The Acquisition of Evidential Meaning: Insights from Quechua Conversations

Ellen H. Courtney

University of Texas at El Paso

Languages such as Turkish, Korean, and Japanese exhibit evidential morphemes encoding information source as direct or indirect evidence. Investigations of child acquisition of evidential systems (notably, Aksu-Koç 1988; Choi 1995; Matsui, Yamamoto & McCagg 2006) reveal that development of evidential meaning is a protracted process, relying on children’s incremental understanding of mental states. This study examines child production of five Quechua suffixes, including three evidential enclitics (direct evidence, hearsay, report), and two verb inflections that differentiate perceived and unperceived events in past time. For this purpose, the research team recorded 15 conversations between mothers and their children, aged 2:3-8:0. Instances of the five suffixes were analyzed in both child-directed speech and child production. All participants were from rural communities outlying Cuzco, Peru. It was observed that children begin producing some suffixes at age two, primarily on conventionally focused constituents and for indicating degree of certainty. It is not until the age of four that children produce all the morphemes as true evidential markers.

Key words: Quechua, evidentiality, first language acquisition, naturalistic data

1. Introduction

Of great interest in current investigations of child language development is the acquisition of the forms and meanings associated with evidentiality, a linguistic category indicating the source of information. Previous studies investigating the development of evidential systems in a number of languages suggest that the path to full understanding and adult-like production of evidential morphemes is a drawn-out process, e.g. Aksu-Koç (1988, 2000) for Turkish; Matsui, Yamamoto and McCagg (2006) for Japanese. It is not surprising that the development of evidential competence should be a protracted process, since the acquisition of grammatical forms encoding information source relates to cognitive development, specifically children’s theory of mind. As noted by Papafragou (2002:62), “the ability to reason evidentially about the origins... of our beliefs is part of our ability to reason about mental states in general.” The

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current investigation explores child production and understanding of evidentiality in Quechua, an Andean language which exhibits a complex system of evidential morphology.

Starting with the seminal studies compiled in Chafe and Nichols (1986), linguists have endeavored to characterize the expression of evidentiality across languages. Willett (1988) identified the basic evidential distinctions observed cross-linguistically, as shown in the following simplified version of the figure from his work (1988:57). In this schematic representation, the overarching semantic contrast in evidential systems distinguishes direct and indirect evidence as information source. Indirect evidence, in turn, may be hearsay or observed results, etc.

Types of Evidence

- Direct
  - Attested
    - Reported (Hearsay)
  - Inferring (Results, Reasoning)

Indirect

Although the semantic content of evidential concepts is universal, languages differ widely in the formal means available for their expression (Aikhenvald 2004; Plungian 2001). Languages such as English rely on lexical expression, e.g. adverbs such as allegedly, reportedly, or on syntactic means, e.g. I saw John arrive (direct evidence), I see that John has arrived (inference based on indirect evidence), They say that John has arrived (indirect evidence: hearsay). In other languages, evidential distinctions are encoded in the morphology; that is, morphemes such as evidential enclitics and distinct verb forms indicate the source of the speaker’s information. A case in point is the Quechua language, which exhibits a number of suffixes for indicating information source, including both enclitics and verb inflections. Quechua has three evidential enclitics: DIRECT EVIDENCE -mi (allomorph: -n), CONJECTURE -chá, and REPORT -si (allomorph: -s), which perform double duty as markers of information source and sentence focus (Muysken 1995; Sánchez 2010). In addition to these enclitics, there are distinct past tense inflections in Quechua: PERCEIVED -r(y)a and NON-PERCEIVED -sqa.

While evidentials encode the source of evidence for particular statements, epistemic modality indicates the speaker’s degree of commitment to the truth of the statements. Researchers acknowledge a relationship between information source (evidentiality) and certainty of knowledge (epistemic modality); however, the nature of this relationship is highly controversial. Those who adopt a narrow view of evidentiality assert that information source and certainty must be treated as distinct conceptual categories or that certainty is merely an epistemic extension of the primary, evidential meaning (e.g. De Haan 1999; DeLancey 2001; Aikhenvald 2004). By contrast, others claim that epistemic modality is the central meaning, and the concept of information source is secondary (e.g. Palmer 2001; Trask 1999; Willett 1988); that is, evidentiality falls within the semantic scope of modality. As revealed in the following discussion, the debate extends to analyses of the Quechua morphemes. The current study sheds light on this debate by presenting naturalistic data which suggest that Quechua-
speaking children, like their Turkish counterparts, acquire the functions and meanings of these morphemes one at a time, starting with the focusing and validational functions and ending with evidential meaning.

2. Previous studies

Aksu-Koç (1988, 2000) conducted a groundbreaking investigation of children’s acquisition of the Turkish evidential morphemes. Like Quechua, Turkish is an agglutinative language, with suffix sequences appended to lexical roots. The evidential distinction in Turkish is encoded in the Past tense verb forms, which bear an obligatory suffix, either -dı for direct experience or -mü for indirect experience (inference/hearsay). Aksu-Koç observed that Turkish children start producing the morphemes at the age of two years; however, children do not consistently make appropriate use of the two suffixes until after the age of four years. In fact, they do not attain genuine understanding of the corresponding distinctions in source knowledge until after the age of six years. Aksu-Koç further reports that the direct evidence morpheme emerges first in child production; thereafter, children acquire the inferential meaning of the indirect evidence morpheme before acquiring the hearsay construal.

Japanese and Korean encode the distinction between direct and indirect evidence in obligatory sentence-final particles attached to the verb. Like the Turkish children, Korean children start producing the evidential morphemes at age two, and, by the age of three years, they competently produce the morphemes that distinguish direct evidence from hearsay (Choi 1995; Papafragou, Li, Choi & Han 2007). Matsui, Yamamoto and McCagg (2006) note that Japanese has two participles that contrast with yo, an element that encodes both certainty and direct evidence. In the expression of certainty, yo contrasts with kana, which indicates the speaker’s lack of conviction or commitment to the stated information. In its evidential function, yo contrasts with tte, the hearsay particle. The researchers conducted a study to determine children’s understanding of these morphemes in a task that required them to make decisions regarding the whereabouts of different objects, based on verbal clues. Overall, the children, aged 3- to 6-years-old, were more successful in interpreting the certainty contrasts than the evidential contrasts. The authors assert (2006:162), “With regard to cognitive complexity, it is our position that understanding speaker certainty . . . requires less cognitive processing than does comprehension of evidential certainty.” They further observed that the 5- and 6-year-olds were far more successful than the 3- and 4-year-olds in understanding the evidential contrasts.

The only previous investigation of evidential competence in Quechua-speaking children (Courtney 1998, 1999) yielded the observation that the direct evidence morpheme emerges at the end of the third year exclusively in affirmative answers to direct questions. The analysis relied primarily on spontaneous speech produced by three children who were acquiring the variety of Quechua spoken in the highlands of Arequipa, Peru. Clearly, a more extensive inquiry
is called for. The present study relies on the analysis of naturalistic speech data to address two questions:

1. If two-year-old Quechua speakers, like their counterparts in other languages, produce evidential morphemes spontaneously, what meanings or functions do they assign to them? 
2. In what order do the different evidential markers emerge in naturalistic child production?

Before discussion of the data, the highlights of the Quechua evidential system will be presented.

3. The Quechua evidential system

3.1 Evidential enclitics

The three evidential enclitics available to Quechua speakers for indicating the source of information (e.g. Calvo Pérez 1993; Floyd 1993; Faller 2002a) are illustrated in (1), with the enclitics underlined.¹

(1) a. Juan-\textit{mi} chaya-mu-n. 
   Juan-DIR arrive-TRL-3SG
   ‘(SPEAKER has witnessed that) Juan has arrived.’

b. Juan-\textit{chā} chaya-mu-n. 
   Juan-CNJ arrive-TRL-3SG
   ‘(SPEAKER infers/supposes that) Juan has arrived.’

c. Juan-\textit{ṣī} chaya-mu-n. 
   Juan-REP arrive-TRL-3SG
   ‘(SPEAKER has been told that) Juan has arrived.’

In each example, the subject Juan bears a different evidential suffix. By using the suffix -\textit{mi} (DIRECT EVIDENCE) in its evidential function, the speaker vouches for Juan’s arrival, based on direct observation. In this regard, Faller (2002a) asserts that -\textit{mi} is licensed when the speaker has the most direct evidence possible, or ‘best possible grounds’. The suffix -\textit{chā} (CONJECTURE) indicates that the speaker relies on reasoning and indirect evidence to infer that Juan has arrived. Finally, the speaker uses the suffix -\textit{ṣī} (REPORT) to note that she has learned about John’s arrival from what someone else has said (Faller 2002a). Unlike other languages, e.g. the Colombian language Tuyaca (Lazard 2001), overt evidential marking is not obligatory in Quechua. Faller (2002b:15-16) observes that Quechua speakers often produce sentences lacking evidential marking in informal discourse: “-\textit{mi} in normal conversation is primarily used in situations of real or anticipated argument—in situations in which the speaker wants to

¹ Terms for the abbreviations in the interlinear glosses are provided in the Appendix.
make a particular strong point." In statements without evidential marking, the evidential value is recoverable from the context.

As previously mentioned, these enclitics also serve to mark the primary focus in a sentence, an element which generally constitutes 'new' information (Muysken 1995). For this reason, the sentence provided in example (1), Juan-mi chaya-mu-n, is actually ambiguous. The evidential meaning, as stated above, could be glossed '(SPEAKER has witnessed that) Juan has arrived,' while the focus interpretation might be represented as 'It was JUAN who arrived.' Sánchez (2010:60) accounts for the syncretic properties of these morphemes within a minimalist framework by proposing multiple feature checking during syntactic derivation. In this case, the two features are [+FOC] and [DIRECT EVIDENCE].

It has been argued that these enclitics have an epistemic (validational) function, serving to indicate the speaker's degree of certainty (Nuckolls 1993; Floyd 1996). Faller (2002a:177) acknowledges that -chá has both evidential and epistemic meanings: "The meaning of -chá is not purely evidential, indicating that the speaker arrived at his or her statement by reasoning, but also encodes that the speaker is less than 100% certain." However, for Faller (2002a:204), Report -si serves purely to indicate one's source of information as hearsay: "-si... is a true evidential, indicating the speaker's source of information, and... it does not encode an epistemic modal value." It is the interpretation of -mi that is most controversial. While Faller claims that -mi is an evidential morpheme, Nuckolls asserts that "personal conviction or belief rather than direct experience is the Gesamtsbedeutung of -mi" (1993:239); that is, -mi provides the Quechua speaker with the means of expressing certainty, particularly in contrast to Conjecture -chá, used in its validational function to express the absence of complete certainty.\(^2\) She discusses situations in which Quechua speakers would appear to make use of -mi to express commitment to a proposition, including sentences with first-person future verb forms and information questions. With regard to first-person future statements with -mi, such as those presented in (2) from adult Cusco Quechua, Floyd (1996:85) states that "the speaker's commitment to a proposition may be justified to the extent that s/he construes his/her own subsequent actions as being particularly subject to his/her initiation and control."

(2) a. Apa-ra-m-pu-saq-mi ni-wa-n.
   take-EXH-TRL-REG-1FUT-DIR say-1OBJ-3SG
   'He said to me, "I'll bring it back."'

b. Anchay uras-ta-n pasa-saq wichay-ta.
   that hour-AC-DIR go-1FUT up-AC
   'I'll go up there at that hour.'

\(^2\) More recently, Nuckolls (2008) has proposed that -mi and -si mark, not information source, but speaker perspective. On this view, -mi indicates the 'speaking self'; the core meaning of -si is 'otherness.'
Accordingly, Quechua speakers may add the -mi suffix to assure the addressee that they will complete the future action, based on personal conviction of ability and intention. Of course, in (2b), the suffix -nt may merely be indicating focus; on this construal, the meaning might be glossed ‘It is at that hour that I shall go up there.’

In like manner, Quechua speakers frequently produce -mi on wh-question words and in responses to direct and information questions, and it has been argued that -mi has evidential import in these contexts. Even though Adelaar (1977) asserts that the use of -mi in direct questions has little if any meaning at all, Floyd (1996) proposes that speakers often add -mi to the wh-words in information questions, such as those presented in (3), because they assume that the addressee knows the answer and has direct evidence for the requested information.

(3) a. Pi-p jardín-pi maqa-sunki?
   who-DIR kindergarten-LOC hit-3SUBJ>2OBJ
   ‘Who hits you in kindergarten?’

b. Ima-n haqay orqo-q sutı-n-qa?
   What-DIR that hill-GEN name-3PS-TOP
   ‘What is the name of that hill?’

Once again, however, it is possible that the suffix on wh-words may be serving as a marker of focus rather than conveying information source. A similar function is indicated in other conventional uses of -mi: on ni- ‘say’ in direct quotations and in equi-statements without the copula ka-.

3.2 Past tense inflections

In addition to the evidential enclitics, Quechua sentences exhibit distinct Past tense inflections, as shown in the contrast presented in (4).

(4) a. Juan chaya-mu-ra-n.
   Juan arrive-TRL-PT-3SG
   ‘Juan arrived.’ (directly perceived)

b. Juan chaya-mu-sqa.
   Juan arrive-TRL-NEPT
   ‘Juan arrived.’ (not directly perceived)

Following Fuller (2004) and Cusihuamán (1976), the Past tense suffix -ra- (allomorph: -raga-) in Cusco Quechua indicates that the speaker has direct perceptual evidence for asserting that John arrived, whereas Non-Experienced Past -sqa- marks the absence of direct perceptual evidence. Fuller (2004:2) analyzes -sqa as “a spatio-temporal deictic which specifies that the described eventuality e is not located within the speaker’s perceptual field at topic time.”
Accordingly, although -sqa is not a true evidential morpheme, not perceiving an event means that one’s evidence is necessarily indirect. As in other languages (Aikhenvald 2004), the Non-Experienced Past morpheme (NEPT) exhibits a cluster of related functions. For example, the suffix has a resultative function when the speaker’s focus is on the observed end state, or result, of an action or process, especially in change-of-state verbs. A case in point is the form rik’cha-sqa from the verb root rik’cha- ‘awaken’, which could be glossed ‘He/She is awake’, expressing a resulting state. In like manner, the difference in meaning between ri-sqa (go-NEPT) and ri-ra-n (go-PT-3SG) might be glossed as ‘He is gone’ and ‘He went’, respectively. In Quechua narrative, -sqa has a reportative function: it is used in recounting stories, myths, and legends to indicate that the narrator has been neither a witness to, nor a participant in, the narrated events. As such, the suffix is used with Report -si in storytelling to characterize the story events as reported information. It must be mentioned that Quechua speakers typically produce sentences without evidential or Past tense marking, as shown in the following alternative to (4). In (5), the verb is Non-Past (∅).

(5) Juan chaya-mu-n.
    Juan arrive-TRL-∅-3SG
    ‘John arrives/has arrived.’

4. Methodology

Child participants were recruited in four rural communities in the province of Paruro, Cusco, Peru. Since the socioeconomic status of all these children is low, even by Peruvian standards, the children lack toys, books, and television, and they are largely unacquainted with the lifestyle of mainstream Peruvians. The younger children spend their days with their mothers, frequently tending the family livestock out in the fields. The older children attend kindergarten or elementary school, where they typically struggle to learn Spanish. Although the parents of the children may be bilingual in Spanish and Quechua, particularly the fathers, Quechua is spoken at home: it is the children’s first language. In this context, mothers were asked to tape-record conversations with their children in familiar settings for 30 to 60 minutes. The topics of conversation were remarkably similar across mother-child pairs: chores to be done (cooking, attending to animals, working in the fields, gathering firewood and fodder), school and getting ready for school, and the whereabouts and activities of different family members. In all, recordings were obtained of conversations with fifteen children, including 9 girls and 6 boys, between the ages of 2;3 and 8;0 (Mean Age = 3;7). The exact ages are shown on Table 1.
Table 1: Exact ages of children recorded in conversations with mothers, by age range

<table>
<thead>
<tr>
<th>Two-year-olds</th>
<th>Three-year-olds</th>
<th>Four-year-olds</th>
<th>Six-to-eight-year-olds</th>
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<tr>
<td>2;3</td>
<td>3;1</td>
<td>4;0</td>
<td>6;1</td>
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The recordings were later transcribed by two native speakers of Quechua, both research assistants who had interacted with the mothers and children in other settings. These recordings yielded a total of 2318 child utterances after elimination of those that merely acknowledged what was said with responses such as ya, ha, aha, hay, han, uhu, a. These were coded for instances of the evidential enclitics -mi, -si, and -chá, as well as for occurrences of the past tense inflections -sqa and -ra-. The mothers’ utterances were also coded for these morphemes.

5. Results

5.1 Direct evidence -mi

The corpus of 2318 child utterances yielded a total of 218 instances of -mi. There were 72 tokens of the negative form mana-n (mana ‘not’ + -mi). These are not considered in the present analysis because there is no way of telling whether or not the children produced the form as an unanalyzed amalgam. Additionally, there were 18 instances of the filler ima-n (ima ‘something’/‘what’ + -mi), which are also eliminated from the data set, leaving a net total of 128 tokens of the -mi suffix.

With respect to the group of two-year-olds, the youngest child, aged 2;3, produced only one constituent with -mi, a single instance of negative mana-n. Henceforth, this child is eliminated from the analysis since the remaining instances were all produced by the children aged 2;6 to 2;11. They produced a total of 35 tokens of -mi in 701 utterances. Most of the instances of -mi produced by these two-year-old children (29 tokens) occurred in contexts in which production of the suffix indicates focus. Of these, 24 instances include wh-question words, responses to questions, the verb ni- ‘say’ used in reporting direct speech, and equi-statements without the copula ka-. The ages of the children are shown in the following examples, where ‘M’ indicates ‘Mother’.

*Wh-question words*

(6) 2;6  Ima-n ankiy-pa sut-i-na?
    what-DIR that-GEN name-3PS-TOP
    ‘What’s the name of that?’
(7) 2;11 Ima-ta-ŋ hap’i-sa-nki?
   what-AC-DIR hold-PRG-2SG
   ‘What are you holding?’

Responses to questions
(8) M Maria mama-yki, may-ta pasa-n-ri?
    Maria mother-2PS where-AC go-3SG-RESP
    ‘And your Mama Maria, where has she gone?’
   2;6 Qusqu-ta-ŋ pasa-n.
    Cusco-AC-DIR go-3SG
    ‘She’s gone to Cusco.’
(9) M Waqra-yu-sunki-chu, mana-chu?
    butt-AUG-3SBJ>2OBJ-INTERR NEG-INTERR
    ‘Didn’t it butt you with its horns?’
   2;11 Waqra-yu-wa-n-mi
    butt-AUG-1OBJ-3SBJ-DIR
    ‘It butted me with its horns.’

Direct speech with ni-
(10) 2;8 Kicha-ra-pu-wa-y qhawa-na-y-paq ni-yki-ŋ.
     open-EXH-REG-1OBJ-IMP look at-POT-1SG-BEN say-1SBJ>2OBJ-DIR
     ‘I say to you, “Open it for me so I can look.”’
(11) M Waка-cha-n-qa ima-ni-spa-n waqa-sqa?
     cow-DIM-3PS-TOP what-say-SR-DIR cry-NEPT
     ‘And his cow, what did it say when it cried?’
   2;11 “Eee” ni-spa-ŋ.
   Eee say-SR-DIR
   ‘Saying, “Eee.”’

Equi-statements without copula ka-
(12) 2;8 Kay-qa papa-yki-q-mi.
     this-TOP dad-2PS-GEN-DIR
     ‘This is your dad’s.’
(13) 2;11 Chay-mi uwiha.
     that-DIR little sheep
     ‘That’s a sheep.’

In addition to these instances of conventional focus-marking, the two-year-olds produced
5 utterances which demonstrate use of -mi to express contrastive focus, as shown in (14)-(16),
produced by three different 2-year-olds.
(14) 2;8 Tiyu-yiki-ŋ qo-wa-ŋ.
    uncle-2PS-DIR give-1OBJ-3SG
    ‘Your uncle gave it to me.’ (and not to someone else)

(15) 2;11 Ama, ama, ama! Nuqa-paq-mi, nuqa-paq-mi, yaw!
    NEG-PROH pron1SG-BEN-DIR pron1SG-BEN-DIR hey
    ‘No, no, no! It’s for me, it’s for me. Hey!’ (and not for someone else)

(16) 2;11 Mana-ŋ chay-nin-ta-chu; (h)aqay-nin-ta-ŋ, (h)aqay-nin-ta-ŋ.
    NEG-DIR that-3PS-AC-NEG that-3PS-AC-DIR
    ‘It’s not through there; it’s OVER THERE, OVER THERE’.

The meanings assigned to the remaining 6 tokens of -mi produced by the two-year-olds are either indeterminate or ambiguous. In (17)-(18), both containing future tense verbs, -mi may simply indicate sentence focus. However, it is also plausible that the children are making use of -mi to express their firm intention to do something in the future, each a possible expression of commitment.

(17) 2;6 Kunan-mi kunan ri-pu-saq.
    now-DIR now go-REG-1FUT
    ‘I’ll go back now.’

(18) 2;11 Pintula apa-ku-saq, apa-ku-saq-mi.
    paint-(AC) carry-REFL-1FUT carry-REFL-1FUT-DIR
    ‘I’ll take paint.’

In all the previously presented examples of utterances with -mi, there is no apparent evidential meaning, i.e. identification of source of evidence as direct observation. However, in the following two statements, each indicating where something is, the -mi suffix may have an evidential function, although it more likely serves as a marker of focus. Example (19) occurs near the end of a monologue several clauses in length in which the child is calling out to the researcher to come back and get a doll. Example (20) occurs near the end of the child’s explanation that the teacher has gone off somewhere. In both examples, the suffix appears on the sentence-initial locative constituent. Accordingly, the meaning is ambiguous between a direct evidence reading and a focus construal as indicated in the glosses.

(19) 2;8 Kay-pi-ŋ munička-n ka-sha-n.
    this-LOC-DIR doll-3SG be-PRG-3SG
    ‘His doll is here.’ or ‘(I have direct evidence that) his doll is here.’

(20) 2;11 (h)aqay-lla-pi-ŋ ka-sha-n.
    that-DEL-LOC-DIR be-PRG-3SG
    ‘He’s OVER THERE.’ or ‘(I have direct evidence that) he’s over there.’
The three-year-old children produced a total of 21 tokens of -mi in 577 utterances. In addition to making use of -mi in all the previously mentioned contexts, the three-year-olds produced utterances with the morpheme affixed to a wider variety of constituents. In (21)-(22), produced by different children, this morpheme appears on an adverb of manner and the main verb, respectively, each bearing the sentence focus. Beyond the focusing function, the contexts suggest that use of -mi may indicate commitment rather than information source.

(21) 3:8  (Child tells mother how one has to call out to someone else.)
Ya, ya, fuerte-ta-n rima-na-n riki.
y a ya loud-AC-DIR talk-POT-3SG
‘Yeah, yeah, he has to talk LOUDLY, of course.’

(22) 3:8  (Child tells her mother about the existence of a ghost.)
Marguscha riku-ra-ra-n-mi.
Marguscha see-EXH-PT-3SG-DIR
‘Marguscha SAW it.’

In (23)-(25), -mi again appears on different focused sentence constituents: an adverb of time, an instrumental adjunct, and the main verb, respectively. Here, the contexts suggest that -mi may also have an evidential function because the children are directly observing events.

(23) 3:1  (Child is watching a cat.)
Kunacha-lla-n-mi kunan pusa-n pusa-sha-n.
own-DEL-DIR now take-3SG take-PRG-3SG
‘JUST NOW, now, it takes it, it’s taking it.’

(24) 3:4  (Child is observing how the light on the tape recorder works.)
Luz-wan-mi k’ancha-sha-n.
light-INSTR-DIR this light-PRG-3SG
‘This is lighting up WITH A LIGHT.’

(25) 3:8  (Child is waiting for her father to come home from work.)
Hamu-sa-n-mi, (ch)ahay-ta.
come-PRG-3SG-DIR over there-AC
‘He’s COMING, over there.’
M Hamu-sha-n-fa-chu?
come-PRG-3SG-DISC-INTERR
‘Is he already coming?’

The main difference in the performance of the four-year-olds, as compared with that of the three-year-olds, is somewhat greater frequency of production of the -mi suffix. These children produced a total of 39 instances of the morpheme in 482 utterances. Except for one
linguistically precocious two-year-old, each two- and three-year-old produced about 5 instances of \(-mi\) on average. Each four-year-old produced an average of 13 tokens, approximating the number produced by the adults (14-15 on average). As shown in the following 5 examples, the four-year-old children appear to use the morpheme to mark focus and to express certainty/commitment ((26)-(28)) as well as to indicate direct observation as information source ((29)-(30)).

(26) 4;0 Chura-ku-n-\(\text{mi}\) haqnata caset... uhuh-man-\(\text{mi}\) chura-ku-\(\text{n}\). 
put-REFL-3SG-DIR this way casette... inside-DAT-DIR put-REFL-3SG 
'The cassette is put this way... you put it INSIDE.'

(27) M Ima-ta wayk’u-sun-man-ri. 
what-AC cook-1FTPL-COND-RESP 
'And what should we cook?'

4;2 Qowe-ta-\(\text{n}\) sipi-ru-ku-saq. 
cuy-AC-DIR kill-EXH-REFL-1FUT 
'I’ll kill myself a CUY.'

(28) M Chay sombreruchaykiwan churakuy. Manachu umaykita chirisunki? 
'Put on this hat of yours. Isn’t your head cold?'

4;4 Ari, chir-
\(\text{wa}-\text{n}-\text{mi}\). Hayku-saq-\(\text{mi}\) ya, hayku-saq-\(\text{mi}\). 
yes cold-1OBJ-3SG-DIR enter-1FUT-DIR ya enter-1FUT-DIR 
'Yes, it’s cold. I’ll go in, I’ll go in.'

(29) 4;2 Qolqe-ta-wan erqé-kuna tari-ru-ku-rqa-nku. 
money-AC-INSTR child-PL find-EXH-REFL-PT-3PL 
'The children found themselves (some) money.'

M Han. ('Really. ')

4;2 Qolqe-ta-\(\text{n}\). 
money-AC-DIR 
'Money.'

(30) M Wallpanchis runtururanchus imaynachá? ...
'Could our hen have laid an egg?'

4;4 Ka-sa-n-\(\text{mi}\). 
be PRG-3SG-DIR 
'There is (one).'

M Runtu. 
'An egg.'

Analysis of the utterances produced by the oldest children, ages 6;1 and 8;0, did not yield any noteworthy differences with respect to use of the -\(\text{mi}\) suffix.
5.2 Conjecture -chá

In the total corpus of 2318 child utterances, the children produced 26 instances of Conjecture -chá, starting at age 2;11, while the adults produced 64 in approximately the same number of utterances. Both children and adults produced -chá in free variation with -chayki, which apparently shares the same function/meaning. In what follows, the principal uses of the suffix are presented, including examples produced by both mothers and children. The adults most frequently used -chá to speculate about future actions and proposed plans in sentences with future and conditional verb forms. In fact, 30 of the adult utterances fall into this category, illustrated in (31)-(33). No child below the age of 4 years produced utterances with -chá used in this way. Child examples are presented in (34)-(35).

    house-1P-CNJ sweep-EXH-2SG, put in order-EXH-2SG
    ‘I suppose you’ll sweep our house, you’ll put it in order.’

    what-AC-CNNT do-1FTPL-RSP sleep-1FTPL-CNJ
    ‘So what shall we do? I guess we’ll sleep.’

(33) M Willa-wa-n-man-chayki ka-ra-n kay-ta, mana willa-wa-n-chu-qa.
    tell-1OBJ-3-COND-CNJ be-PT-3SG this-AC, NEG tell-1OBJ-3-NEG-TOP
    ‘He probably would have told me this; he hasn’t told me.’

(34) 4;2 Kumpa-ra-pa-n-man-chá.
    fall-EXH-REG-3SG-COND-CNJ
    ‘It might fall down.’

(35) 4;2 Siñura-pis k’ami-ku-wa-n-man-chá.
    lady-ADD insult-REFL-1OBJ-3SG-COND-CNJ
    ‘The lady might insult me.’

Adults also frequently produced Conjecture -chá on wh-words (16 instances). The suffix in these cases might be glossed ‘I don’t know’, ‘I wonder’, ‘I’m not sure’. For example, the interrogative forms, ima-chá and pi-chá could be glossed as ‘I don’t know what’ and ‘I wonder who’, respectively. Examples (36)-(38) present adult and child utterances with Conjecture -chá used in this way.

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3 Local informants claim that there is no difference in meaning between -chá and -chayki. The latter form is probably not a combination of -chá and second-person -yki. In Ayacucho Quechua, another Southern Peruvian variety, the evidential suffixes are commonly followed by the independent suffix -ki (Cerrón-Palomino 1987). One may speculate that the -chá-chayki variation observed here in Paruro-Cusco Quechua has been influenced by the Ayacucho variety.
Another fairly common occurrence of -chá in adult usage appears on locative and directional constituents (5 tokens), illustrated in (39)-(40). Starting at age 2;11, the children quite frequently produced utterances with the suffix appended to locative constituents, as shown in (41)-(42). In (39), (41), and (42), the occurrence of -chá on the focused element appears to indicate that the proposition is a more or less strong possibility, the epistemic function of Conjecture -chá. By contrast, (40), produced by one of the mothers, provides a clear instance of the evidential use of chá because the speaker is making an inference about an individual’s destination based on indirect evidence, i.e. the individual’s having changed into his “city” clothes. In this case, the source of information is reasoning.

(39) M Erqe-kuna-qa rayqha-y-pi-chá ka-yu-ra-n.
child-PL-TOP irrigation ditch-1PS-LOC-CNJP be-AUG-PT-3SG
‘Maybe the children were in my IRRIGATION DITCH.’

(40) M Yaurisque-ta-chá ri-sa-n; cambiasqa-taq ri-sha-n.
Yaurisque-AC-CNJP go-PRG-3SG; changed-CNT go-PRG-3SG
‘S/he must be going to YAURISQUE; s/he’s going all dressed up.’

(41) 2;11 (H)aqay pata-pi-chá riki qati-yu-nchis.
that top-LOC-CNJP of course herd-AUG-1PL
‘We probably herd ou top of that, right?’

(42) 4;0 Mosoq wasi-pi-chá ka-sa-n.
new house-LOC-CNJP be-PRG-3SG
‘S/he might be in the new HOUSE.’

Finally, in 6 of the adult utterances with -chá, the suffix is appended to verbs or noun phrases in sentences that simply express speculation or conjecture, as illustrated in the following mother and child examples, (43)-(46).
(43) M  Añañaw! T’anta-ta-čhayki apa-mu-sha-n  
how nice! bread-AC-CNJ carry-TRL-PRG-3SG  
‘Oh, how nice! He’s probably bringing BREAD.’

(44) M  Uña patu-nchiis-kuna wañu-pu-n-čhá  
little duck-1PL-PL die-REG-3SG-CNJ  
‘Our little ducks might have DIED.’

(45) 2;11  Kay-ri nuqanchis-pa-čhayki; haqay-ri, ankay-ri, chay-ri, qankuna-q-chu  
this-RSP us-GEN-CNJ, that-RSF, that-RSP, that-RSP, you-GEN-INTERR  
‘This must be OURS; and that, and that, and that, is it YOURS?’

(46) 8;0  Mana-n qhawa-ni-pas-chu; runtu-ru-ku-ra-n-pas-čhá.  
NEG-DIR look-1SG-ADD-NEG lay-EXH-REFL-PT-3SG-ADD-CNJ  
‘I haven’t looked; it probably laid an egg.’

5.3 Summary observations: -mi and -čhá

The data suggest that children begin producing -mi by age 2;6 primarily to mark focus, both in conventional grammatical contexts (i.e. wh-questions, answers to questions, equi-statements, on ni- ‘say’ in direct quotations) and in contrastive focus. In first-person future sentences, they may also use -mi to express their firm intention to do something, the validational (epistemic) function. By the late two’s, it is possible that children start using the suffix to indicate information source (direct evidence), although this is difficult to discern from the conversational context. Overall, the data suggest that two-year-olds first use -mi as a focus marker and perhaps as an indicator of commitment to a proposition, especially as contrasted with Conjecture -čhá, which emerges productively in the late two’s. That is, their initial uses of -mi and -čhá are confined to focus-marking and epistemic expressions of certainty/probability. Three-year-olds appear to have acquired the evidential function of -mi. However, it is not until the age of four years that children produce -mi as frequently as the adults and acquire adult-like use of -čhá to speculate about future actions and proposed plans.

5.4 Report -si

In the conversation data, there were very few instances of Report -si, which has only an evidential function: to attribute the source of information to what someone else has said.⁴

⁴ There were so few instances of Report -si in the child-mother conversations that the parents of one of the children were asked to record their own adult conversation. This is because the mothers might have avoided using the enclitic in child-directed speech during their talks with their children. The adult conversation, 3793 words in length, consisted of 445 exchanges between husband and wife. These spouses produced utterances with -si-marked constituents in only 21 of their conversational exchanges.
Among the 2318 child utterances, there were only 9 in which -si or its allomorph -s were encountered, all produced by children aged 4;2 and older. Among the small corpus of 19 tokens produced by the mothers, there are three discernible functions of -si: (a) so-called “delayed” mandates (7 tokens); (b) reported information/hearsay (3 tokens); and (c) questions formed either with wh-words or in combination with interrogative -chu (9 tokens). Examples of the last function produced by the mothers are presented in (47) and (48); no such questions were produced by the children.

(47) M Uwiha-cha-nchis waqa-y-sha-n. Ima-ta-s ruwa-sun-pis?
    sheep-DIM-1PL cry-AUG-PRG-3SG what-AC-REP do-1FTPL-ADD
    ‘Our little sheep is crying. What (did s/he say) we should do?’

(48) M Allin-ta-chu-s rima-n mana-chu-s?
    good-AC-INTERR-REP talk-3SG NEG-INTERR-REP
    ‘(I wonder whether) s/he talked well or not.’

However, both children and mothers produced delayed mandates (Cusihuamán 1976). These are directives from third parties, transmitted by the speaker through use of Report -si. (The Quechua language does not permit affixation of evidential enclitics to imperative forms such as rimay ‘talk!’) Examples of these directives produced by mothers and children are presented in (49)-(52).

(49) M Chaki-n-ta-s susunka-ru-n; qhalqe-ru-nki-s.
    foot-3PS-AC-REP fall asleep-EXH-3SG; scratch-EXH-2SG-REP
    ‘(He says) his foot fell asleep; (he says) scratch it.’

(50) M Ama-s-llami-nki-chu.
    PROH-REP touch-2SG-NEG
    ‘(She says) don’t touch it.’

(51) 4;2 Kuti-mu-nki-s.
    return-TRL-2SG-REP
    ‘(S/he says) come back.’

(52) 8;0 Chay ladun-ta-s qati-ya-pu-na-n ka-ra-n;
    that side-3PS-AC-REP herd-AUG-REG-POT-3SG be-PT-3SG
    ‘(S/he said) one had to herd (them) through that side.’
    chaymi hina hayku-chu-n ni-spa . . . ni-wa-n.
    for that reason thus enter-SUBJ-3SG say-SR . . . say-1OBJ-3SG
    ‘For that reason s/he said to me, “Just let them in.”’
Table 2: Summary of functions of Past inflections produced in conversations by age

<table>
<thead>
<tr>
<th>Age</th>
<th>-sqa (Non-Experienced Past)</th>
<th>-ra- (Past Tense)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>unaccus/</td>
<td>unaccus/</td>
</tr>
<tr>
<td></td>
<td>agentive</td>
<td>agentive</td>
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<td>activity</td>
<td>activity</td>
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<tr>
<td></td>
<td>auxiliary</td>
<td>auxiliary</td>
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<tr>
<td></td>
<td>ka-</td>
<td>ka-</td>
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<tr>
<td>2;3 – 2;6 (N = 3)</td>
<td>5</td>
<td>8 (5)</td>
</tr>
<tr>
<td>2;8 – 2;11 (N = 3)</td>
<td>---</td>
<td>6</td>
</tr>
<tr>
<td>3;1 – 3;8 (N = 4)</td>
<td>12</td>
<td>3 (1)</td>
</tr>
<tr>
<td>4;0 – 4;4 (N = 3)</td>
<td>16</td>
<td>2 (2)</td>
</tr>
<tr>
<td>6;1 and 8;0 (N = 2)</td>
<td>31</td>
<td>11 (3)</td>
</tr>
<tr>
<td>adult (N = 15)</td>
<td>73</td>
<td>33 (14)</td>
</tr>
<tr>
<td>Total (N = 30)</td>
<td>137</td>
<td>59</td>
</tr>
<tr>
<td>(30 speakers)</td>
<td>(30%)</td>
<td>(12.5%)</td>
</tr>
</tbody>
</table>

Finally, both mothers and children used the -si suffix to acknowledge the source of information as what someone else said. This function is illustrated in Examples (53)-(56).

(53) M        Atoq-si puri-sha-n.
           fox-REP walk-PRG-3SG
           ‘(They say) a fox is wandering around.’

(54) M        Yarqa-sa-n-ña-s.
           be hungry-PRG-3SG-DISC-REP
           ‘(S/he says) s/he’s already hungry.’

(55) 4;4      Hamu-sa-n-si. Seqsa-mu-sha-n-ña.
           come-PRG-3SG-REP climb-TRL-PRG-3SG-DISC
           ‘(They say) he’s coming. He’s already climbing.’

(56) 6;1      Mama-y kunan-si bola-ta hayt’-a-mu-sunchis.
           mom-1PS now-REP ball-AC kick-TRL-1FTPL
           ‘Mom, (they say) we’re going to kick the ball today.’

5.5 The Past tense morphemes

As mentioned earlier, Quechua speakers use the Past tense suffix -ra- (PT) when they have direct perceptual evidence of a past event (Cusihuamán 1976; Faller 2004); lacking direct perceptual evidence, they employ the Non-Experienced Past -sqa (NEPT). In the resultative function, the -sqa suffix serves to focus on the observed end state, or result, of an action or process. As shown on Table 2, -sqa is especially prevalent in the data in verbs expressing changes-of-state and existence, as well as in unaccusative movement verbs equivalent in meaning to go, come, enter, etc., when the intention is to focus on the observed end state of
the movement. In like manner, both mothers and children were more likely to mark agentive (volitional) verbs with -ra-. Since movement verbs can also be construed as agentive, they occurred quite frequently with Past tense -ra-. (These are indicated on the table in parentheses.)

Finally, the adults, in particular, used the suffix on ka- in its function as an auxiliary verb (e.g. apawaq ka-ra-n ‘you would have taken’; apanayki ka-ra-n ‘you had to take’), as illustrated in (57).

(57) Maskha-ra-mu-waq ka-ra-n riki.
look for-EXH-TRL-COND be-PT-3SG of course
‘Of course, you could have looked for it.’

In the utterances produced by the three younger two-year-olds, aged 2;3 to 2;6, there was only one past-inflected verb form, with copula ka- bearing Past Tense -ra-. Anchaypi ka-ra-n wayqecho ‘In that place was my brother’. The three older two-year-olds, aged 2;8-2;11, produced the remaining 19 past-inflected verb forms, including 15 tokens of -ra- and 5 tokens of -sqa on unaccusative/existence verbs. The totals shown on Table 2 for this age group are deceiving because a single child, aged 2;11, produced 16 of the verb forms, including all but one of the -ra-inflected verbs. The child produced only 2 instances of -sqa, both on unaccusative/existence verbs. As shown in the utterances in (58), this child appropriately used -sqa to focus on the end state of ‘going’ in (a) and -ra- on agentive verbs, including the causativized change-of-state verb chinka-chi ‘cause to disappear = lose’ in (c).

(58) a. (h)aqay-manta-ma ri-sha-sqa, (h)aqay-man. [unaccusative verb]
that-ABL-IMPR go-PRG-NEPT that-DAT
‘He is gone from over there to over there.’
b. Mama-y, anchay naranja-ta qo-ku-ra-ni. [agentive verb]
mom-IPS that orange-AC give-REFL-PT-1SG
‘Mommy, I gave (him/her) that orange.’
c. Chinka-ra-chi-mu-ra-ni. [causativized verb]
disappear-EXH-CAUS-TRL-PT-1SG
‘I lost it.’
d. Uray-ta-chayki pasa-y-ra-n, prosor-niy-qa.
down-AC-CNJ go-AUG-PT-3SG teacher-1PS-TOP
‘My teacher, he probably went down.’

There is nothing in these examples that deviates from adult use of the two Past forms; however, some adult functions are not represented in the utterances produced by the two-year-olds. The children did not make use of -sqa on agentive verbs, which would indicate lack of perceptual evidence. Additionally, they did not produce any utterances using ka- as an auxiliary verb. As
shown in Table 2, these functions appear to emerge gradually in child production. Nonetheless, children’s verbs exhibit the basic distinction between -sqa for expressing end states or results and -ra for expressing agentive action at least by the age of 2;11.

6. Discussion

Analysis of the conversational exchanges is only suggestive because there is no way of establishing conclusively from production data whether or not children actually assign evidential meaning to the five morphemes. The problem is compounded by the multi-functional nature of the enclitics and the Non-Experienced Past -sqa. Additionally, perhaps because the evidential enclitics are optional elements in Quechua conversation, few exemplars were encountered. That said, analysis of the conversational contexts in which adults and children produced the forms suggests a developmental sequence in production.

6.1 The evidential enclitics

1. Direct evidence -mi emerges in child production during the mid to late two’s, with Conjecture -châ appearing shortly thereafter. Two-year-olds produce -mi primarily on conventionally focused constituents, as in wh-questions and responses to questions; possibly, beyond focus, they assign no meaning to the suffix in these contexts. However, they appear to use -mi to express certainty—the validational (epistemic) function—especially as contrasted with Conjecture -châ, which conveys lack of certainty. There is no evidence in the data that two-year-olds use -mi to encode information source as direct evidence, especially considering they do not produce Report -si, which would express a contrast in information source. Is it possible to be certain of something without understanding the source of one’s conviction? Apparently so, judging from Matsui, Yamamoto and McCagg’s (2006) finding that Japanese children, aged 3- to 6-years-old, are better at interpreting certainty contrasts than evidential contrasts.

2. The data suggest that three-year-olds begin producing -mi in its evidential function, although -si, the contrasting Report evidential, does not appear in the data until the age of four years.

3. This sequence parallels the development observed by Aksu-Koç (1988) for Turkish children. In Turkish, the direct evidence morpheme emerges first in child production; thereafter, children acquire the inferential meaning of the indirect evidence morpheme before acquiring the hearsay (report) construal.

6.2 The Past tense suffixes

1. Children produce both suffixes, Past Tense -ra- and Non-Experienced Past -sqa, by the mid to late two’s. The distinction observed in the two-year-olds’ use of these inflections lies
in the lexical semantics of the verb roots. The younger children use -sqa in unaccusative/existence verbs and not in verbs expressing events under the volitional control of an agent. This suggests that children are not yet aware of the semantic distinction between perceived and unperceived past events; otherwise, they might produce an agentive verb with -sqa to indicate that the corresponding event was not directly perceived. The children produce unaccusative/existence verbs and agentive verbs with -ra- when they construe the event as being under the volitional control of an agent.

2. By the age of four, Quechua-speaking children start using the Past Tense suffixes in the same functions as adults. This suggests that they have begun to attribute to -sqa the notion of past events not directly perceived.

7. Conclusion

Faller (2002a, 2002b, 2004) and Aikhenvald (2004), among others, present compelling arguments that the Quechua enclitics are purely evidential, with validational meanings assigned as epistemic extensions. In like manner, Quechua linguists (e.g. Cerrón-Palomino 1987; Cusi Huamán 1976) have established that the core meaning of the -sqa suffix is the absence of direct perception of events in past time. The resultative and reportative functions of the inflection fall under this overarching semantic category. Nonetheless, the conversational data presented in this study suggest that child development of the Quechua evidential enclitics starts off with the focusing and validational functions, while their initial understanding of the Past Tense inflections differentiates dynamic events and results.

Like their Turkish and Korean counterparts (Ahsu-Koc 1988; Choi 1995), Quechua-speaking children begin producing the Direct Evidence morphe in everyday speech at the age of two years. The meanings children assign to the suffix appear to progress from mere affirmation in responses to direct questions (Courtney 1999) to certainty to direct evidence. The data suggest that children acquire the certainty contrast between -mi and Conjecture -chá before the evidential contrast between -mi and Report -si (cf. Matsui, Yamamoto & McCagg 2006, for Japanese). With respect to Non-Experience Past -sqa, children’s early production in everyday speech is confined to unaccusative/existence/change-of-state verbs, the prototypical resultative function. It is plausible that children do not acquire the core meanings of the Quechua evidential enclitics and past tense inflections until they begin producing Report -si at the approximate age of four years. Accordingly, this study presents converging evidence that the acquisition of evidential systems across languages is a protracted process, progressing in tandem with the development of conceptual understanding of information sources.
## Appendix

### INDEPENDENT SUFFIXES

1. **Connecting or coordinating suffixes**
   - **Contrastive**: -taq  CNT
   - **Topic**: -qa  TOP
   - **Responsive**: -ri  RSP
   - **Additive**: -pis  ADD

2. **Evidentials, interrogative, and negation**
   - **Direct evidence**: -mi/-n  DIR
   - **Conjecture**: -chá/-chayki  CNJ
   - **Report**: -sa/-s  REP
   - **Interrogative**: -chu  INTERR
   - **Negation**: mana  NEG
   - **Prohibition**: ama  PROH

3. **Other**
   - **Impression**: -ma  IMPR
   - **Discontinuative**: -tha  DISC
   - **Delimitative**: -lla-  DEL

### NOUN SUFFIXES

1. **Case inflections**
   - **Accusative**: -ta  AC
   - **Dative**: -man  DAT
   - **Locative**: -pi  LOC
   - **Benefactive**: -paq  BEN
   - **Ablative**: -manta  ABL
   - **Instrumental**: -wan  INSTR
   - **Genitive**: -pa/-q  GEN

2. **Person-of-Possessor (singular)**
   - 1 PS: -y
   - 2 PS: -yki
   - 3 PS: -n

3. **Other**
   - **Plural**: -kuna  PL
   - **Diminutive**: -cha  DIM

### VERB SUFFIXES

1. **Person-of-subject**
   - 1 plural: -nchis  1PL
   - 2 plural: -nki-chis  2PL
   - 3 plural: -n-ku  3PL
   - 1 future: -saq  1FUT
   - 1 plural future: -sun  1FTPL
   - **Conditional**: -man/-waq  COND
   - **Imperative**: -y  IMPER

2. **Person-of-object (singular)**
   - 1 object: -wa-  1OBJ
   - 1 subject => 2 object: -yki  1SUBJ>2OBJ

3. **Tense and aspect**
   - **Past Tense**: -ra/-rqa-  PT
   - **Non-Experienced Past**: -sqa  NEPT
   - **Progressive**: -sha/-sa-  PRG
   - **Potential**: -na-  POT

4. **GF-changing suffixes**
   - **Causative**: -chi-  CAUS
   - **Reflexive**: -ku-  REFL
5. Directional suffixes
   Translocative    -nu-     TRL
   Regressive       -pu-     REG
6. Modifying suffixes
   Exhortative     -ru-/ra-  EXH
   Augmentative    -γ(ku)-  AUG
7. Other suffixes
   Subjunctive      -chu-    SUBJ
   Same reference   -spa     SR
References


