

# Speaking about knowledge

## Evidentiality and the ecology of language

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We focus on the grammatical expression of four major groups of meanings related to knowledge: I. Evidentiality: grammatical expression of information source; II. Egophoricity: grammatical expression of access to knowledge; III. Mirativity: grammatical expression of expectation of knowledge; and IV. Epistemic modality: grammatical expression of attitude to knowledge. The four groups of categories interact. Some develop overtones of the others. Epistemic-directed evidentials have additional meanings typical of epistemic modalities, while egophoricity-directed evidentials combine some reference to access to knowledge by speaker and addressee. Over the past thirty years, new evidential choices have evolved among the Tariana – whose language has five evidential terms in an egophoricity-directed system – to reflect new ways of acquiring information, including radio, television, phone, and internet. Evidentials stand apart from other means of knowledge-related categories as tokens of language ecology corroborated by their sensitivity to the changing social environment.

**Keywords:** evidentiality, information source, epistemic modality, mirativity, egophoricity, Tariana, language ecology

### 1. Knowledge through grammar: A starting point

Every language has an array of ways of talking about knowledge in its varied facets. This is reflected in the lexical wealth of expressing knowledge and attitudes to it – inferences, assumptions, probabilities, and possibilities. Four major groups of meanings related to the varied aspects of knowledge acquire grammatical

expression across the world's languages: I. Evidentiality; II. Egophoricity; III. Mirativity; and IV. Epistemic modality.<sup>1</sup>

I. Evidentiality: Grammatical expression of information source, that is how one knows what one is talking about

Evidentiality specifies the information source of an utterance – whether the speaker saw the event happen, didn't see it but heard it or smelt it or perceived it through supernatural means, or made an inference about it based on visual traces or reasoning, or was told about it. In Boas' (1938: 132–3) classic adage, grammatical systems of evidentials determine “those aspects of each experience that *must* be expressed...whether seen, heard, or inferred” (emphasis in original). Evidentials have been described for more than a quarter of the world's languages, especially in the Americas, Asia, Africa, and some parts of New Guinea, with a few in Europe.

Evidentiality does not have any direct connection with truth or reliability of what one knows. One can tell a lie manipulating evidentials, by purposefully using the wrong marker of information source to mislead the audience (some examples are in Aikhenvald 2012a: 271–2 for Amazonian languages and König 2013, for !Xun, a Central Khoisan language). This contribution is limited to a discussion of evidentiality with sentential or clausal scope (more on non-propositional evidentiality whose scope is a noun phrase is in Jacques 2018, and also Aikhenvald 2021a: 103–8).

II. Egophoricity: Grammatical expression of preferential access to knowledge

Egophoricity expresses speaker's personal involvement in the action and access to information. For instance, in Munya, a Tibeto-Burman language, the egophoric auxiliary *No* denotes the subject's control and awareness of their action, or their involvement in a given situation. The marker is typically used with first person

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1. The grammatical expression of knowledge and especially evidentiality were addressed in my previous work, especially Aikhenvald (2004, 2018, 2021a). For a brief definition of fundamental differences between lexicon and grammar, the reader is referred to Dixon (2021: 77) and Aikhenvald et al. (2021: 30–34). These sources and further chapters in *The Oxford Handbook of Evidentiality* (ed. by Aikhenvald 2018) provide a definition of evidentiality as a grammatical category. Chapters in that volume include specific studies of evidentiality systems across the world, across South and North America and Eurasia. Typological statements in this paper are limited to spoken languages; a survey of marking information source in a selection of signed languages is in Wilcox & Shafer (2018).

in statements, second person in questions, and also in embedded clauses where the subject of the main clause is coreferential with that of the matrix clause (see Bai 2020: 241–45, 2021; DeLancey 2018; Hyslop 2018a, b; Sun 2018; Tournadre & Jiatso 2001, further references in Aikhenvald 2021a, and the discussion in Drolma & Suzuki, forthcoming).

### III. Mirativity: Grammaticalised expression of expectation of knowledge

The range of meanings of mirativity subsume unexpected knowledge and surprise, sudden discovery and unprepared mind, with additional overtones of new information and counter-expectation (see DeLancey 2001, 2012; Aikhenvald 2012b; Hyslop 2018a, 2023). As detailed in these sources, mirativity can be expressed as an independent category. Alternatively, mirative meanings can be expressed via an extension of other categories (including non-visual and, occasionally, reported evidentials).

### IV. Epistemic modality: Grammaticalised expression of attitude to knowledge – whether certain, uncertain, probable, possible, reliable, or unreliable

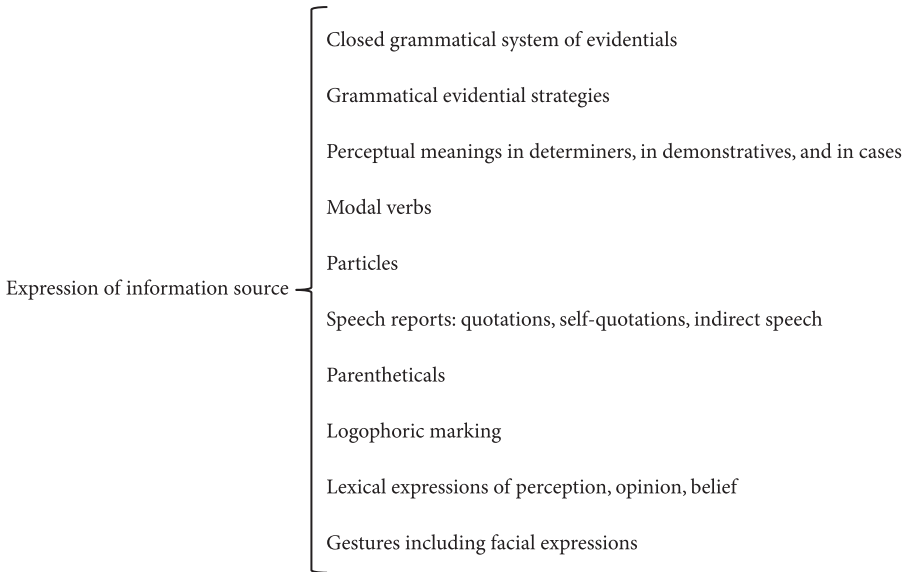
Epistemic modality reflects speaker's assessment of the truth of a statement and their subjective evaluation of the degree of certainty, such as probability and possibility (see a summary in Wiemer 2018). It is perhaps the most widespread knowledge-related category in the world. Modal meanings appear to have grammaticalized in every language.

Meanings associated with each of the four groups – (I) evidentiality, (II) egophoricity, (III) mirativity, and (IV) epistemic modality – can be expressed in numerous ways other than through a dedicated grammatical category.

Figure 1 features some of the ways of expressing information source.<sup>2</sup>

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2. A further grammatical category whose meanings relate to knowledge is reality status, or the distinction between *realis* and *irrealis*. Differences between reality status and epistemic modalities are summarised in Dixon (2012: 22–25) and Aikhenvald (2015a: 140–1). As shown in Aikhenvald (2004: 108–9), the meanings of *irrealis* may extend to cover non-eyewitness evidentiality. However, information concerning interactions between reality status, mirativity, and egophoricity is extremely scarce. To keep this contribution to a reasonable length, I have chosen not to include reality status in this discussion. Further meanings potentially relevant for the expression of knowledge through grammar include speaker's perspective, 'intersubjectivity', and empathy (in many languages expressed through optional particles, partly addressed by Bergqvist 2015). How they fit into the grammatical expression of knowledge within the system of each language, and their cross-linguistic validity, is a matter for further studies.



**Figure 1.** How to express information source

Historically, grammatical evidentials develop from other markers of information source via grammaticalization and concomitant reinterpretation (more on this in Aikhenvald 2021a: 99–103, 2021b; Mélac 2021).<sup>3</sup> Over time, information source as a semantic extension of a category may become the main meaning of a form previously used as an evidentiality strategy (as defined in Aikhenvald 2004: 105–52 where the concept was addressed in some detail, and also Aikhenvald 2018, 2021a and 2021b).<sup>4</sup> A perfect or a resultative with an overtone of ‘inference’ or ‘non-firsthand information’ becomes a marker of non-witnessed information (a non-witnessed evidential). An evidential strategy will develop into a dedicated evidential marker (a typical pathway in many languages across the world, especially Eurasia, as shown in Skribnik & Aikhenvald 2024; see also Friedman 2018). A lexical verb of speech combined with a complementiser is

3. Closed subclasses of words – such as verbs of speech, perception and cognition, or modal verbs – can be said to ‘straddle’ the boundary between the grammatical and the lexical (see, for instance, Squartini 2018).

4. The notion of ‘evidentiality strategy’ was first introduced in the Position paper for the International Workshop on Evidentiality by Aikhenvald (Melbourne, 2001). The Position Paper was widely circulated (electronically and as a hard copy); a revised version was then published as Aikhenvald (2003b) within the volume *Studies in Evidentiality* which contained a selection of papers presented at that International Workshop. The concept of a ‘strategy’ which replaces a dedicated grammatical category and may be used in lieu of it was first suggested by Dixon (1995).

gradually developing into a marker of reported evidentiality, *diz que* or *dizque*, in numerous varieties of South American Spanish, and in Brazilian Portuguese (see, for instance, Travis 2006; Alcázar 2018; Casseb-Galvão 2011; Demonte & Sorriano 2022; Aikhenvald 2022, and references there). Modal verbs and ‘secondary verbs’ (such as ‘seem’) extend to mark information source as ‘evidentiality strategies’ and develop into evidential markers. This is what we find in Jarawara, an Arawá language from southern Amazonia in Brazil (Dixon 2003), and a few East Tukanoan languages in Brazil and Colombia (Stenzel & Gomez-Imbert 2018). Further means of expressing information source by lexical means, including verbs of perception (‘see’, ‘hear’, ‘smell’) and cognition (‘know’, ‘understand’, and so on), may develop into exponents of evidentiality. The nonvisual evidential *-mha* in Tariana, an Arawak language from northern Brazil, comes from the lexical verb *hima* ‘hear, listen, obey’. The reported evidential *hima* in Piro, an Arawak language from Peru, comes from a noun meaning ‘sound’, which is cognate to the Tariana form (Aikhenvald 2021b; see also Mélac 2021 on similar developments in some Tibetic languages, and further discussion in Mélac & Bialek, forthcoming).<sup>5</sup>

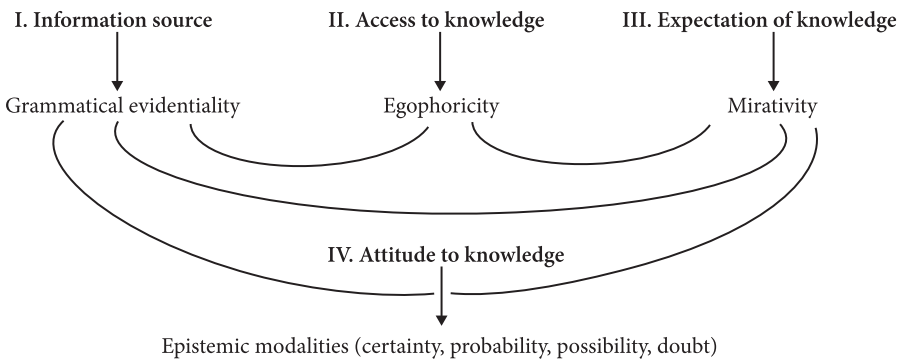
Epistemic modal meanings can also be expressed in numerous ways – via adverbs, parentheticals, or even gestures and facial expressions. Modal verbs, particles, and parentheticals of various sorts can express attitude to information – whether the event is considered probable, possible or downright unlikely. In Pastaza Quichua intonation marks epistemic modality, belief, and attitude to what one knows (but not how one knows what one is talking about: Nuckolls 2018). The same holds for mirative meanings. DeLancey (2001) offers a discussion of interjections indicating surprise as an analogy to mirative marking in grammar. Expressing access to information (or egophoric meanings) through means other than verbal morphology – including particles and adverbs – is a matter for further study.

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5. Egophoric markers in Tibetic languages appear to have developed from existential verbs and copulas (Eric Mélac, p.c.). Less is known about the origins of mirative markers (see also Aikhenvald 2012b which contains an extensive survey of the expression of mirative meanings independent of information source (evidentiality) and also as extensions of information source). The pathways of grammaticalization of mirativity and egophoricity in Himalayan languages involve reinterpretation of clause-chaining constructions and clausal nominalizations (see Hyslop 2020). Similar mechanisms are at work in the renewal of mirativity distinctions in Kurtöp (Hyslop 2023), and in a selection of Siberian languages (Skrinik 2023).

## 2. The web of knowledge: Interrelationships between the four groups of knowledge-related meanings

The four groups of knowledge-related meanings – (I) evidentiality, (II) egophoricity, (III) mirativity, and (IV) epistemic modality – interact. This is summarised in Figure 2. Straight arrows indicate the core meaning of a category. That one category may have meaning overtones of another one is reflected in wiggly lines connecting them. In such cases, one category is used as a ‘strategy’ to express some meanings which are core to another one.



**Figure 2.** Evidentiality and other categories related to knowledge

As mentioned in Section 2, an epistemic modality can acquire evidential overtones and be deployed as an ‘evidentiality strategy’ (further examples are in Aikhenvald 2004: 106–11). A prime example is the conditional in French used to express uncertain or unreliable information from a source other than the speaker (see also Mortelmas, forthcoming).

Evidential systems vary in their size and the meanings expressed, from two to at least five choices (see Aikhenvald 2021a: 12–14).<sup>6</sup> Recurrent semantic parameters within evidential systems are summarised in Table 1.

There may be further differentiations within these groups of meanings (see also Aikhenvald 2004: 59). These include degrees of verbal report. Mamaindê, a Nambikwara language from southern Amazonia in Brazil, distinguishes secondhand and thirdhand reported evidentials (Eberhard 2018: 337–41). Tatuyo, an East Tukanoan language from the Vaupés River Basin linguistic area in Colombia, distinguishes between two kinds of visual evidential – a simple visual and a dis-

6. Evidentiality can be expressed autonomously, with a dedicated morpheme. Alternatively, it can be fused with another category, such as tense or aspect; more on this in Aikhenvald (2015b).

**Table 1.** Recurrent meanings in evidential systems

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|------|--|
| I.   | VISUAL covers evidence acquired through seeing.  |
| II.  | SENSORY covers evidence through hearing, and is typically extended to smell and taste, and sometimes also touch. |
| III. | INFERENCE based on visible or tangible evidence, or visible results.   |
| IV.  | ASSUMPTION based on reasoning and conjecture (and not on visible results).                                       |
| V.   | REPORTED, for reported information with no reference to who it was reported by.                                  |
| VI.  | QUOTATIVE, for reported information with an overt reference to the quoted source.                                |
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tal visual (used to describe something seen from afar) (Stenzel & Gomez-Imbert 2018: 365). A similar distinction between a distant visual and a proximal visual evidential with noun phrase scope has been described for Lakondê, another Nambikwara language (Eberhard 2018: 345; Telles & Wetzels 2006: 248–9).

Evidentials can combine reference to shared information source of the speaker and of the addressee, and their access to information. A ‘general knowledge’, or ‘common knowledge’, evidential is a case in point. Its meaning covers what everybody knows and what constitutes part and parcel of the heritage and shared background of a community. A telling example, from Nambiquara languages of southern Amazonia in Brazil, is in Eberhard (2018). Yongning Na (or Mosuo), a Qiangic (Tibeto-Burman) language from Yunnan Province in China, also has a general knowledge evidential (in addition to visual, inferential, reported, and quotative evidentials (Lidz 2007: 66–7); see Aikhenvald (2023), on the expression of general knowledge through other evidentials in languages with no dedicated term.<sup>7</sup> Alternatively, an evidential term within a system may reflect access to knowledge and also knowledge sharing, thus overlapping with the domain of egophoricity. The difference between egophoricity (as in Munya and a number of other Tibeto-Burman languages) and egophoricity-directed evidentials lies in the main meanings of the forms. Egophoric markers denote access to information *par excellence*. Just some terms within an egophoricity-oriented system of evidentials may have additional meanings to do with access – and especially privileged access – to information by the speaker or the audience. The assumed and the inferred evidentials in Tariana, an Arawak language from Brazil, constitute clear examples of egophoricity-directed evidentials.

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7. Meanings of evidentials have been explored in some depth over the years (see a summary in Aikhenvald 2018, 2021a). Not all the sources are equal. Readers should be warned against Willett’s (1988) flawed approach to evidentials, their meanings, and grammaticalization paths, and numerous mistakes and inconsistencies.

Based on knowledge-related meanings concomitant to their main meanings as exponents of information source, evidential systems can be divided into three groups. We distinguish (I) Egophoricity-directed evidentials, that is, evidentials with egophoric overtones; (II) Mirativity-directed evidentials, that is, evidentials with mirative overtones; and (III) Epistemic-directed evidentials, evidentials with epistemic extensions. We will now discuss these in turn.

## 2.1 Egophoricity-directed evidentials

A term within an evidential system may have egophoric overtones, expressing privileged access to information source. This is the feature of the nonvisual evidential in Tariana and the neighbouring East Tukanoan languages. Talking about one's own physical and mental states involves the nonvisual evidential, as shown in (1). Evidentials (clause-level enclitics) are in bold throughout.

### TARIANA

- (1) *Khenolena-mahka-niki*                      *nhua*  
be.nauseous-NONVIS.REC.PAST-fully 1SG  
'I am/have been very nauseous.'

In contrast, talking about someone else's internal or mental state has to involve visual evidential (if one can see what is happening) or inferred evidential (if the statement is based on inference). Example (2) comes from a real-life situation: the character was visibly nauseous and vomiting.

### TARIANA

- (2) *Khenolena-ka-niki*                      *diha*  
be.nauseous-VIS.REC.PAST-fully 3SG.M  
'He is/has very nauseous.' (One can see he is – as he is vomiting)

The usage in (1) (and similar instances) was consistently explained, by speakers, through saying, 'I cannot see what I feel'. In (2), the nonvisual evidential would not be acceptable because, in a speaker's words, 'one cannot feel what others feel'. In both instances, a metalinguistic explanation of this usage by native speakers involves reference to information source – the main meaning of the evidentials in the language.<sup>8</sup>

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8. The materials on Tariana are based on over thirty years of work with the Tariana-speaking communities, by the author. The current corpus consists of over thirty hours of recordings (including texts of various genres and conversations), and is being constantly expanded, based on large corpus of voice messages via WhatsApp and social media, with approximately ten hours of recording, collected since 2020. All examples in this chapter (as in my other work) are taken from natural discourse and narrative (I avoid elicitation). A comprehensive grammar of



The use of a nonvisual or indirect evidential with expressions of physical and mental state (or ‘endopathic’ predicates), especially with first person subject, implies ‘reduced access to information.’ This covers accidental action and also lack of control or awareness (see also Sun 2018: 57–8 for Tibeto-Burman languages; Johanson 2018: 520 for Turkic languages, Forker 2014, for Hinuq, a North-East Caucasian language, and a summary in Aikhenvald 2004: 219–32). The egophoricity-directed meanings can be restricted to predicates related to internal feelings and states which ‘cannot be seen,’ according to speakers’ metalinguistic explanations. Egophoricity-directed evidentials in systems with three and more distinctions appear to be restricted to nonvisual terms. In Tukano, an East Tukanoan language spoken in the same area as Tariana, the reported evidential may be used with first person indicating reduced access to information and lack of control (for instance, a speaker talking about the state of being drunk).

Tariana has five evidentials (fused with tense). Four of these have additional egophoricity-directed meanings of access to information. These are summarised in Table 2 (further examples are in Aikhenvald 2021c: 193).

**Table 2.** Information source and access to information encoded by evidentials in Tariana

EVIDENTIAL	INFORMATION SOURCE	ACCESS TO INFORMATION
Visual	(a) Information obtained through seeing	(i) Someone else’s physical state or emotional state (if observable)
	(b) Information on events which can be easily observed	(ii) To refer to events for which speaker themselves has full access and control
	(c) Generally observable facts	(iii) Access to otherwise non-visible information using supernatural powers
Nonvisual	(a) To report events or states which the speaker has heard, smelt, tasted, or felt but not seen, including negative clauses (e.g. I did not see-nonvisual)	(i) One’s own physical and mental states
	(b) Something one cannot see well	(ii) Physical and mental states of someone in a close kinship relation (spouse, child)
	(c) Information on events which are usually heard and not seen, such as thunder.	(iii) Accidental uncontrollable actions by oneself or someone in a close kinship relation

the language is in Aikhenvald (2003a). The examples are given in practical orthography. Speakers are referred to with their initials.

Table 2. (continued)

EVIDENTIAL	INFORMATION SOURCE	ACCESS TO INFORMATION
		(iv) Access to actions which cannot be seen with the human eye (including actions of evil spirits who cannot be seen but can be felt and heard)
		(v) Descriptions of supernatural access: actions by shamans and healers, and their attributes
Inferred	Information obtained through observing visual traces of an event or a state	Preferred if the speaker had access to visual traces and the addressee did not: information source not shared by Speech Act Participants
Assumed	Information obtained by reasoning or common sense without visual or nonvisual information, and no visual traces	Preferred if both speaker and addressee are presumed to share common knowledge, reasoning, or tradition (especially in stories): information source shared by Speech Act Participants
Reported	Information obtained through repetition of information related by someone else (secondhand and thirdhand)	No correlations

Each of the five evidentials in the language shows correlations with access to information. If the speaker did have access to visual information and the addressee did not, the inferred evidential will be used. After a payment had come through to his account, JB said (3) to me, in a voice message via WhatsApp. The speaker had visual access to his bank account statement, while I did not.

#### TARIANA

- (3) *Ikasu konta-se nu-ka-ka diñeiru di-hwa-nihka*  
 now/today account-LOC 1SG-look-SEQ money 3SGNF-fall/stay-INFER.REC.PAST  
*doismil-nihka diñeiru di-hwa-nhi nuha konta-se*  
 two.thousand-INFER.REC.P money 3SGNF-fall/stay-ANT 1SG account-LOC  
 ‘As I looked in my account today, the money stayed (inferred), two thousand money had stayed in my account.’

A brief explanation for this usage provided by one of my first teachers of Tariana, the late GB, in Portuguese, was “falando para outro, ele não viu” (meaning ‘talking to someone else, he hasn’t seen it’). A similar usage of inferred evidentials in Tukano, a neighbouring language, was mentioned by Ramirez (1997: 140).

Generally known information and information shared by both the speaker and the addressee will be cast in assumed evidential.

#### TARIANA

- (4) *Hiku-sina*                      *wathanina-se*  
 be.thus-ASSUM.REM.P beginning-LOC  
 ‘This has been the case from the beginning.’ (we all know this)

In each instance, the information source, and not access to information, constitutes the primary – or main – meaning of each form, for the following reasons. First, information source as the main meaning of each evidential term in the language is the most frequently attested. Secondly, speakers’ explanations of each use focus on the information source, and so do lexical reinforcements of evidentials (described in Aikhenvald 2004: 338–48). That is, a visual evidential can be accompanied by a parenthetical, or an aside, ‘I have seen it’, and a nonvisual one by ‘I heard it’. Thirdly, metalinguistic explanations of egophoricity-directed uses of evidentials involve references to information source, as shown in the comment to (3).

Access to information correlates with speaker’s relationships with other members of the community. Physical and mental states of someone close to the speaker can be expressed in the same way as speaking about oneself (as we can see under (ii) for the nonvisual evidential in Table 2). This is reminiscent to what Sun (2018: 55–56) calls ‘upgraded access to intimate knowledge’ (as a feature of egophoric systems). Evidentials can express empathy – but only under very restricted circumstances (more examples are in Aikhenvald 2021c: 196–197).

## 2.2 Mirativity-directed evidentials

Meanings of surprise and unprepared mind can be expressed through a term within a system. In Jarawara, an Arawá language, with a small system of firsthand versus non-firsthand evidential distinctions, the non-firsthand evidential can express surprise at an unexpected event (Dixon 2003, 2004: 203–6). The Jarawara story from which (5) is taken is told in the firsthand evidential (in its far past form). It is a personal reminiscence by the narrator about how he and his companions had gone up a strange river and come across a patch of forest full of game animals. Their surprise is expressed through using the immediate past non-firsthand marking (Dixon 2003: 172):

#### JARAWARA

- (5) *Bani mee wina-tee-hani*  
 animal 3NON.SG live-HAB-IMM.PAST.NONFIRSTH.FEM  
 ‘There were surprisingly many animals.’

Further examples are in Aikhenvald (2012b: 465–471, 2021a: 28–29). Mirative-directed evidentials are also a feature of some larger systems where they are associated with different terms, including inferred, assumed, and reported evidentials.

For instance, in Mamaindê, the ‘additional function of expressing surprise’ is a feature of the inferred evidential (Eberhard 2009: 466–7). In multiterm evidential systems in Wanano (or Kotiria) and Piratapuya (or Wa’ikhana), two closely related East Tukanoan languages from the Vaupés River basin linguistic area with visual, nonvisual, inferred, and reported evidentials, mirative meanings are also associated with the inferential evidential construction (Stenzel & Gomez-Imbert 2018: 371–372). The mirative meanings may be restricted just to the first-person subject. The sentence in (6), from Wanano, was ‘uttered by a long-dead creature who has just been magically revived’, ‘seemingly coding the creature’s great surprise at finding himself awake (alive) again.’

#### WANANO

- (6) *Jiʔi ~kharí-jiʔdi-a waʔá-ri hí-ka*  
1SG sleep-INTENS-AFFEC go-NOMZ COP-INFERRED.IMPERF  
‘I’ve been asleep a long time!’

Here, the speaker’s surprise can be described as an instance of ‘deferred realization’ and post-factum interpretation of something the speaker had previously witnessed. Similarly, the assumed evidential *mein* in a four-term system in Shipibo-Konibo, a Panoan language, may be used when ‘the speaker is confused or surprised because what he experiences is totally unexpected or contradicts his knowledge of the world’ (Valenzuela 2003: 48). Whether the evidential *mein* has mirative overtones or not depends on the context.

A reported evidential can also acquire connotations of ‘surprise’ and ‘after-the-fact’ realization. In his incisive analysis of the use of the reported evidential in Quechua riddles, Floyd (1996: 919) pointed out a link between mirativity and ‘after-the-fact’ realization. Similar meanings of the reported evidentiality marker *lek’eh* in Western Apache, and their overtones to do with speaker’s unprepared mind, and surprise based on deferred realization were discussed by de Reuse (2003) (to whom we owe the concept of ‘deferred realization’). The existence of mirativity-directed systems and mirative extensions of evidentials prompted Hill (2012) to deny the reality mirativity as a category in its own right, refuted by DeLancey (2012) and Aikhenvald (2012b).

### 2.3 Epistemic-directed evidentials

A grammatical evidential may have an epistemic meaning of attitude to information, or its probability, or a speaker’s certainty of the truthfulness of their state-

ment, and their responsibility for it. Epistemic-directed evidentials are a feature of many systems, especially smaller ones, with the distinction between (i) a firsthand and non-firsthand form, (ii) a non-firsthand form versus an evidentially-neutral term for ‘everything else,’ or (iii) a reported versus an evidentially neutral form.<sup>9</sup> Estonian is a prime example of the latter. Here, the reported evidential has overtones of something one does not vouch for. The sentence in (7) contains reference to reported information, with an overtone of doubt – much like ‘they say’ in its English translation.

#### ESTONIAN

- (7) *Tema ole-vat arst*  
 s/he be-REP doctor  
 ‘He is reported to be a doctor.’ (Explanation: I don’t vouch for it)

Similar epistemic overtones of the reported *dizque* in varieties of Latin American Spanish and in Brazilian Portuguese were addressed by Travis (2006); Alcázar (2018), and Casseb-Galvão (2011). It is, however, not the case that any reported evidential in a small system is bound to have epistemic connotations (unless one relies on translations into a European language). Nhêngatú, a Tupí-Guaraní lingua franca of north-west Amazonia, has one reported evidential *paá* (in opposition to evidentially unmarked forms). The evidential marks exclusively speech reports, with no epistemic meanings. An example is in (8) (Floyd 2005).

#### NHÊNGATÚ

- (8) *U-sú u-piniatika paá*  
 3SG-go 3SG-fish REP  
 ‘He went fishing (they say/I was told).’

The apparent frequency of epistemic-directed systems in European languages – such as Estonian – and the tendency to use modal forms to translate evidentials into European language, for lack of a better option, has led to flawed attempts to

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9. The status of an evidentially unmarked, or neutral, term varies. It may simply imply that no information source is expressed. Alternatively, it may develop overtones opposite to the marked term based on pragmatic implicature. An overwhelming majority of Turkic languages distinguish the neutral past (a finite form marked with *DI* and its allomorphs) and the so called ‘indirective past’ (a verb marked with *GAN* or *MIŞ* and their allomorphs) which covers a range of non-firsthand meanings: nonvisual access to information, inference, assumption, and speech report. In some Turkic languages, the neutral form appears to have acquired the meaning of ‘firsthand’ evidential (see, for instance, Nevskaya 2002 on Shor). According to Johanson’s (2000: 65, 2018: 512), the firsthand overtones of evidentially unmarked terms are contextually-based; see the discussion in Skribnik & Aikhenvald 2024 of various interpretations of such systems in Turkic languages, and references there).

classify evidentials on a par with expressions of possibility and probability (by Willett 1988 and a number of others, including Palmer 1986). These scholars paid no attention to the early recognition of evidentiality with information source as its main meaning, distinct from modalities of any sort by Boas (1938); Jakobson (1957), and Jacobsen (1986), to name a few.

Epistemic extensions of uncertainty are a feature of some terms in larger systems (see Tables 5.3–4 in Aikhenvald 2004: 190–1 for a summary, and further discussion in Aikhenvald 2021a: 24–8). The quotative evidential in Bashkir, a Turkic language, has overtones of doubt depending on the context. The language has a witnessed versus non-witnessed distinctions in the verbal system, additional to reported and quotative evidentiality expressed through particles (see Greed 2018).

Mamaindê, a Nambikwara language, has six evidentials – visual, nonvisual, inferred, general knowledge, and two reported ones: secondhand and thirdhand. Both reported specifications have overtones of doubt, while other evidentials do not (Eberhard 2018: 349).

Not every reported evidential will have an epistemic-directed extension. In Shipibo-Konibo, with four evidentials, the reported term ‘does not indicate uncertainty or a lesser degree of reliability but simply reported information’ (Valenzuela 2003: 57). A statement containing a reported evidential has no meanings associated with veracity or reliability of what one says. Commitment to the veracity of the utterance will be expressed with a marker of epistemic modality, that is, the means other than an evidential. The reported evidential in the language does not have any epistemic connotations.

Three other evidentials in Shipibo-Konibo are epistemic-directed. The direct evidential *ra* describes information acquired via sensory experience (seeing, hearing, smelling), and also general statements that one considered to be true. The inferential *bira* encodes ‘inference based on reasoning or observable evidence’, and ‘allows for some degree of uncertainty’, for instance, in hesitations. The speculative *mein* expresses assumption and also doubt (Valenzuela 2003: 37, 46, 49, 50). This same form can have mirative overtones when ‘the speaker is confused or surprised because what he experiences is totally unexpected or contradicts his knowledge of the world’ (Valenzuela 2003: 48).

What looks like an epistemic extension of an evidential may be epiphenomenal – that is, resulting from pragmatic implicatures in a given context. Something one can usually see will require a visual evidential. Hence the extension of the visual evidential to general statements and something expected to be the case. Visually obtained information is often viewed as the most reliable. Overtones of reliability are a feature of a few epistemic-directed systems. In a few languages, a nonvisual evidential may refer to something one cannot see properly, and then acquire contextual overtones of something one is not sure of. In (9), from Tariana,

the speaker could not quite see who is coming, and so used the nonvisual evidential.

#### TARIANA

- (9) *Païta tsiāli di-nu-mha*  
 one NUM.CL:ANIM man 3SGNF-come-NONVIS.PRES  
 ‘A man is coming.’ (Explanation: I can’t quite see whether it is a man or a woman)

If a language already has a highly developed system of epistemic modalities one does not expect a large variety of epistemic extensions for evidential terms. In Saaroa, a Formosan language with an inferential and a reported evidential (in addition to an evidentially neutral form), neither evidential is epistemic-directed. Either can occur with dubitative modality, to express epistemic meanings (Pan 2023: 414–21).

Evidentials appear to stand apart from other knowledge-related categories in that they may show semantic extensions overlapping with each of them. To what extent such overlaps will be documented in the other directions remains a matter for further study, based on rigorous semantic analysis and taking account of speakers’ intuitions and explanations. We now turn to further special features of evidentials.

### 3. How evidentials are special

Evidentials stand apart from other means of expressing knowledge in a number of ways. These include their scope, possibility of double marking, time reference different from that of the predicate, and the option of being negated or questioned separately from the predicate of the clause (summarised in Table 3, p.39 of Aikhenvald 2021a), and correlations with other grammatical categories (tense, aspect, modality, clause type, sentence type, polarity, and person/number: Aikhenvald 2021a: 84–99). A prime example of how an evidential – but not the content of the clause – can be questioned comes from Wanka Quechua (Floyd 1999: 132). In (11), M. queries the source of information R. has in (10), and the appropriateness of the reported evidential. This involves rephrasing the reported evidential with the verb of speech *ni*.

#### WANKA QUECHUA

- (10) R. *Wasi-i-ta am-shi yayku-llaa-la-nki*  
 house-1P-ACC you-REP enter-LIM-PAST-2P  
 ‘They say you entered my house.’

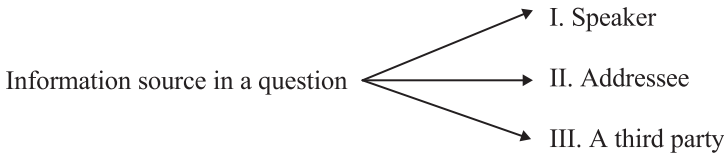
- (11) M. *Mayan-taa ni-n*  
 who-SCORN say-3P  
 ‘WHO says that?!’

R. answers, referring to a different information source with the direct evidential.

**WANKA QUECHUA**

- (12) R. *Nuna lika-a-niki ka-ña achka-m*  
 person see-AG-2P be-NONPAST much-DIR.EV  
 ‘There are lots of people who saw you.’

Similar examples from Japanese are in Narrog & Yang (2018: 719–20). The meanings of evidentials in questions interact with the person of the speaker and of the addressee. The options are summarised in Figure 3 (see Aikhenvald 2018: 20 and references there).



**Figure 3.** Information source and evidentials in questions

Option I, the speaker’s information source in questions, is a feature of Yuk-aghir (Maslova 2003: 228) and Eastern Pomo (McLendon 2003: 114–16); further examples are in Aikhenvald (2004: 244). Option II has been described in quite a few instances (see, for instance, Aikhenvald 2004: 245–7; Sun 2018: 59–60 for Taku, a Tibeto-Burman language; Sarvasy 2018: 646–8 on Foe, a Papuan language, and also in all Tibetic languages: Eric Mélac, p.c.). Option III, where evidentials in questions reflect the information source of a third party – someone other than Speech Act Participants (see Aikhenvald 2004: 248) – is a feature of Murui, a Witotoan language (Wojtylak 2018: 394–400), some Turkic languages (Johanson 2018), and Tsou (Pan 2018). For instance, the reported evidential =*ta* in Murui can be used in questions asked to confirm that the speech report came from someone other than the speaker or the addressee (Example (10) in Wojtylak 2018: 396). The semantic options for evidentials in questions reflect their role and interrelationship with interactional patterns. Evidentials with Option I in questions may be considered face-threatening, which may be the reason for some limitations on the use of questions (as is the case in Tariana and in Tukano, two languages of the Vaupés River Basin Linguistic Area in Amazonia).

A speaker can doubt or query the use of an evidential, or correct it (see examples Aikhenvald 2021a: 56–8). Speakers of languages with evidentials are prepared



to discuss why a particular evidential had been used, and query the wrong or unwarranted uses of evidentials, rephrasing them with appropriate lexical items which reflect information source (seeing, hearing, etc.). No such practices for epistemic modalities have been documented for any of the languages with closed grammatical systems of evidentials (especially those spoken in small communities, surveyed in Aikhenvald 2004, 2021a). Epistemic modalities involve subjective attitudes and stance of individual speakers. Querying and correcting such expressions would involve interfering with people's personal domain, and is avoided as a face-saving strategy. Whether any such options are available for other knowledge-related categories and how face-threatening strategies are expressed in language in general remains an open question.<sup>10</sup>

Evidentials and epistemic modalities display an unequal relationship in further ways. Evidentials often arise from a reinterpretation of epistemic markers. Developments in the opposite direction are restricted (see Aikhenvald 2021a: 99–101, 2021b, and also Ziegeler 2011). In a situation of language obsolescence: the erstwhile evidentials may undergo reinterpretation as modals, as the obsolescent language succumbs to a dominant one with no evidentials. This appears to have been the case in Wintu, an isolate from California. The system of evidentials in the traditional language recorded by Dorothy D. Lee in the 1930s consisted of five terms: visual, nonvisual sensory, inferential ('information inferred from logic applied to circumstantial sensory evidence': Pitkin 1984: 133–4), experiential ('information deduced from experience' which 'involves the exercise of judgement': Pitkin 1984: 134), and reported (Pitkin 1984: 147 and Lee 1938, 1944). A system, with just two choices – visual sensory and reported – had survived by the time Pitkin did his fieldwork on the Wintu language in the 1950s. Both remaining evidentials have strong epistemic overtones, of certainty versus doubt (see Pitkin 1984: 152). The shift may have occurred under pressure from English. This goes together with the fact that the grammar of an endangered language tends to be restructured to 'match' that of the dominant majority language which is gradually taking its place (see Aikhenvald 2020b).

One of the reasons for mistakenly conflating the notions of evidentiality with reliability, possibility, probability and epistemic modality lies in the linguists' English-centric approach to those languages which have evidentials, and the pitfalls of translation. An attempt to express one's information source in the dominant language with no evidentiality may involve a modal verb, leading a hapless fieldworker to erroneously equate evidentials and modals.

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10. Face-threatening strategies in many languages belong to the sphere of commands and questions; see some discussion and references in Aikhenvald (2010, 2018).

As Dixon (2016:187) puts it, ‘thousands of [...] instances could be provided showing the difficulties of translation between languages which relate to markedly different cultures,’ demonstrating the ‘false nature of the adage “Everything can be said in every language”’. In many familiar Indo-European languages, including English, meanings related to ‘information source’ can be expressed through lexical means – including verbs of perception or cognition – and a closed class of modal verbs, such as *may*, *might* or *must*. Can be – but don’t have to be. And when they are, one may get an impression that evidentials are ‘epistemic modals’ because this is how they are translated into English (as has been recently claimed by Matthewson et al. 2007; Peterson 2018, and earlier by Palmer 1986, and a few others). Translating a reported marker into English as ‘they say’ will add unwanted connotations of lack of reliability and doubt – that is, the extra connotation emanating from the translation language.<sup>11</sup>

Speakers of Tariana, Tukano and other languages within the Vaupés River Basin linguistic area in Brazil have their own ethnolect of Portuguese. One of their features is the use of lexical equivalents for evidentiality markers (obligatory in their original languages, as we saw above, for Tariana). These lexical ways of marking information source allow speakers to conform to social conventions of being precise in stating the source of knowledge, so as to avoid accusations of incompetence, or sorcery (see also Aikhenvald 2020a).

Tariana has five obligatory evidentials – visual, nonvisual, inferred, assumed and reported (as was shown in Table 2). Marking how you know things is obligatory and its lack is felt as a gap. The requirement to mark the information source in Tariana is being transferred to the way they speak Portuguese (a language without evidentials). This is similar to many other instances when speakers of languages with obligatory evidentials have to switch to languages without evidentiality (see Aikhenvald 2021a: 7). Along similar lines, Martha Hardman and her colleagues had to ‘adjust’ their English and always specify how they know things, so as not to upset their Jaqi (Aymara)-speaking friends, for whom specifying information source using evidentials is a ‘must’ (Hardman 1986:133). Similarly, Elsa Gomez-Imbert’s main consultant of Tatuyo, an East Tukanoan language spoken on the Colombian side of the same Vaupés River Basin Linguistic area as Tariana, also ‘tried to compensate for the lack of evidentials in Spanish with lexical expressions, and was happy to learn of the existence of a reportative expression

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11. One may also get the impression that evidentials involve ‘embedding’ a clause because the verb ‘say’ in English translations of reported evidentials is regarded as taking a complement clause. This is similar to how some linguists suggest that morphological causative (even if expressed with an affix) involves an underlying predication, since a causative has to be translated into English with the verb ‘make’.

*dizque*, which she incorporated into her elementary Spanish' (Stenzel & Gomez-Imbert 2018: 382). Note that the grammatical markers of reported evidentiality in this language do not have any overtones of doubt or degree of commitment, in contrast to *dizque* in Colombian Spanish and other South American varieties of Spanish.

Table 3 summarises the recurrent ways of rendering the meanings grammaticalized in Tariana evidentials into oral Portuguese.

**Table 3.** Rendering Tariana evidentials into oral Portuguese

Tariana evidentials: Once per sentence	Oral Portuguese equivalents: Once per paragraph
1 Visual – speaker has seen it	<i>(eu) vi</i> 'I saw' <i>(eu) tenho prova</i> '(I) have proof'
2 Nonvisual: speaker heard/smelt/felt it but did not see it	<i>(eu) escutei</i> 'I heard' <i>(eu) senti</i> 'I felt' <i>nem vi direito</i> '(I) didn't see well'
3 Inferred – speaker infers it based on the results they can see	<i>(eu) tenho prova</i> '(I) have proof' <i>(eu) tenho experiência</i> '(I) have experience'
4 Assumed – speaker assumes it or it is based on general knowledge	<i>parece</i> '(it) appears' <i>se sabe</i> 'one knows'
5 Reported – the information was recounted by someone else	<i>contaram</i> '(they) recounted' <i>assim conta os velho</i> 'thus tell the old people' <i>dizem que, dizque</i> 'they say/it is said'

Each of these expressions are used once per paragraph (in contrast to grammatical evidentials, clitics which are obligatory in every sentence: Aikhenvald 2022 addresses these and further syntactic differences between Tariana evidentials and their lexical equivalents in oral Portuguese). These expressions can be considered parentheticals (along the lines of Urmson 1952; Kaltenböck et al. 2011, and Heine 2022), and are not used in written Portuguese by the Tariana.

For want of other resources in the metalanguage, the modal verb *parece* 'it appears, it seems' is used as one of the ways of translating the assumed evidential. Using a modal verb in such circumstances does not mean that the original evidential has a modal meaning (which it does not – as we saw in Table 2). Other meanings of the assumed evidential (shown in Table 2), including shared information source, are well and truly 'lost in translation'.

We now turn to a further special feature of evidentials as tokens of the interaction between the speakers and their social environment – language ecology, as defined by Haugen (1972).

#### 4. In with the new: Evidentials in the changing world

The use of evidentials – markers of information source – tend to reflect cultural practices and kinds of experience. In this way, they reflect the ecology of language – the patterns of interaction between a language and its social and cultural environment, covering systems of belief, conventionalised behaviours, and means of communication (the concept suggested by Haugen 1972; further discussion and references are in Eliasson 2015; see also Aikhenvald et al. 2021: 21–5 on evidentials as points of integration between language and the society of its speakers). This is what sets evidentials apart from other knowledge-related categories.

In Tariana, as in many other languages, established, or ‘conventionalised’, evidential choices come to be associated with particular genres. Autobiographical stories are cast in visual evidential. Stories about shamanic practices and evil spirits are couched in nonvisual evidentials (as we saw in Table 2). The reported evidential is a conventional choice in stories based on gossip and what one has learnt from someone else, and tales about evil spirits, the magical Fish-people, and also animals and birds. Such stories can be told by anyone, and are not considered particularly valued or serious. The assumed evidential is the preferred choice for traditional stories – part of the shared lore which everybody is expected to be privy to. Conventionalised access to information in this egophoricity-directed system is embedded in the established choices.

As new means of obtaining knowledge emerge, evidentials adapt to them (see also Aikhenvald 2021c: 205–6). New practices – reading, radio, telephone, television, social media, and internet – help us understand how languages adjust. I have been able to observe changes and adjustments of the evidential system and the dynamics of change in the performance of several individual speakers over thirty years, since I started working with the Tariana people in the early 1990s. Changes in information sources and other aspects of social environment did not affect modalities and the mirative marker.

We now turn to the ways in which newly introduced information sources have affected the patterns of evidential use. Writing was introduced to the Tariana by the missionaries starting from the early 1960s. The Tariana orthography (now in use within the Tariana school in Iauaretê, Amazonas, Brazil) was developed by myself jointly with the community in the early 1990s. The assumed evidential is used for recounting what one has read and also in translations, from Portuguese.

What one has read is treated as generally available knowledge and marked with the assumed evidential (along the lines of Table 2 and Example (4)).<sup>12</sup> At present, all the extant Tariana speakers are literate. The same evidential is also used in any translation – oral or written, including Bible translations (this was discussed at some length in Aikhenvald 2021a: 78–80 and Aikhenvald 2023).

Information obtained from television has been treated as ‘seen’ ever since most Tariana acquired access to it. This is similar to Shipibo-Konibo: watching something on television implies ‘experiencing the event oneself, since one actually “sees” what is happening’ – and so they would use the direct evidential =*ra* (Valenzuela 2003). Along similar lines, speakers of Lhasa Tibetan use the evidential with the meaning of direct perception when they recount something seen on television. The following Example (13) comes from the Tibet Student Corpus (Mélac 2014: 114, p.c.).

#### LHASA TIBETAN

- (13) *Nga glang chen mthong-myong-med[...] brnyan ‘phrin sgang-nas*  
 1SG elephant see-EXP-EGO.NEG television ON-ABL  
*mthong-myong-yod ma gzhi gzhan pa-nas mthong-myong-med glang chen*  
 see-EXP-EGO basically other-ABL see-EXP-EGO.NEG elephant  
*zer-yag de bzang po dang snying rje mo ‘dug*  
 say-NOMZ DEM nice and beautiful COP.DPERC  
 ‘I have never seen an elephant [...] apart from TV, I have never seen any. What  
 I can say about elephants is that they are nice and beautiful.’

The marker of direct perception (the copula *‘dug*) reflects the fact that the speaker had seen elephants on TV.

For the Tariana and the neighbouring indigenous people, the short-wave radio used to be one of the main ways of transmitting news and gossip. Information is cast in nonvisual evidential. Access to internet is treated as visual – like television. Phones were gradually introduced into the area starting from mid 1990s. At that point, information obtained by phone was treated as nonvisual (similar to Tibetic languages, including Ladakhi: Eric Mélac, p.c.). JB spoke on the phone for the first time in 1996. The information he received was cast in nonvisual evidential, as shown in (14).

12. The situation is different in other languages. In Tibetic, different speakers used different forms to recount what they had read in a comic strip: some used the hearsay markers, others employed the direct perception evidential, while others use an inferential perfect, with an implication that they could not perceive directly that the characters were talking but that the drawing and texts were signs that these characters had been actually observed. In Shipibo-Konibo, the reported evidential is the preferred choice for reporting what one read in a newspaper, in a book, or on the internet, without watching images (Valenzuela 2003: 52).

## TARIANA

(14) *Nu-nu-mhade nu-na du-a-mahka*

1SG-COME-FUT 1SG-OBJ 3FEM.SG-say-NONVIS.REC.P

'She told me (nonvisual), I will come.'

(JB 1996)

In the early 2000s, speakers for whom phones were a rarity, continued using non-visual evidential. Example (15) comes from the same speaker, JB, who did not own a phone at that point.

## TARIANA

(15) *Matsa-mhade du-a-mahka*

1SG-COME-FUT 3FEM.SG-say-NONVIS.REC.P

'She told me (nonvisual), it will be fine.'

(JB 2012)

In contrast, RB, then an aspiring politician, owned a mobile phone, and was using it (even flaunting this prized possession) on a day-to-day basis. The information obtained was cast in the visual as if it were face to face. An example is in (16).

## TARIANA

(16) *Matsa-mhade du-a-ka nu-na*

good-FUT 3FEM.SG-say-VIS.REC.P 1SG-OBJ

'It will be good, she said to me.'

(RB 2012)

This comment was accompanied by a metalinguistic explanation, for my sake (as a reaction to my surprised look), in (17).

## TARIANA

(17) *Duha-ne nu-sape-ka meda, duha nu-ka-mi kayu*

she-COMIT 1SG-speak-VIS.PRES COUNTEREXP, she 1SG-see-NOMZ like

'I did talk to her (visual), like/as if I saw her.'

(RB 2012)

In this comment, RB was clear that speaking on the phone for him was 'as if' he saw the person he was talking to.

Toward the end of the second decade of the 21st century, more and more people even in remote locations – where many of the Tariana live – have acquired access to mobile phones, e-mail, and audio messages via WhatsApp. The rise in the use of WhatsApp – *vatapá* or *vatizapi* – has been particularly sharp since the spread of COVID-19, with the lockdowns and limitations on travel. WhatsApp is cheaper than internet (many have no regular internet access); hence a sharp rise in the use of WhatsApp across the indigenous communities in north-west Amazonia in Brazil. Our interactions via WhatsApp include exchanges of voice messages and occasional conversations. Many of our dialogues and interactions are cast as the visual – as if we can see each other. In one voice message, JB said (18) about what I had told him a few minutes prior.

## TARIANA

(18) *Phia nu-na pi-sape-ka*

you 1SG-OBJ 2SG-tell-VIS.REC.PAST

'You have told me...'

(WhatsApp)

Visual evidential was similarly used in e-mails and messages on Facebook, as if we could see each other. Similar examples are in (19a) and (19b). Here, JB describes his conversation with his younger brother JLB over WhatsApp (JLB lives in a different and rather remote location), as to what had to be done to cure their older sister, OB, of a debilitating ailment. OB is much older than both JB and JLB. JLB is now in his early sixties, and he has acquired some shamanic competence. He describes his sending a traditional blessing to OB via his brother, in (19a).

## TARIANA

(19) a. *Hi pañapanipe-nuku wa-weri**Yuse-nuku audio-se*

this blessing-OBJ 1PL-younger.brother José-OBJ audio-LOC

*nu-celula-se-nuku nu-panoa-ka*

1SG-mobile.phone-COMIT-OBJ 1SG-send-VIS.REC.P

'I have just sent a blessing to our younger brother José via audio, via my mobile phone.'

(WhatsApp)

In (19b), he recounts his brother's reply. He did not see his brother and could only hear his voice. Nevertheless, he used the visual evidential with the serial verb 'tell' which consists of two components, the verb 'say' and the verb 'tell'.

## TARIANA

(19) b. *Nu-ñapa-ka, di-a di-kalite-ka nu-na*

1SG-bless-VIS.REC.P 3SGNF-say 3SG-tell-VIS.REC.P 1SG-OBJ

'I have blessed (her), he told me.' (Literally: he said he told) (WhatsApp)

The patterns of use for older speakers – including OB – are different. They do not own a mobile phone and rely on younger relatives to help them record. They use the reported evidential for information they obtained via the phone and via listening to WhatsApp messages. Example (20) comes from a WhatsApp message from OB to me, talking about what she had just learnt by talking to her daughter on the phone using WhatsApp.

## TARIANA

(20) *Wa-itu ai-se-nuku uni-yeda-se maca-pidaka*

1PL-daughter there-LOC-OBJ river-downstream-LOC be.fine-REP.REC.P

'Our daughter is (reportedly) fine there downstream (southern Brasil).'<sup>13</sup>

(WhatsApp)

The use of the recent past reported form indicates that the conversation between OB and the daughter (LB) had taken place not more than a day or two before OB had sent me the voice message. This is consistent with the traditional use of different tense forms of reported evidential which combine reference to the information source and the time of a speech report itself (more on this in Aikhenvald 2021a: 26–7).

The new practices and the adjustment of evidentials to new forms of communication help us understand just how pliable these systems are. People who use social media and phones on a day-to-day basis treat them on a par with face-to-face communication, using visual evidential. In contrast, older and more traditional speakers, for whom WhatsApp and phone remain an exotic rarity, tend to use reported forms to talk about information acquired through them: they do not treat this kind of communication as face-to-face, ‘as if’ one sees the other person. The differences in their use of evidentials correlate with the speakers’ exposure to, and familiarity with, an information source. Changes in evidential conventions accompany ongoing changes in social environment. As the language ecology evolves, evidentials adjust, in different ways in different languages.

## 5. To conclude: Evidentials as tokens of the ecology of language

The core meaning of evidentiality is information source. Evidentials interrelate with other knowledge-related categories – egophoricity, mirativity, and epistemic modality, as demonstrated for egophoricity-directed, mirative-directed, and epistemic-directed systems in Section 2. This lays a foundation for a further, semantically fine-grained, typology of evidential systems. Correlations with other knowledge-related categories account for semantic complexity in evidentials.

Evidentials and epistemic modalities display an unequal relationship in a number of ways. Evidentials often arise from a reinterpretation of epistemic markers (there are hardly any examples of historical developments the other way around). Misinterpretation of evidentials as ‘modal’ is often rooted in the use of modal verbs and expressions in translating from languages with evidentials to those without it.

Evidentials stand apart from other knowledge-related categories as tokens of language ecology, and the ways in which they reflect the changing social environment. Over the past 30 years, new evidential choices have evolved to reflect new ways of acquiring information via radio, television, phone, and internet among

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13. OB refers to her daughter as ‘our daughter’ because I have been adopted in the community, and have the status of OB’s (and others’) classificatory sister.



the Tariana (with five evidential terms within an egophoricity-directed system). Speakers are aware of how and why each evidential is used, and are prepared to explain these. In Storch's (2018: 628) words, 'the creativity and dynamics that characterise these ways of indicating source of information and of being precise reach beyond language as structure, and tell us something about social and cultural practices'.

The special status of evidentiality, with the source of knowledge as its primary meaning, is reflected in its sensitivity to different kinds of experiences and to the newly emergent ways of transmitting information. To what extent this sensitivity correlates with the egophoricity-directed nature of those evidentials which reflect access to information, additional to its source, remains an open question.

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## Abbreviations

1, 2, 3	first, second, third person
ABL	ablative
ACC	accusative
AFFEC	affected
AG	agentive
ANT	anterior
ASSUM.REM.P	assumed remote past
COMIT	comitative
COP	copula
COP.DPERC	copula direct perception
COUNTEREXP	counterexpectation
DEM	demonstrative
DIR.EV	direct evidential
EGO	egophoric
EGO.NEG	egophoric negative
EXP	experiential
FEM.SG	feminine singular
FUT	future

HAB	habitual
IMM.PAST.NONFIRSTH.FEM	immediate past non-firsthand feminine
INFER.REC.P	inferred recent past
INFERRED.IMPERF	inferred imperfective
INTENS	intensifier
LIM	limitative
LOC	locative
M	masculine
NOMZ	nominalizer
NON.SG	nonsingular
NONVIS.PRES	nonvisual present
NONVIS.REC.PAST	nonvisual recent past
NUM.CL:ANIM	numeral classifier for animates
OBJ	object
P	person
PL	plural
REP	reported
REP.REC.P	reported recent past
SEQ	sequential
SG	singular
SGNF	singular nonfeminine
VIS.PRES	visual present
VIS.REC.PAST	visual recent past


## References











- Aikhenvald, Alexandra Y. 2003a. *A grammar of Tariana*. Cambridge: Cambridge University Press.
-  Aikhenvald, Alexandra Y. 2003b. Evidentiality in typological perspective. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *Studies in evidentiality*, 3–31. Amsterdam: John Benjamins.
-  Aikhenvald, Alexandra Y. 2004. *Evidentiality*. Oxford: Oxford University Press.
- Aikhenvald, Alexandra Y. 2010. *Imperatives and commands*. Oxford: Oxford University Press.
-  Aikhenvald, Alexandra Y. 2012a. *The languages of the Amazon*. Oxford: Oxford University Press.
-  Aikhenvald, Alexandra Y. 2012b. The essence of mirativity. *Linguistic Typology* 16. 435–485.
- Aikhenvald, Alexandra Y. 2015a. *The art of grammar: A practical guide*. Oxford: Oxford University Press.
-  Aikhenvald, Alexandra Y. 2015b. Evidentiality and its interrelations with other categories. *Linguistic Typology* 19. 239–277.
-  Aikhenvald, Alexandra Y. 2018. Evidentiality: the framework. In Alexandra Y. Aikhenvald (ed.), *The Oxford Handbook of evidentiality*, 1–46. Oxford: Oxford University Press.

- doi** Aikhenvald, Alexandra Y. 2020a. Language loss and language gain in Amazonia: on newly emergent varieties of a national language. In Stefan Fafulas (ed.), *Amazonian Spanish. Language contact and evolution*, 7–34. Amsterdam: John Benjamins.
- Aikhenvald, Alexandra Y. 2020b. Language contact and language endangerment. In Anthony Grant (ed.), *The Oxford handbook of language contact*, 241–260. Oxford: Oxford University Press.
- doi** Aikhenvald, Alexandra Y. 2021a. *The web of knowledge. Evidentiality at the cross-roads*. Leiden: Brill.
- Aikhenvald, Alexandra Y. 2021b. The grammaticalization of evidentiality. In Bernd Heine & Heiko Narrog (eds.), *The Oxford handbook of grammaticalization*, 602–610. 2nd edn. Oxford: Oxford University Press.
- doi** Aikhenvald, Alexandra Y. 2021c. The ways of speaking and the means of knowing: the Tariana of northwest Amazonia. In Alexandra Y. Aikhenvald, R. M. W. Dixon & Nerida Jarkey (eds.), *The integration of language and society: A cross-linguistic typology*, 175–214. Oxford: Oxford University Press.
- Aikhenvald, Alexandra Y. 2022. Dizque, dizque, dizque: on the development of evidentials in Romance languages in the light of language context. Plenary paper presented at the conference *Evidential strategies in Romance languages*, Universidad de Alcalá, 26 October 2022.
- doi** Aikhenvald, Alexandra Y. 2023. What everybody knows: expressing shared knowledge thorough evidentials. In Susana Rodríguez Rosique & Jordi M. Antolí Martínez (eds.), 1–17. Verb and context. The impact of shared knowledge on TAME categories. Amsterdam: John Benjamins.
- doi** Aikhenvald, Alexandra Y., R. M. W. Dixon & Nerida Jarkey. 2021. The integration of language and society: a cross-linguistic view. In Alexandra Y. Aikhenvald, R. M. W. Dixon & Nerida Jarkey (eds.), *The integration of language and society: A cross-linguistic typology*, 1–57. Oxford: Oxford University Press.
- doi** Alcázar, Asier. 2018. Dizque and other emergent evidential forms in Romance languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 725–740. Oxford: Oxford University Press.
- Bai, Junwei. 2020. A grammar of Munya. Cairns: James Cook University Ph.D. thesis.
- Bai, Junwei. 2021. *A typological study of evidentiality in Qiangic languages*. Leiden: Brill.
- doi** Bergqvist, Henrik. 2015. The role of perspective in epistemic marking. *Lingua* 186–187. 5–20.
- Boas, Frans. 1938. Language. In Franz Boas (ed.), *General anthropology*, 124–145. Boston, New York: D. C. Heath and Company.
- doi** Casseb-Galvão, Vânia Cristina. 2011. Gramática discursivo-funcional e teoria da gramaticalização: revisitando os usos de [diski] no português brasileiro. *Filologia Linguística Portuguesa* 13 (2). 305–335.
- doi** DeLancey, Scott. 2001. The mirative and evidentiality. *Journal of Pragmatics* 33. 359–367.
- doi** DeLancey, Scott. 2012. Still mirative after all these years. *Linguistic Typology* 16. 529–564.
- doi** DeLancey, Scott. 2018. Evidentiality in Tibetic. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 580–594. Oxford: Oxford University Press.
- doi** Demonte, Violeta and Olga Fernández-Soriano. 2022. A multidimensional analysis of the Spanish reportative epistemic evidential *dizque*. *Lingua* 266. 1–29.

- [doi](#) Dixon, R. M. W. 1995. Complement clauses and complementation strategies. In F. R. Palmer (ed.), *Grammar and meaning. A Festschrift for John Lyons*, 175–220. Cambridge: Cambridge University Press.
- [doi](#) Dixon, R. M. W. 2003. Evidentiality in Jarawara. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *Studies in evidentiality*, 165–188. Amsterdam: John Benjamins.
- [doi](#) Dixon, R. M. W. 2004. *The Jarawara language of Southern Amazonia*. Oxford: Oxford University Press.
- Dixon, R. M. W. 2012. *Basic Linguistic Theory. Volume 3. Further grammatical topics*. Oxford: Oxford University Press.
- [doi](#) Dixon, R. M. W. 2016. *Are some languages better than others?* Oxford: Oxford University Press.
- [doi](#) Dixon, R. M. W. 2021. *The essence of linguistic analysis: An integrated approach*. Leiden: Brill.
- Drolma, Dawa & Hiroyuki Suzuki. Forthcoming. The paradigmaticity of evidentials in the Tibetan languages of Khams. This volume.
- Eberhard, David M. 2009. *A grammar of Mamaindê: A northern Nambikwara language and its cultural context*. Amsterdam: LOT.
- [doi](#) Eberhard, David M. 2018. Evidentiality in Nambikwara languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 333–356. Oxford: Oxford University Press.
- [doi](#) Eliasson, Stig. 2015. The birth of ‘language ecology’: Interdisciplinary influences in Einar Haugen’s “The ecology of language”. *Language Sciences* 50. 78–92.
- Floyd, Rick. 1996. The radial structure of the Wanka reportative. In Eugene Casad (ed.), *Cognitive linguistics in the redwoods: The expansion of a new paradigm in linguistics*, 895–941. Berlin: De Gruyter Mouton.
- Floyd, Rick. 1999. *The structure of evidential categories in Wanka Quechua*. Arlington: Summer Institute of Linguistics and University of Texas, Arlington.
- Floyd, Simeon. 2005. The poetics of evidentiality in South American storytelling. *Santa Barbara Papers in Linguistics* 16. 28–41.
- [doi](#) Forker, Diana. 2014. The grammar of knowledge in Hinuq. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *The grammar of knowledge*, 52–68. Oxford: Oxford University Press.
- [doi](#) Friedman, Victor. 2018. Where do evidentials come from?. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 124–147. Oxford: Oxford University Press.
- [doi](#) Greed, Teija. 2018. The quotative in Bashkir. *Studia Orientalia Electronica* 6. 23–55.
- Hardman, Martha J. 1986. Data-source marking in the Jaqi languages. In Wallace L. Chafe & Johanna Nichols (eds.), *Evidentiality: The linguistic coding of epistemology*, 113–136. Norwood: Ablex Publishing.
- Haugen, Einar. 1972. The ecology of language. In *The ecology of language. Essays by Einar Haugen*, selected and introduced by Anwar S. Dil, 325–339. Stanford, CA: Stanford University Press.
- Heine, Bernd. 2022. *The grammar of interactives*. Oxford: Oxford University Press.
- [doi](#) Hill, Nathan W. 2012. “Mirativity” does not exist: Hdug in “Lhasa” Tibetan and other suspects. *Linguistic Typology* 16. 389–433.
- [doi](#) Hyslop, Gwendolyn. 2018a. Mirativity and egophoricity in Kurtöp. In Simeon Floyd, Elizabeth Norcliffe & Lila San Roque (eds.), *Egophoricity*, 109–138. Amsterdam: John Benjamins.

- doi Hyslop, Gwendolyn. 2018b. Evidentiality in Bodic languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 595–609. Oxford: Oxford University Press.
- doi Hyslop, Gwendolyn. 2020. Grammaticalized sources of Kurtöp verbal morphology. *Studies in Language* 44. 132–164.
- doi Hyslop, Gwendolyn. 2023. Miratives and magic: On “newness” as iconic grammar in Kurtöp narratives. In Alexandra Y. Aikhenvald, Robert L. Bradhsaw, Luca Ciucci & Pema Wangdi (eds.), *Celebrating indigenous voice. Legends and narratives in languages of the tropics and beyond*, 219–235. Berlin: De Gruyter.
- doi Jacques, Guillaume. 2018. Non-propositional evidentiality. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 109–123. Oxford: Oxford University Press.
- Jacobsen, W.H. Jr. 1986. The heterogeneity of evidentials in Makah. In Wallace L. Chafe & Johanna Nichols (eds.), *Evidentiality: The linguistic coding of epistemology*, 3–28. Norwood: Ablex Publishing.
- Jakobson, Roman. 1957. *Shifters, verbal categories, and the Russian verb*. Cambridge: Harvard University.
- doi Johanson, Lars. 2000. Turkic indirectives. In Lars Johanson & Bo Utas (eds.), *Evidentials: Turkic, Iranian and neighbouring languages* (Empirical Approaches to Language Typology 24), 61–87. Berlin: de Gruyter Mouton.
- doi Johanson, Lars. 2018. Turkic indirectivity. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 510–524. Oxford: Oxford University Press.
- doi Kaltenböck, Gunther, Bernd Heine & Tania Kuteva. 2011. On thetical grammar’. *Studies in Language* 35. 848–893.
- doi König, Christa. 2013. Source of information and unexpected information in !Xun – evidential, mirative and counterexpectation marker. In Alexandra Aikhenvald & Anne Storch (eds.), *Linguistic expression of perception and cognition*, 69–94. Leiden: Brill.
- doi Lee, Dorothy D. 1938. Conceptual implications of an Indian language. *Philosophy of Science* 5. 89–102.
- doi Lee, Dorothy D. 1944. Linguistic reflection of Wintu thought. *International Journal of American Linguistics* 10. 181–187.
- Lidz, Liberty. 2007. Evidentiality in Yongning Na (Mosuo). *Linguistics of the Tibeto-Burman Area* 30. 45–88.
- doi Maslova, Elena. 2003. Evidentiality in Yukaghir. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds), *Studies in evidentiality*, 219–236. Amsterdam: John Benjamins.
- doi Matthewson, Lisa, Henry Davis, & Hotze Rullmann. 2007. Evidentials as epistemic modals: Evidence from St’át’imcets. *Linguistic Variation Yearbook* 7. 201–254.
- doi McLendon, Sally. 2003. Evidentials in Eastern Pomo with a comparative survey of the category in other Pomoan languages. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds), *Studies in evidentiality*, 101–130. Amsterdam: John Benjamins.
- Mélac, Eric. 2014. L’évidentialité en anglais. Approche contrastive à partir d’un corpus anglais – tibétain. Paris: Université Sorbonne Nouvelle Ph.D. thesis.
- Mélac, Eric. 2021. Grammaticalization of evidentials. Paper presented at the conference *Evidentiality and modality: at the cross-roads of grammar and lexicon*, Université de Montpellier-3 Paul Valéry, 10 June.

- Mélac, Eric & Joanna Bialek. Forthcoming. Evidentiality as a grammaticalization passenger: An investigation of evidential developments in Tibetic languages and beyond. This volume.
- Mortelmans, Tanja. Forthcoming. Frequency differences in reportative exceptionality and how to account for them: a case study on verbal reportative markers in French, Dutch and German. This volume.
-  Narrog, Heiko & Wenjiang Yang. 2018. Evidentiality in Japanese. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 709–724. Oxford: Oxford University Press.
- Nevskaya, Irina. 2002. Evidentials, Miratives and Indirectives in Shor. In Demir, Nurettin & Fikret Turan (eds.), *Scholarly depth and accuracy: A festschrift to Lars Johanson*, 307–323. Ankara: Grafiker.
-  Nuckolls, Janis B. 2018. The interactional and cultural pragmatics of evidentiality in Pastaza Quichua. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 202–221. Oxford: Oxford University Press.
- Palmer, Frank R. 1986. *Mood and modality*. Cambridge: Cambridge University Press.
-  Pan, Chia-jung. 2018. Evidentiality in Formosan languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 657–673. Oxford: Oxford University Press.
- Pan, Chia-jung. 2023. The versatility of inferential evidentiality. Evidence from Saaroa. In Chris Shei & Saihong Li (eds.), *The Routledge handbook of Asian linguistics*, 408–429. London: Routledge.
-  Peterson, Tyler. 2018. Evidentiality and epistemic modality in Gitksan. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 463–489. Oxford: Oxford University Press.
- Pitkin, Harvey. 1984. *Wintu grammar*. Berkeley: University of California Press.
- Ramirez, Henri. 1997. *A Fala Tukano dos Yepâ-masa. Tomo I. Gramática*. Manaus: Inspeitoria Salesiana Missionária da Amazônia CEDEM.
-  de Reuse, W.J. 2003. Evidentiality in Western Apache. In Alexandra Y. Aikhenvald & R.M.W. Dixon (eds.), *Studies in evidentiality*, 79–100. Amsterdam: John Benjamins.
-  Sarvasy, Hannah. 2018. Evidentiality in the languages of New Guinea. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 629–656. Oxford: Oxford University Press.
-  Skribnik, Elena. 2023. Reading Siberian folklore: Miratives, pre-mirative contexts and “Hero’s Journey”. In Alexandra Y. Aikhenvald, Robert L. Bradshaw, Luca Ciucci & Pema Wangdi (eds.), *Celebrating indigenous voice. Legends and narratives in languages of the tropics and beyond*, 237–259. Berlin: De Gruyter Mouton.
- Skribnik, Elena & Alexandra Y. Aikhenvald. 2024. Evidentiality in Northern Asia. In Edward Vajda (ed.), *The languages of Northern Asia*, 1006–1063. Berlin: De Gruyter Mouton.
-  Squartini, Mario. 2018. Extragrammatical expression of information source. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 273–285. Oxford: Oxford University Press.
-  Stenzel, Kristine and Elsa Gomez-Imbert. 2018. Evidentiality in Tukanoan languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 357–387. Oxford: Oxford University Press.

-  Storch, Anne. 2018. Evidentiality and the expression of knowledge: An African perspective. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 610–628. Oxford: Oxford University Press.
-  Sun, Jackson T.-S. 2018. Evidentials and person. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 47–64. Oxford: Oxford University Press.
- Telles, Stella and W. Leo Wetzels. 2006. Evidentiality and epistemic mood in Lakondé. In J. Grazyna Rowicka & Eithne B. Carlin (eds.), *What's in a Verb? Studies in the verbal morphology of the languages of the Americas*, 235–252. Utrecht: LOT Publications.
- Tournadre, Nicolas & K. Jiatsso, K. 2001. Final auxiliary verbs in literary Tibetan and in the dialects. *Linguistics of the Tibeto Burman Area* 24. 49–111.
-  Travis, Catherine. 2006. Dizque: a Colombian evidentiality strategy. *Linguistics* 44. 1269–97.
-  Urmson, James Opie. 1952. Parenthetical verbs. *Mind* 61. 480–496.
-  Valenzuela, Pilar M. 2003. Evidentiality in Shipibo-Konibo, with a Comparative Overview of the Category in Panoan. In Alexandra Y. Aikhenvald & R.M.W. Dixon (eds.), *Studies in evidentiality*, 33–61. Amsterdam: John Benjamins.
-  Wiemer, Björn. 2018. Evidentials and epistemic modality. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 85–108. Oxford: Oxford University Press.
-  Wilcox, Sherman and Barbara Shaffer. 2018. Evidentiality and information source in signed languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 741–754. Oxford: Oxford University Press.
-  Willett, Thomas. 1988. A cross-linguistic survey of the grammaticalization of evidentiality. *Studies in Language* 12. 51–97.
-  Wojtylak, Katarzyna I. 2018. Evidentiality in Boran and Witotoan languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 388–408. Oxford: Oxford University Press.
-  Ziegeler, Debra. 2011. The grammaticalization of modality. In Heiko Narrog & Bernd Heine (eds.), *The Oxford handbook of grammaticalization*, 595–604. Oxford: Oxford University Press.

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