, since I am about to die [...].”
 Now Moseboka rose up and died’. (adapted from Roth 2018: 92)

In the context of the story, Moseboka is a legendary Ikoma figure with massive strength. He has a dream that the village is going to be raided and many Ikoma people will die. He warns them and carries a number of large animals back to his house (which appears to ward off the threat). Afterwards, he makes the proclamation in (59). The implication is that the feat of strength he just performed has led to his untimely death. (In terms of evidentiality, he is the eyewitness to his own impending death.) He finishes his speech and then dies.

However, in conversations at least, the *Vká-* marker appears to be able to adopt another, more generic/habitual use, normally the domain of the Ikoma imperfective (Roth 2018: 73–76). Consider examples (60) and (61) below.

- (60) niβeere neróóche aβatááki βa-ayá-twaang-á βatááki
 now SBJ_{1SG}_have_seen government SBJ₂-EVID-refuse-FV government
- βa-ta-γotótori.

SBJ₂-NEG-help

‘Now, I have seen the government refuses (to help); the government does not help.’
(adapted from Roth 2018: 100)

(61) Iyé o-riyi néke rehatotoori háno o-ká-βook-a
you SBJ_{2SG}-see what benefit that SBJ_{1PL}-EVID-receive-FV
o-yá-som-a awanyu?
SBJ_{2SG}-EVID-observe-FV your_home(_area)

‘What do you see as the benefit [of living near the Serengeti] that we receive, as you observe your home area?’ (adapted from Roth 2018: 100)

In both of these examples, the eyewitnessing takes place over a period of time and is not confined to the immediate past. These are not specific events, but more general/habitual instances. Despite filling a role that is normally the domain of the imperfective, these generic/habitual examples also fit with the present perfective analysis, as this combination is reinterpreted as past, future, generic, and/or habitual (De Wit 2016, Malchukov 2009). The eyewitness evidentiality component could certainly be driving this change.

Aspectual verbal semantics have shifted in Ikoma, and one change continues to drive others. For instance, the non-periphrastic progressive is disappearing and has already disappeared in the Ishenyi lect (Roth 2018: 118). The non-periphrastic progressive *ra*-construction is rarely used, and there are also two situative¹⁴ morphemes which resemble the progressive: *ra*- (segmentally the same, but toneless), and *ráá*- (segmentally and tonally different, but similar) (Aunio 2013). While generic/habitual interpretations have more to do with the imperfective than the progressive, the loss of the progressive affects the division between individuated and collective events (Kershner 2002, Roth 2018: 73, 76–8). Semantic space has been opened for the present perfective to include progressive as well as generic/habitual meanings, semantics normally associated with the imperfective.

5 Discussion and conclusions

Aspectual marking frequently overlaps with the expression of evidential force, perhaps especially in languages that are not analysed as having dedicated evidential systems. The most common semantic connection noted is the one between resultative and perfect aspectual values and inferred evidentiality (Hengeveld 2011: 589; Forker 2018: 71; De Wit and Brisard 2020, among many others). These aspectual and evidential values share a sense of indirectness. Resultatives and perfects frame a situation in terms of its present results, and indirect evidentials make inferences about a situation based on its results (Comrie 1976: 110). In consequence, resultative and perfect forms are not uncommonly used with evidential (and, relatedly, mirative) interpretations. In Fwe (Section 4.1) and Nyamwezi (Section 4.2), non-first-hand evidential meaning is associated with the markers *-ile* and *-ite* that likely have their origins in a resultative form (Botne 2010; Crane 2012). In both Fwe and Nyamwezi, these forms are now best analysed as marking stative aspect. Fwe *-ite* is best translated as a present state with COS and stative verbs. With other verbs, *-ite* indicates a progressive situation or a past situation with highly relevant results. Nyamwezi SBJ-vb-*ile* similarly indicates a present state with COS verbs, but it is infelicitous with most other verbs, with the exception of

¹⁴ Aunio considers the situative ‘to refer to events that preceded the events expressed with the main clause’ (2013: 314).

directional verbs like *ja* ‘go’, *shooka* ‘return’, *iza* ‘come’, and *peela* ‘run’, in which it has progressive aspect. As noted in Section 4.2, directional verbs may be a natural bridging context between change-of-state and other verb types in the extension of resultative aspect to a more general stative aspect. Bybee et al. (1994: 105) summarize two grammaticalization pathways for resultatives. In one path, they come to express indirect evidence. Fwe *-ite* and Nyamwezi SBJ-vb-*ile* seem to have followed this path. –. The two languages seem to differ in their criteria for direct evidence and its relation to verbal event structure. In Fwe, present state readings of the near past perfective contrast with those of stative *-ite* in that the former require direct evidence of the *change* leading to the state; in Nyamwezi, SBJ-vb-*ile* is used when the speaker does *not* have direct visual evidence of the state itself (with COS verbs) or the ongoing motion event (with directional verbs). This distinction may relate to the functions of the contrastive tense/aspect constructions, in particular the fact that Nyamwezi SBJ-vb-*ile* overlaps and shows evidential contrasts with both the hodiernal past perfective and the (present) imperfective.

The other grammaticalization path indicated by Bybee et al. (1994: 105) goes from resultative to perfect (roughly speaking, past events with present relevance; Bybee et al. use the term ‘anterior’) to perfective or simple past. Although, as mentioned above, perfects also frequently develop indirect evidential meanings, Fwe and Nyamwezi stative forms both contrast with perfective forms that are associated with *direct* evidence (obligatorily in Fwe and optionally in Nyamwezi). Hengeveld (2011: 590) describes a shift from resultative to anterior (here describing a relative tense) and subsequently to past when the ‘focal point’ shifts from the present state-of-affairs to the past state-of-affairs leading up to it. Like the stative forms with which they contrast evidentially, Fwe and Nyamwezi perfective forms can be used to reference ongoing states. The additional focus on the past state-of-affairs, especially salient with the Fwe near past perfective, is likely a factor in their direct evidential functions.

The Ikoma *Vká-* marker (Section 4.4) may also have historical connections to resultative aspect. Roth (2018: 123), following Botne (2010), describes the historical aspectual value as ‘resultative perfective’. Synchronically, *Vká-* is a dedicated evidential marker with aspectual force. The aspectual functions of *Vká-* have expanded and shifted from its likely resultative origins. With COS verbs, *Vká-* can have either immediate past or present state readings. This duality of interpretation contrasts with the Fwe and Nyamwezi stative forms, which only have present stative interpretations with COS verbs. With non-COS durative verbs, as well, *Vká-* has ongoing (especially instantaneous [see above], but also habitual/generic) and immediate past interpretations, connected by a sense of temporal immediacy. In this chapter, we have analysed them under the umbrella of the present perfective, with precise temporal construals resolved contextually. Earlier resultative (perfective) semantics have developed a variety of aspectual interpretations, all with a sense of immediacy. *Vká-* is used to indicate first-hand sensory evidential sources, including inferential evidentiality stemming from sensory observations. Roth (2018: 128) suggests that eye- (and ear-) witness evidential strategies developed from the tempo-aspectual sense of immediacy; these later expanded to include sensory-based inferences without first-hand access to the event itself. In any case, the (tempo-)aspectual functions of *Vká-* differ from those of resultative forms and their typical grammaticalization outcomes, and *Vká-*’s evidential force differs from the typical inferential value associated with resultative and perfect forms cross-linguistically, in that it is also, and perhaps primarily, used for direct first-hand evidence. It seems likely that these aspectual and evidential functions developed together and were aided by the presence of other aspect markers with overlapping readings. Perfective *-iri* has both past and present-state readings with COS verbs, as is common across Bantu (see Section 3). This overlap with *Vká-* may have led to the constriction of forms with *Vká-* to more immediate contexts, which, as noted

above, may have aided the development of sensory evidential uses. In turn, the immediacy associated with direct sensory evidentials may allow for more progressive-like uses (an expansion also related to the ongoing loss of non-paraphrastic progressive forms in Ikoma), and the sensory component may also allow it to be used to describe witnessed events that are habitual or generic. Thus, the evidential and tempo-aspectual functions of *Vká-* are growing in tandem in Ikoma.

Connections between progressive marking and ‘testimonial’ evidence are also observed cross-linguistically (see, e.g., Caudal and Roussarie 2005; note, however, that what constitutes ‘testimonial’ evidence is not always clearly defined in the literature). Such a connection may underlie the development of eyewitness evidential connotations of the E-PRESENT in Nzadi (Section 4.3), which appears to allow this use with both first-hand and second-hand testimonial evidence. Further investigations of authoritative evidential force (Botne 2020) may shed light on the robustness of the progressive–testimonial connection in Bantu. The Nzadi data provide further support to Botne’s addition of the authoritative category to evidential classifications in African languages, which may explain seeming deviations from proposed evidential hierarchies (e.g., Willett 1988: 57).

In Ikoma, as noted above, progressive-like uses are also associated with testimonial evidence, in this case first-hand sensory information. In the case of Ikoma, however, it seems that the progressive-like uses developed out of the evidential functions, rather than the reverse.

Another cross-linguistic example of aspect marking that additionally communicates evidential distinctions is found in the Japanese language Shuri Okinawan (Northern Ryukyuan), in which past imperfective forms are used when the speaker has first-hand visual evidence, while past perfective forms are unspecified for evidentiality (Shimoji 2012: 376). We do not know of any parallel examples from Bantu. As described in Section 3, because of the importance of COS verbs in the actional system, the perfective–imperfective contrast in Bantu seems to function differently from the canonical cross-linguistic understanding of this division, and so we might also expect different outcomes in their respective expressions of evidential distinctions.

The Shuri Okinawan system also raises the issue of functional markedness, that is, a form with fixed evidential value contrasting with a form that underspecifies evidential value. Functional markedness has received relatively little attention in studies of evidentiality (see, e.g., Aikenvald 2004: 71–2), perhaps because of the restriction of mainstream studies to systems of obligatory evidential marking with primarily evidential meaning. It is plausible that evidential contrasts arising from tempo-aspectual overlaps would be more likely to exhibit functional asymmetries, with one of a pair of alternating, obligatory markers developing evidential meanings and the other remaining more neutral. Based on our data so far, the languages discussed in this chapter all seem to have at least some asymmetry in their expression of evidential value. In Nzadi, Ikoma, and Fwe, positive direct evidence is functionally marked. The Nzadi E-PRESENT asserts first-hand or trusted testimonial knowledge of an ongoing situation, whereas the A-PRESENT can be used in both non-first-hand and evidentially neutral contexts. Ikoma’s *Vká-* functions similarly, marking direct sensory or inferential evidence, in contrast to evidentially neutral *-iri*. In Fwe, too, at least in some contexts, present-state readings of the near past perfective require first-hand evidence of the change, while *-ite* statives make no reference to the change and therefore do not commit the speaker to having witnessed, or not witnessed, the precipitating event. In Nyamwezi, by contrast, the functionally marked evidential value is indirect: stative *-ile* can only be used in inferential contexts, when the speaker does not have direct visual access to the ongoing situation. The alternative tense/aspect constructions are more neutral regarding the speaker’s visual perspective.

While aspect-based evidential distinctions have not, to our knowledge, been widely documented across Bantu, there are many hints that aspect marking, and especially the aspect–actionality interface, can be exploited to convey evidential information in other Bantu languages, as well. For example, in Xhosa (S41, South Africa, xho), the auxiliary *soloko* ‘always, all the time’, which optionally takes verbal subject marking, indicates the ubiquity of the situation referenced by the main verb. When *soloko* occurs with a verb that does not encode a resultant state, the utterance suggests evidential generalizations based on first-hand observation, as in (62).

- (62) *Xa ndi-m-hambel-a, soloko e-zob-e umfanekiso.*
 if/when SBJ_{1SG}.SUBORD-OBJ₁-visit-FV always SBJ₁.SUBORD-paint-PFV NP₃.picture
 ‘When I visit him, he has always just painted a picture.’ (B. Persohn, p.c.)

The widespread distribution of the phenomena discussed in this chapter – evidenced in four Bantu languages with significant geographic and typological diversity – suggests that aspectual forms may be used to express evidentiality with some frequency across Bantu, especially in cases where actional (lexical aspectual) profiles and grammatical aspectual functions conspire to create tempo-aspectual interpretive overlap across aspectual forms. In particular, the interactions of COS verbs and perfective aspect, with both past-change and present-state interpretations often being available, seems to create environments in which evidential strategies and meanings can easily develop. Furthermore, the rapid grammaticalization and change of tense and aspect morphology frequently leads to cases in which a verb can be paired with two different tense/aspect forms with identical tempo-aspectual semantics, leading to the innovation of evidential interpretations.

Forker (2018: 68–71) notes that further research is needed to assess the cross-linguistic robustness of connections between aspect and evidentiality beyond the well-established link between perfects (and resultatives) and indirect evidentiality. This chapter has provided some additional data points to that end. The widely acknowledged links between resultative aspect and inferential evidentiality are clearly evidenced in Bantu, but other aspect categories are also used to express evidential contrasts. We hope that the survey given in this chapter will provide an impetus for future in-depth explorations of the connections between grammatical aspect and the expression of evidential contrasts in Bantu.

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Glosses and abbreviations (in addition to standard Leipzig abbreviations)

1 noun class 1; 1A noun class 1a; 3 noun class 3 (etc.); 1SG first-person singular (etc.); AG agent; APRS Nzadi ‘A-present’; AUG augment; CON connective; COS change-of-state (verbs); EPRS Nzadi ‘E-present’; EVID evidential; FV final vowel; H high tone; HODPST hodiernal (today) past; INC inceptive; L low tone; NARR narrative marker; NP noun (class) prefix); NPERS non-person; NPST near past; P₁ degree 1 (etc.) past tense; PP pronominal prefix; STAT stative; SUBORD subordinate; TA tense/aspect

References

- Aikhenvald, Alexandra Y. (2003). ‘Evidentiality in Typological Perspective’. in Alexandra Y. Aikhenvald and R.M.W. Dixon (eds.), *Studies in Evidentiality*. Amsterdam/Philadelphia: John Benjamins, 1–32.
- Aikhenvald, Alexandra Y. (2004). *Evidentiality*. Oxford: Oxford University Press.
- Aunio, Lotta, Holly Robinson, Tim Roth, Oliver Stegen and John B. Walker. 2019. ‘The Mara Languages (JE40)’, in Mark Van de Velde, Koen Bostoen, Derek Nurse, and Gerárd Philippon (eds.), *The Bantu Languages*. 2nd ed. London: Routledge, 501–32.
- Aunio, Lotta (2013). ‘Ikoma Verbal Tone’. *Nordic Journal of African Studies* 22 (4): 274–321.
- Aunio, Lotta (2015). ‘A Typological Perspective on Bantu Nominal Tone: The Case of Ikoma-Nata-Isenye in Western Tanzania’. *Southern African Linguistics and Applied Language Studies* 33 (3): 359–71.
- Bostoen, Koen (2009). ‘Shanjo and Fwe as Part of Bantu Botatwe: A Diachronic Phonological Approach’, in Akinloye Ojo and Lioba Moshi (eds.), *Selected Proceedings of the 39th Annual Conference of African Linguistics*. Somerville: Cascadilla Proceedings Project, 110–30.
- Botne, Robert (1997). ‘Evidentiality and Epistemic Modality in Lega’. *Studies in Language* 21: 509–32.
- Botne, Robert (2003). ‘Lega’, in Derek Nurse and Gerard Philippon (eds.), *The Bantu Languages*. 1st ed. New York: Routledge, 422–49.
- Botne, Robert (2008). *A Grammatical Sketch of Chindali (Malawian Variety)*. Philadelphia: American Philosophical Society.
- Botne, Robert (2010). ‘Perfectives and Perfects and Pasts, Oh My!: On the Semantics of -ILE in Bantu’. *Africana Linguistica* 16: 31–64.
- Botne, Robert (2012). ‘Remoteness Distinctions’, in Robert I. Binnick (ed.), *The Oxford Handbook of Tense and Aspect*. Oxford: Oxford University Press, 536–62.
- Botne, Robert (2020). ‘Evidentiality in African Languages’, in Chungmin Lee and Jinhho Park (eds.), *Evidentials and Modals*. Leiden: Brill, 460–501.
- Botne, Robert and Tiffany L. Kershner (2000). ‘Time, Tense, and the Perfect in Zulu’. *Afrika und Übersee* 83: 161–80.
- Botne, Robert and Tiffany L. Kershner (2008). ‘Tense and Aspect in Cognitive Space: On the Organization of Tense/Aspect Systems in Bantu Languages and Beyond’. *Cognitive Linguistics* 19(2): 145–218.
- Boye, Kasper (2018). ‘Evidentiality: The Notion and the Term’, in Alexandra Y. Aikhenvald (ed.), *The Oxford Handbook of Evidentiality*. Oxford: Oxford University Press, 261–272.
- Boye, Kasper and Peter Harder (2012). ‘A Usage-based Theory of Grammatical Status and Grammaticalization’. *Language* 88 (1): 1–44.
- Bybee, Joan, Revere Perkins and William Pagliuca (1994). *The Evolution of Grammar: Tense, Aspect and Modality in the Languages of the World*. Chicago: University of Chicago Press.

- Caudal, Patrick and Laurent Roussarie (2005). 'Aspectual Viewpoints, Speech Act Functions and Discourse Structure', in Paula Kempchinsky and Roumyana Slabakova (eds.), *Aspectual Inquiries*. (Studies in Natural Language and Linguistic Theory, vol. 62). Dordrecht: Springer, 265–90.
- Comrie, Bernard (1976). *Aspect*. Cambridge: Cambridge University Press
- Crane, Thera Marie (2011). 'Beyond Time: Temporal and Extra-temporal Functions of Tense and Aspect Marking in Totela, a Bantu Language of Zambia'. PhD thesis, University of California, Berkeley, Berkeley, California, USA.
- Crane, Thera Marie (2012). '-ile and the Pragmatic Pathways of the Resultative in Bantu Botatwe'. *Africana Linguistica* 18: pp. 41–96.
- Crane, Thera Marie, Larry M. Hyman, and Simon Nsielanga Tukumu (2011). *A Grammar of Nzadi: A Language of Democratic Republic of Congo*. Berkeley: University of California Press.
- Crane, Thera Marie and Bastian Persohn (2019). 'What's in a Bantu Verb? Actionality in Bantu Languages'. *Linguistic Typology* 23 (2): pp. 303–345.
- Dahl, Östen (1985). *Tense and Aspect Systems*. Oxford: Blackwell.
- De Haan, Ferdinand (2013). 'Coding of Evidentiality', in Matthew S. Dryer and Martin Haspelmath (eds.), *The World Atlas of Language Structures Online* Leipzig: Max Planck Institute for Evolutionary Anthropology. Retrieved on 25 June 2020 from <http://wals.info/chapter/78>.
- de Luna, Kathryn (2010). 'Classifying Botatwe: M60 Languages and the Settlement Chronology of South Central Africa'. *Africana Linguistica* 16: 65–96.
- De Wit, Astrid and Frank Brisard (2020). 'Aspect Beyond Time: Introduction'. *Journal of Linguistics* 56(3), 1-19
- De Wit, Astrid (2017). *The Present Perfective Paradox Across Languages*. Oxford: Oxford University Press.
- Eberhard, David M., Gary F. Simons, and Charles D. Fennig (eds.) (2020). *Ethnologue: Languages of the World*. 23rd ed. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>.
- Faller, Martina T. (2002). 'Semantics and Pragmatics of Evidentials in Cuzco Quechua'. PhD thesis, Stanford University, Stanford, California, USA.
- Forker, Diana (2018). 'Evidentiality and Its Relations with Other Verbal Categories', in Alexandra Y. Aikhenvald (ed.), *The Oxford Handbook of Evidentiality*. Oxford: Oxford University Press, 65–84.
- Gary, Simons F. and Charles D. Fennig (2018). *Ethnologue: Languages of the World*. 21st ed. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>.
- Gluckman, John and Margit Bowler (2016). 'Expletive Agreement, Evidentiality, and Modality in Logooli', in Mary Moroney, Carol-Rose Little, Jacob Collard, and Dan Burgdorf (eds.), *Proceedings of the 26th Semantics and Linguistic Theory Conference, held at the University of Texas at Austin May 12-15, 2016*, 1063–82.
- Gunnink, Hilde (2018). *A Grammar of Fwe: A Bantu language of Zambia and Namibia*. PhD thesis, Ghent University, Ghent, Belgium.
- Guthrie, Malcolm (1967–1971). *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages* (Vol. 1–4). London: Gregg International Publishers.
- Hammarström, Harald (2019). 'An Inventory of Bantu Languages', in Mark Van de Velde, Koen Bostoen, Derek Nurse and Gérard Philippson (eds.), *The Bantu Languages*. 2nd ed. London: Routledge, 17–78.

- Hengeveld, Kees. 2011. 'The Grammaticalization of Tense and Aspect', in Heiko Narro and Bernd Heine (eds.), *The Oxford Handbook of Grammaticalization*. Oxford: Oxford University Press, 580–94.
- Hewson, John (2012). 'Tense', in Robert I. Binnick (ed.), *The Oxford Handbook of Tense and Aspect*. Oxford: Oxford University Press, 507–35.
- Higgins, Holly A. (2012). *Ikoma Vowel Harmony: Phonetics and Phonology*. SIL E-Books 43. Dallas: SIL International. <www.sil.org/resources/publications/entry/51528>
- Hill, Dustin, Anna-Lena Lindfors, Louise Nagler, Mark Woodward, and Richard Yalonde. (2007). 'A Sociolinguistic Survey of the Bantu Languages in Mara Region, Tanzania'. Unpublished ms. Dar es Salaam, Tanzania: SIL.
- Kanijo, Ponsiano Sawaka (2019). 'Aspectual Classes of Verbs in Nyamwezi'. PhD thesis, University of Gothenburg, Gothenburg, Sweden.
- Kanijo, Ponsiano Sawaka. (2020). 'Evidential strategies in Nyamwezi'. *Studia Orientalia Electronica* 8 (3): 81–98.
- Kershner, Tiffany L. (2002). 'The Verb in Chisukwa: Aspect, Tense, and Time'. PhD thesis, Indiana University, Bloomington, Indiana, USA.
- Maganga, Clement and Thilo C. Schadeberg. (1992). *Kinyamwezi: Grammar, Texts, Vocabulary*. Berlin: Rüdiger Köppe Publishing Co.
- Malchukov, Andrej. (2009). 'Incompatible Categories: Resolving the "Present Perfective Paradox"', in by Lotte Hogeweg, Helen de Hoop and Andrej Malchukov (eds.), *Cross-Linguistic Semantics of Tense, Aspect and Modality*. Amsterdam: John Benjamins, 13–32.
- Masele, Balla F. Y. P. (2001). 'The Linguistic History of Sisumbwa, Kisukuma and Kinyamwezi in Bantu Zone F'. Ph.D. thesis, Memorial University of Newfoundland, Newfoundland, Canada.
- Meeussen, Achille E. (1967). 'Bantu Grammatical Reconstructions' *Africana Linguistica* 3: 79–121.
- Mushin, I. (2001). *Evidentiality and Epistemological Stance: Narrative Retelling*. Amsterdam: John Benjamins.
- Muzale, Henry R.T. and Josephat M. Rugemalira (2008). 'Researching and Documenting the Languages of Tanzania'. *Language Documentation and Conservation* 2 (1): 68–108.
- Nurse, Derek and Maud Devos (2019). 'Aspect, Tense and Mood', in Mark Van de Velde, Koen Bostoen, Derek Nurse and Gérard Philippson (eds.), *The Bantu Languages*. 2nd ed. London: Routledge, 204–36.
- Nurse, Derek, Sarah Rose and John Hewson (2016). *Aspect and Tense in Niger-Congo*. Tervuren: Royal Museum for Central Africa.
- Nurse, Derek (2008). *Tense and Aspect in Bantu*. New York: Oxford University Press.
- Nurse, Derek (2008). Appendix 1. 'Tense and Aspect in Bantu: Appendices: Appendix 1'. Retrieved on 24 June 2020 from <https://www.mun.ca/faculty/dnurse/Tabantu/tabantu-app1.pdf>
- Polančec, Jurica. 2021. 'Two-phase verbs: a crosslinguistic look at an actional class.' *Language Typology and Universals* 74(3–4): 467–506.
- Roth, Tim (2013). 'The Major Dialects of Nyamwezi and Their Relationship to Sukuma: A Time-Based Perspective'. *Journal of Linguistic Geography* 1: pp. 125–140.
- Roth, Tim (2017). 'Evidentiality in Ikoma-Nata-Isenye, a Bantu Language of Tanzania'. Paper presented at *The Expression of Knowledge: Epistemicity and Beyond*, Helsinki, Finland, August 23-25.
- Roth, Tim (2018). *Aspect in Ikoma and Ngoreme: A Comparison and Analysis of Two Western Serengeti Bantu Languages*. PhD thesis, University of Helsinki, Helsinki, Finland.

- Schadeberg, Thilo C. and Koen Bostoen (2019). 'Word Formation', in Mark Van de Velde, Koen Bostoen, Derek Nurse and Gérard Philippson (eds.), *The Bantu Languages*. 2nd ed. London: Routledge, 172–203.
- Shimoji, Michinori (2012). 'Northern Ryukyuan', in Nicolas Tranter (ed.), *The Languages of Japan and Korea*. New York: Routledge, 351–80.
- Smith, Carlota S. (1997). *The Parameter of Aspect*. 2nd ed. Dordrecht: Kluwer Academic Publishers.
- Storch, Anne (2018). 'Evidentiality and the Expression of Knowledge: An African Perspective', in Alexandra Y. Aikhenvald (ed.), *The Oxford Handbook of Evidentiality*. Oxford: Oxford University Press, 261–72.
- Van de Velde, Mark (2019). 'Nominal Morphology and Syntax', in Mark Van de Velde, Koen Bostoen, Derek Nurse and Gérard Philippson (eds.), *The Bantu Languages*. 2nd ed. London: Routledge, 237–69.
- Vendler, Zeno (1957). 'Verbs and Times'. *Philosophical Review* 66 (2): 143–60.
- Wiemer, Björn (2018). 'Evidentials and Epistemic Modality' in Alexandra Y. Aikhenvald (ed.), *The Oxford Handbook of Evidentiality*. Oxford: Oxford University Press, 85–109. Oxford: Oxford University Press.
- Willett, Thomas. 1988. 'A cross-linguistic survey of the grammaticization of evidentiality.' *Studies in Language* 12: 51–97.