The Grammar of Knowledge: what we know and how to know more

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Every language has a way of talking about how one knows things.
In about a quarter of the languages of the world, one ALWAYS has to state the source of one’s knowledge:

- Do you know it by direct evidence?
- Did you see it yourself?
- Or someone told you?
- Or is it just a hunch?
EVIDENTIALITY specifies the source of information on which a statement is based.
There may be

- Just two choices
- Or three
- Or more
Jarawara
(Southern Amazonia, Brazil, spoken by about 200 people)
A Linguist’s (Bob Dixon’s) house in a Jarawara village
A tree (*awa*) has fallen down in the night.
The Linguist said:

Awa 

sona-harake

Tree

fall-EYEWITNESS

‘The tree fell (I saw it)’
The speaker, Motobi,
corrected the linguist

Awa  sona-\textit{hanike}

Tree  fall-\textit{NONEYEWITNESS}

‘The tree fell (I didn’t see it fall)’
Hinuq (Dagestan, Russia)

(1)  dizho obu  yiy-ish
    My father  he.became-WITNESSED
uq'ino  qu  lebu
4  20 years
'My father got to be 80 years old'
(The speaker knew the father personally)
Magomet Labazanov (1890-2012), Daghestan
(2) hailo rek'u-y
that man
yiy-no
he.became-UNWITNESSED
bison=no qu λebu
100=and 20 years
'That man got to be 120 years old'
(the speaker didn’t know him personally)
The Hinuq of Daghestan
Estonian (c. 1.2 million, Estonia)
(3) Lennuk tuleb
plane is coming
‘The plane is coming’ (I know it)

(4) Lennuk tulevat
plane is coming:reported
‘The plane is coming’ (they say)
Franz Boas (1938: 133), an American linguist and anthropologist, who can be considered a founding father of modern linguistics, put it this way:
‘While for us definiteness, number and time and obligatory aspects, we find in another language .... source of information – whether seen, heard, or inferred – as obligatory aspects’
Frans Boas (1858-1942), a founding father of modern linguistics
Frans Boas again:

‘Languages differ not in what one can say but in what kind of information must be stated: 'grammar [...] determines those aspects of each experience that must be expressed'.
Evidentiality

• forces speakers to be precise about information source

• As Boas (1942: 182) put it, 'we could read our newspapers with much greater satisfaction if our language would compel them to say whether their reports are based on self-experience, inference, or hearsay!'
• 'what a lot of breath and ink this might save us in English if we had evidential suffixes that we could use in the courtroom…. 

• We might say, for example, "The defendant shoplift-be [be is a visual evidential] the compact disc", thereby eliminating the need to ask the inevitable question: "Did you actually see her take it?“ (Palmer 1996: 200)
There can be more complex systems:

The Tariana language of northwest Amazonia, Brazil, spoken on the border between Brazil and Colombia and also Venezuela
• The area known as Cabeça de Cachorro (Dog’s head), the border between Brazil and Colombia
Travelling to get there
• The Tariana village of Santa Rosa
A brief aside:

• Of the 180 indigenous languages spoken in Brazil, more than a hundred are within the catchment of the mighty Amazon River.

• Amazonian languages belong to at least a dozen language families, and have many unusual features.
Many if not all Amazonian languages are severely endangered –

This is similar to endangered species, or the endangerment of the Great Barrier Reef...
Back to evidentiality

Tariana

has five evidential terms
If I see a dog stealing the fish, I would say 'Dog stole-ka fish':

-ka shows that I saw what happened.

(5) tsinu kuphe di-nitu-ka
dog fish he-steal-VISUAL
'A dog stole a fish (I saw it)'
• If I didn't see this happen, but heard the dog chewing on the fish, I will have to say, 'Dog stole-*mahka* fish.' *-mahka* shows that I heard what happened.

(6)  tsinu  kuphe  di-nitu-*mahka*
dog  fish  he-steal-NONVISUAL
'A dog stole a fish (I heard it)'
• If I walk into the cooking house, and see that the fish is gone and the dog is contentedly licking his chops, I then say 'dog stole-\textit{nihka} fish'. \textit{-nihka} shows that what I say is inferred, based on the results I saw.

(7) tsinu kuphe di-nitu-\textit{nihka}
    dog    fish      he-steal-INFERRRED
'A dog stole a fish (I infer it)
• If I walk into the cooking house, and see that the fish is gone, and the usual suspect is the dog, I will say:

(8) tsinu kuphe di-nitu-sika
    dog  fish  he-steal-ASSUMED
    'A dog stole a fish'

(I infer it from general knowledge: who else would do it?)
Finally, if someone else told me what had happened, I have to use the 'reported' suffix: 'dog stole-\textit{pidaka} fish'.

-\textit{pidaka} shows that this information was reported to me.

(9) \textit{tsinu kuphe di-nitu-pidaka}
dog fish he-steal-REPORTED
'A dog stole a fish (I was told)'
Cooking house
Important meaningful bits (morphemes):

- **-ka** ‘visual’: I saw it
- **-mahka** ‘nonvisual’: I heard/smelt/felt it but did not see it
- **-nihka** ‘inferred’: I infer it based on results I see now
- **-sika** ‘assumed’: I assume it based on general knowledge
- **-pidaka** ‘reported’: the information was reported to me
Languages without grammatical evidentiality can employ lexical means to obtain a similar effect, e.g.

English I guess, they say, I hear that etc. allege, report: e.g.
One can say:

*The alleged murderer of President Kennedy was reportedly caught by the police*

These expressions are not grammatical evidentials. You do not have to use them....
Speakers of Tariana look down upon ordinary Brazilians since they do not say how they know things, and they call them 'liars'.

*Columbus discovered America* — How do you know?
*Columbus discovered America-ka*: BUT did you see him?
*Columbus discovered America-pidaka*: OK, you know by hearsay!
This is an example of how grammatical differences may create miscommunication.
• Quechua, the largest indigenous language in South America, has three evidentials:
  • one for visual information,
  • one for inference, and
  • one for hearsay.
• The early missionaries (and many non-indigenous people nowadays) did not understand evidentials, considering them 'ornate particles'.

• As a result, Quechua speakers considered these white people somewhat stupid, or outright crazy, or even 'liars'. 
What do evidentials mean?

I. **VISUAL** evidentials cover evidence acquired through seeing.

II. **SENSORY nonvisual** evidentials cover evidence through hearing, are typically extended to smell and taste, and sometimes also touch.
III. **Inferred Evidentials** are based on visible or tangible evidence or result.

IV. **Assumed Evidentials** are based on evidence other than visible results: this may include logical reasoning, assumption or simply general knowledge.
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.
More?

- ‘Gut feeling’ evidential in Nambiquara (the group Lévy-Strauss worked on)
- General knowledge evidential: Yong-Ning Na, a Tibeto-Burman language of China....
Evidentials in Sign languages

• No spoken language has a special evidential to cover smell, taste, or feeling: this complex of meanings is typically covered by a non-visual, a non-firsthand, or experiential evidential.

• Catalan sign language is reported to have a special evidential marking smell.
Not all evidentials are equal

• The special status of visual evidential:
  - In many languages, including Tariana, visual evidential is used for general statements:

The sun rises-*ka in the morning
- Visual evidential is the preferred source of information (if there is more than one available)
Preferred evidentials

• Visual evidential 1st choice
• Non-visual evidential 2nd choice
• Inferred evidential on visual evidence 3rd choice
• Reported evidential 4th choice
• Assumed evidential Last choice

(Empirically established based on a number of languages)
This agrees with

The special status of visual information:
- 90% of information entering the brain is visual
- More of our neurons are dedicated to vision than the other four senses combined...
Vision rules the brain
Vision is power

• If I say I saw something I take full responsibility
• A statement in visual evidential is strong and implies that I know what I am talking about
Dreams and shamans

• In many small societies in Amazonia, dreams are special.

• Among the Tariana and in neighbouring languages, simple mortals talk about dreams as unreal nonvisual experience.
• The plane took-*mahka* us: a normal mortal will say this meaning ‘In my dream, the plane took us’

This bears no immediate connection to reality – this is just a dream (especially for an Indian in Brazil)
A military plane, northwest Amazonia
This is how Indians travel...
An Amazonian shaman sees things
• Plane took-ka us: shaman speaking:
  (i) he sees things through and through
  (ii) if he uses a visual evidential to talk about his dream, this means there will be a plane, let’s pack!
Overusing a visual evidential

• May imply that you are crazy and argumentative braggart

• Or that you are a sorcerer

• and are not to be trusted
David Weber, a linguist
• David Weber who has worked among the Quechua for over 40 years tells about a man who used to constantly employ the visual –\textit{mi}.

• No one believes what he says because ‘he always speaks as though he has witnessed what he is telling about’

• He is considered somewhat crazy
What are evidentials good for?

• They help us be precise — and this is a cultural requirement in many smaller societies: otherwise you may be hiding something and perhaps you are a sorcerer?

• They save us the bother of wondering 'how on earth does he or she know it?'
Aren’t evidentials a desirable feature?

- Wouldn’t this be good for the police or for the courts????

- And for us if politicians had to mention how they know things?
Evidentials and truth

• There is no obvious link between having evidentiality in your language and being truthful

• Fibbing with evidentials is just a bit trickier.
Two ways of telling a lie

Use the right verb and the wrong evidential:

(10) nusaniri kuphe dhilutu-pidaka
       my.husband fish he.fish-REPORTED
‘My husband is reported to have gone fishing’ – says the estranged wife

(a) she had seen him – so she is lying
(b) she has been caught lying – a cautionary tale
Gone fishing (river Iauíari, Brazil)
Use the wrong verb and the right evidential

(11) Motoruda di-matsika-pidaka
motor he-break-REPORTED
‘The motor broke (I am told)’ (in actual fact he was told nothing of the sort)
A motor is our livelihood when we travel
Evidentials and new means of acquiring information

The use of evidentials changes as speakers embrace new technologies—internet, radio, television, and acquire access to new sources of information, such as internet
• Among the Tariana, those who are not used to the phone use nonvisual
• Those who use it all the time treat it as visual information
Marilene Muniz (Tariana) and a mobile phone
Internet is visual!
But what one reads is inferred: Leo Brito reading
How evidentials make their way into Portuguese and English

A notice about an upcoming football match:

‘There will be a football match at 5 o’clock on Sunday’
Leo read this as

• ‘There will be a football match it appears’ (parece in Portuguese)

• Reaction from local Brazilians:
  Why are these Indians so pernickety?
  Why can’t they talk straight?
A girl fell off a bicycle
A Yavapai Indian from Arizona

if you ask them – what happened – will say:

She fell off her bike they say
Typical reaction of Anglos:

‘Boy, these Indians sure say ‘they say’ a lot, when they do not mean it’

(Bunte and Kendall 1981)
Evidentials

• Affect speech practices
• Affect communication
• Create social exclusion or inclusion
Evidentials and cognition

• Do speakers of languages with evidentials have better memory for how they learnt things?

• Apparently, yes.
• The Turkish language distinguishes indirectly acquired information and directly acquired information

• Speakers of Turkish remember the events acquired firsthand better than nonfirsthand
• Speakers of Turkish who learnt English later in life have less accurate recognition for nonfirsthand sources than those who learnt English early

• Speakers of English only showed no difference in source memory

(Sümeyra Tosun, Jyotsna Vaid, Lisa Ceraci, *Journal of memory and language*, 2013)
Cognitive lab, Department of Psychology, Texas A&M University
How and when do children acquire evidentials?

- Evidentials appear early and gradually in children’s speech.
- Stanka Fitneva (forthcoming, 2017) showed that by the age of three, Turkish speaking children use the indirect evidential as a marker of reported information.
How about Quechua?

• Quechua-speaking children have to learn a system of three evidentials
  - *mi* ‘direct’,
  - *cha* ‘inferred, assumed’
  - *si* ‘reported’

• These are used to refer to information source by the age of 4.
The geography of evidentials

- A few languages in Europe (Basque, Estonian, Latvian, Lithuanian...)
- Languages across Asia – Turkic, Uralic
- China, Tibet, Japanese, Korean
- Many languages of North and South America
- Many languages of New Guinea, some in Australia....
Sadly, many small tribal languages with large evidential systems are endangered, and are no longer actively spoken by children.
About 70% of the world’s languages are in danger of being lost
With it, the remarkable linguistic diversity and the diversity of human communication, cognition and knowledge is in danger!
This is similar to endangered biodiversity: capybara, the largest rhodent in Amazonia
Candelário Silva (1921?-1992), the last fluent speaker of Baré
What can linguists do?

Fight against time: documenting endangered languages
Speakers of Kumandene Tariana are eager to have their language documented.
Back on the road...