SEMANTICS AND PRAGMATICS OF EVIDENTIALS IN CUZCO QUECHUA

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Abstract

This dissertation explores the semantics and pragmatics of evidentiality through a detailed study of three evidential markers in Cuzco Quechua (spoken in Cuzco, Peru), the Direct *-mi*, the Conjectural *-chá* and the Reportative *-si*. I adopt a narrow definition of evidentiality as the linguistic encoding of the speaker's grounds for making a speech act, which in the case of assertions corresponds with his or her source of information. The meaning of each of the three Cuzco Quechua evidentials, as well as their absence, is described based on data collected by the author and from published sources.

One of the central cross-linguistic questions in the study of evidentiality is how it is related to epistemic modality. I argue that the two concepts are distinct, but overlapping categories. I show that the evidential enclitics in Cuzco Quechua differ from typical epistemic modals in that they do not contribute to the main proposition expressed, can never occur in the scope of propositional operators such as negation, and can only occur in illocutionary force bearing environments. Furthermore, the Direct and the Reportative are not analyzable in terms of epistemic necessity or possibility. In contrast, the Conjectural also encodes epistemic possibility, and it is therefore considered to be in the evidentiality/epistemic modality overlap.

It is argued that an evidential scale in terms of strength of evidence can be defined. Against previous proposals, I argue that this is only a partial ordering, since conjectural is not stronger than reportative evidence, or vice versa. For each ordered pair of evidentials the weaker one (e.g. Reportative) gives rise to the implicature that the stronger one (e.g. Direct) could not have been used in its stead.

The Cuzco Quechua evidentials are analyzed as illocutionary modifiers which add

to or modify the sincerity conditions of the act they apply to. The resulting act is assertion of the proposition expressed p for the Direct, and assertion of $\Diamond p$ for the Conjectural. For sentences with the Reportative, I propose a new illocutionary act: "presentation" of p. This analysis accounts for the afore-mentioned as well as other properties of these evidentials.

Acknowledgements

Many people have accompanied me during this adventure and provided me with their support. My first thanks go to my committee: David Beaver as my principal advisor, Elizabeth Traugott, Peter Sells, and Cleo Condoravdi. It has been a great pleasure discussing my ideas with them, and receiving their encouragement and excellent advice at every step of the way, often long-distance, and always promptly and right on the point.

David Beaver joined the Stanford linguistics faculty shortly before I decided on my dissertation topic and he has been a part of it since the very beginning. I have had the privilege of being the first student whose committee he chaired at Stanford, and have benefited enormously from his unending enthusiasm and the apparently interminable amount of time he was willing to spend with me discussing Quechua evidentials, the difficulties and joys of doing linguistics, and life—not to mention his linguistic expertise and sharp mind. I consider him my friend and a role model for how to combine an exacting academic career with leading a fulfilling (family) life.

Elizabeth Traugott has not been an official co-advisor, but she has certainly been acting like one, and I am very grateful to her for that. I would like to thank her for sharing her linguistic wisdom with me, both on very specific topics, as well as their relation to the big picture, which she always made sure was never far out of my sight, and for teaching me a lot about linguistic argumentation, as well as presentation.

I would like to thank Peter Sells for pushing me just that bit further when I needed it, for his request to come to a decision when I was stuck in choosing an approach because I would always see the "other" side, his attention to detail, and his excellent advice on administrative matters during my entire stay at Stanford.

Lliw tiqsimuyu runasimi runakunapaq kay huch'uy t'aqwiyta
Mana runasimi chinkananpaq
Ichapas tawantinsuyu runakuna aswanta chaninchaspa
Phuturichinkuman allpankuta runa siminkutawan

Conventions

Spelling

For the Cuzco Quechua examples I use the spelling system in Cusihuaman (1976), which, according to Lefebvre and Muysken (1988), is the legal system in Peru. Like Lefebvre and Muysken (1988), I use only the three vowels *a*, *i* and *u*, with the exception of Spanish borrowings, which can also use *e* and *o*.

The spelling of the name *Cuzco* is one of the most controversial issues in Peru. The two most common alternative spellings that have been proposed are *Cusco* and *Qosqo*. Those who propose these spellings do so for various reasons, the most important one of which is capturing the original pronunciation in Quechua. *Qosqo* attempts to use the Quechua name in Spanish, whereas *Cusco* attempts to create a Spanish name that comes closest to the Quechua pronunciation. One argument for the latter is that <z> pronounced as in modern Peninsular Spanish is not a phoneme in present day Quechua, and it is often assumed that it was also not a phoneme in the Quechua in the times of the Inkas. In present day Quechua (and Spanish), the name is pronounced with <s>. However, Cerrón-Palomino (1997) provides historical linguistic arguments that show that the original pronunciation in Quechua did in fact have a phoneme different from <s>, and that the Spanish grammarians of the time tried to capture this difference by using <z>. Thus, the name that is historically most faithful in Spanish is in fact *Cuzco*. Since it is the proclaimed goal of many proponents of *Cusco* to be more historically faithful, I will follow Cerrón-Palomino (1997), and use the spelling *Cuzco*. However, in the future debate around the name, one should, in my opinion, also take into account synchronic factors. Since present day Quechua has

in fact lost the phoneme represented by <z>, it is worth considering adopting the spelling *Cusco*—especially, since the current spelling system is far from being stable.

Typesetting

SMALL CAPS:	for evidential types, and markers of illocutionary force
	for example, INFERENCE, ASSERT
Initial caps:	for names of evidentials for example, Conjectural
italics:	for emphasis, and for variables and predicate symbols
	for example, *p, Bel*

List of abbreviations

ASSERT	speech act of assertion
Bpg	best possible grounds
Bel	believes
Des	desires
EV	evidential value
EVI	evidential
ILL	illocutionary act
MV	modal value
PRESENT	presentation
PROP	propositional content conditions
QUEST	question
Rea	by reasoning
REQUEST	speech act of requesting
SINC	sincerity conditions

List of affixes and enclitics in glosses

The labels used in the glosses of examples are based on Cusihuaman's (1976) and Lefebvre and Muysken's (1988) terminology. Affixes are marked as verbal (v) or nominal (n).

-ni (v), *-y* (n)	1	first person
-sqa (v)	1FUT	first person future
-nchis (v,n)	1PL.INCL	first person plural inclusive
-wa (v)	1O	1st person object recipient
-nki (v), *-yki* (n)	2	second person
-waq (v)	2IRR	second person irrealis
-n (v,n)	3	third person
-nqa (v)	3FUT	third person future
-sunki (v)	3S2O	third person subject to second person object
-manta (n)	ABL	ablative case
-ta (n)	ACC	accusative case
-pis/-pas (n)	ADD	additive
-q (v)	AG	agentive
-pu (v)	BEN	benefactive
-chi (v)	CAUS	causative
-puni	CERT:	certainty
-mu (v)	CIS	cislocative
-raq	CONT	continuative
-taq	CONTR	contrastive
-paq	DAT:	dative
-cha (n)	DIM:	diminutive
-ña	DISC	discontinuative
-chus	DUB	dubitative
-yá	EMO	emotive
-ni	EUPH	euphonic
-q/-pa (n)	GEN	genitive

-ru/-ra (v)	HORT	hortative
-man (n)	ILLA	illative
-y (v)	IMP	imperative
-ntin (n)	INCL	inclusive
-y (v)	INF	infinitive
-wan (n)	INSTR	instrumental
-man (v)	IRR	irrealis
-lla	LIM	limitative
-pi (n)	LOC	locative case
-chu	NEG	negative
-spa,-na (v)	NMLZ	nominalizer
-ku (v), *-kuna* (n)	PL	plural
-yuq (n)	POSS	possessive
-sqa (v)	PP	past participle
-sha (v)	PROG	progressive
-rqa (v)	PST1	past tense 1
-sqa (v)	PST2	past tense 2
-ku (v)	REFL	reflexive
-qti (v)	*seq*	sequential
-má	SURP	surprise
-qa	TOP	topic
-cha (n)	VBLZ	verbalizer

List of symbols

$\longrightarrow$	material implication
$\dashrightarrow$	inference which is not material implication
$\longmapsto$	function mapping
$+>$	implicature
$\Diamond$	possibility operator
$\Box$	necessity operator
$\exists$	existential quantifier

Contents

Chapter 1

Introduction and main hypotheses

This dissertation explores the semantics and pragmatics of evidentiality through a detailed study of three evidential markers in Cuzco Quechua. It critically examines the previous literature on the main issues in the cross-linguistic study of evidentiality, namely the structure of evidential systems, and the relation between evidentiality and modality, as well as previous studies of evidentiality in Quechua. The main contribution of this dissertation is a proposal of analyzing the evidential system of Cuzco Quechua within the framework of speech act theory.

Evidentiality in Quechua has never before been analyzed from the point of view of its formal representation, and there are only a few studies that make formal proposals for evidentials in other languages. To my knowledge, the present work is among the first to analyze evidentiality in any language within speech act theory.[1] No claim is made that this framework is suitable for analyzing evidentials in other languages, but I hope that the proposals made here will serve as a starting point for researchers working on other languages to explore the implications of evidentiality for semantic and pragmatic theories. I also hope that this work is of interest not only to other researchers working on evidentiality, but to formal semanticists, pragmaticists, and

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[1]The only other study that appears to make a similar proposal, and of which I have only recently become aware through its discussion by Ifantidou (2001), is an article by Theodosia Pavlidou on the Modern Greek particle *taha*. Unfortunately, this article is not available to me, and I can therefore not say how similar her proposal is to mine. The reference to this article is given in footnote 19, section 5.3.3.

philosophers of language as well, since evidentiality in Quechua raises some problematic issues for current theories of meaning.

The term *evidentiality* is used in this dissertation to refer to the grammatical encoding of the speaker's (type of) *grounds* for making a speech act, and the term *evidentials* for the grammatical markers of evidentiality.[2] For assertions, the speaker's grounds can be identified with the speaker's source for the information conveyed by the utterance.[3] This definition of evidentiality is sometimes called narrow, as opposed to a broader definition which includes the marking of the speaker's other attitudes (Chafe 1986). The motivation for adopting the narrow definition is discussed in chapter 3.

The grammatical marking of the speaker's source of information has been recognized as a semantic domain at least since the work of Franz Boas on Kwakiutl in the early 20th century, and the terminology became established with Jakobson's (1971) article *Shifters, verbal categories and the Russian verb* (cf. Jacobson (1986)). Interest in the topic has been growing since the early 1980's, when researchers began to go beyond descriptions of language-individual evidentials, to make cross-linguistic and typological generalizations, and to study the relations between evidentiality and other semantic categories. This interest has given rise to a number of special volumes on evidentiality, notably Chafe and Nichols (1986), Johanson and Utas (2000), the *Journal of Pragmatics* volume edited by Dendale and Tasmowski (2001), and a great number of articles on evidentiality in many different languages.

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[2]To avoid any misunderstanding I should point out that the term *evidentiality* is of course related to the word *evidence*, but the term evidentiality covers any type of the speaker's source of information, not only what is meant by the word evidence as used in police investigations, for example.

[3]Since in many, perhaps most, languages evidentials can only occur in assertions, evidentiality is usually identified with the speaker's source of information. In Quechua, however, evidentials can also occur in content and embedded questions, which justifies the wider conception of evidentiality as grounds for making a speech act. When talking about assertions, I will generally use the more narrow term "source of information".

The study of evidentiality is centrally concerned with the following questions.

(1)   i. How are evidential systems structured, both language-internally
         and cross-linguistically?
     ii. How is evidentiality related to other categories, in particular, modality?
    iii. Where does evidentiality fit into current theories of meaning?
     iv. What evidential types are grammatically coded across languages?

In this dissertation I address the first three issues through a detailed study of Cuzco Quechua evidentials. Quechua has proven to be a good resource for studying these issues, because it encodes the three main types of source of information, and does so within a grammatical subsystem that is to a large part independent of the systems that encode tense, aspect and modality. This makes it easier to study evidentiality as a phenomenon more or less independently from these other categories. The three main markers of evidentiality in Cuzco Quechua are the enclitics *-mi*, *-si*, and *-chá*, and their basic meaning is illustrated in (2).[4]

(2)   a. Para-sha-n-**mi**.
         rain-PROG-3-**mi**

         p='It is raining.'
         EV= speaker sees that *p*

      b. Para-sha-n-**si**.
         rain-PROG-3-**si**

         p='It is raining.'
         EV= speaker was told that *p*

      c. Para-sha-n-**chá**.
         rain-PROG-3-**chá**

         p='It might/must raining.'
         EV= speaker conjectures that *p*

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[4]Evidentials are notoriously difficult to translate, and translations into English tend to suggest that the evidential meaning does not contribute to the proposition expressed. For example, one might want to translate (2a) with *I see that it is raining*. This would however be wrong as *I see* is the main predication of the sentence but *-mi* in (2a) is not. This will be discussed in detail in chapters 4 and 5. I therefore adopt the convention of giving the gloss of the propositional content within quotes ' . . . ' preceded by *p*, and of indicating a sentence's evidential value on a separate line, preceded by EV (except when using another author's example). Within EV I often refer back to the propositional content of the gloss with *p* in order to avoid redundancy. Thus, the line "EV= speaker sees that *p*" in (2a) can be expanded to "EV= speaker sees that it is raining."

As indicated in (2), the same basic sentence conveys a different evidential meaning, depending on which enclitic is used. (2a) conveys that the speaker sees the event described, namely that it is raining, (2b) that the speaker was told that it is raining and (2c) that the speaker conjectures that it might or must be raining. Similar contrasts are encoded by evidentials of other languages.

In section 1.1.1 of this introduction, I give a brief overview of what is known to date regarding (1)(iv). Against this background the main issues and hypotheses regarding the questions in (1)(i) and (1)(ii) will be laid out in sections 1.1.2 and 1.1.3. In section 1.2, I first provide background information on Cuzco Quechua, as well as on speech act theory, which I will use to analyze the evidentials of Cuzco Quechua. I then turn to the evidential system of Cuzco Quechua and give an informal account of its analysis within speech act theory, developed in detail in chapters 4, 5, and 6. The last part of this introduction provides an overview of the structure of the dissertation (1.4), as well as issues which are related to the topic of the dissertation (1.5), but which I will not address, and a description of the data used (1.6).

1.1 Cross-linguistic issues in the study of evidentiality

1.1.1 Evidentials

Languages differ greatly in what kinds of sources of information they mark grammatically (see for example the articles in Chafe and Nichols (1986)), but cross-linguistic studies (see in particular Willett (1988)) have identified three main types of source of information that are encoded by evidentials: direct access (in particular perception), reports from others, and reasoning. Each of these can be further divided into subtypes. Thus, direct access may be said to have subtypes for visual, auditory, and other sensory perception, reported information can be secondhand, thirdhand, or general hearsay, and reasoning can proceed from concrete evidence or from mere mental constructs such as hypotheses. Individual languages may structure their grammatical devices in various ways to indicate these ways of acquiring information, making

coarser or more fine-grained distinctions. Quechua distinguishes grammatically between the three main types, but there are languages which only distinguish between two; for example, Turkish makes a distinction between past events for which the speaker has a direct source of information, and those for which they have an indirect source (Aksu-Koç and Slobin 1986). Other languages make more than three distinctions. For example, Tuyuca has five evidentials: Visual, Nonvisual, Apparent, Secondhand and Assumed (Barnes 1984). It is the task of typology to determine what universal principles underlie the language-individual distinctions, and I will discuss some proposals to approach this task through the use of evidential taxonomies and hierarchies in chapter 2.

The grammatical elements that indicate an evidential value often simultaneously convey other concepts as well, in particular the speaker's degree of commitment to the truth of the expressed proposition, that is, epistemic modality, or temporal concepts such as tense and aspect (Willett 1988). One therefore needs clear criteria for classifying an element as an evidential. Based on empirical observations, Anderson (1986:274–275) suggests that "archetypal evidentials" have the definitional properties in (3). These criteria are widely accepted in the literature for identifying evidentials, although it has also been noted variously that they are not without problems.

(3) a. Evidentials show the kind of justification for a factual claim which is available to the person making that claim.

   b. Evidentials are not themselves the main predication of the clause, but are rather a specification added to a factual claim ABOUT SOMETHING ELSE.

   c. Evidentials have the indication of evidence as their primary meaning, not only as a pragmatic inference.

   d. Morphologically, evidentials are inflections, clitics, or other free syntactic elements (not compounds or derivational forms).

Criteria (3a–c) determine a class of elements that share certain aspects of meaning, criterion (3d) eliminates from this set those elements that are not part of the grammatical system of a language.[5]

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[5]Note that the exclusion of derivational forms in criterion (3c) is meant to refer to derivational suffixes as opposed to inflectional suffixes, that is, evidentials are not derivational suffixes. While this

1.1.2   Evidential hierarchies

One goal of a typology of evidentiality is to identify the universal principles that determine the structure of language-specific evidential systems. I call the evidential concepts marked by evidentials *evidential types*, and I will distinguish these two categories by typesetting evidentials with an initial capital letter (for example Inferential) and evidential types with small caps (for example INFERENCE), where making this distinction is important.[6] Previous studies have proposed taxonomies and hierarchies to capture cross-linguistic generalizations. The best known taxonomy of evidential types is Willett's (1988), displayed in adapted form in Figure 1.1.

Types of Source of Information

Direct   Indirect

Attested   **Reported**   **Inference**

Visual   Secondhand   Results
Auditory   Thirdhand   Reasoning
Other Sensory   Folklore
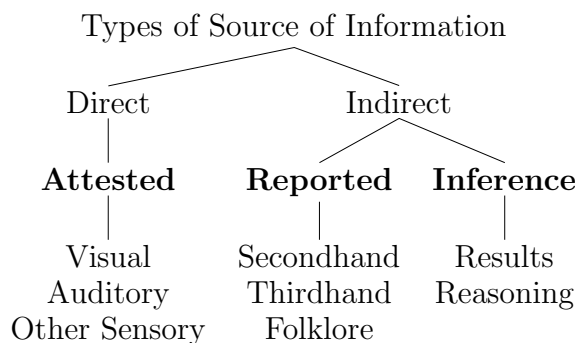
Figure 1.1: Willett's taxonomy of types of Source of Information

Under the assumption that the principles that determine the structure of a taxonomy like the one in Figure 1.1 are the same principles that determine possible evidential inventories, one can use it to make predictions about what evidentials and evidential systems are possible. Thus one can hypothesize that evidentials can only

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may be an empirically correct observation, it can hardly be taken to be a definitional property. In fact, criterion (d) as a whole might be considered to be too restrictive. In many languages evidentials develop out of perception verbs and it will be difficult to establish whether an expression has already become an element that conforms to criterion (3d) for intermediate stages in the process. Also, even though Anderson (1986) only includes *syntactic* free elements in criterion (3d), he classifies English *apparently* as an evidential (together with *I hear*, *I understand* and *must have*). In this dissertation, I only study morphosyntactic evidentials, but a comprehensive theory of evidentiality should also be able to account for lexical evidentials such as *apparently*.

[6]When a term co-occurs with the word *evidence* or *(source of) information*, or *evidential*, I will in general omit this typesetting distinction, as the head noun makes clear whether I am referring to an evidential type or an evidential. Thus I will write inferential evidential, inferential evidence, etc.

refer to the evidential types in the structure, and cannot cover two or more evidential types unless these have a common mother node. For example, the taxonomy in Figure 1.1 predicts the existence of evidentials that cover both information acquired through reports and information acquired through reasoning, but it denies the existence of evidentials that cover direct evidence and reports. Similarly, evidential systems can be hypothesized to organize their evidentials in a way that captures the evidential distinctions from top to bottom. Used in this way, the taxonomy in Figure 1.1. predicts, for example, languages that distinguish grammatically between direct, reported and inferential information, but disallows systems that have one evidential for DIRECT and REPORTED, and another for INFERENCE.

Some of the predictions the taxonomy makes are empirically wrong, and I will propose some modifications in chapter 2. I argue in particular that the evidential types DIRECT and REASONING form a continuum, which allows an evidential to cover a part of the direct evidence continuum and inference. Such evidentials do indeed exist in Kashaya (Oswalt 1986).

In addition to such taxonomies, researchers have proposed that evidentials can be arranged as a scale according to reliability of source of information or a similar concept. De Haan (1998) proposes a cross-linguistic scale of evidentials which is intended to have some of the properties associated with Horn scales (Horn 1972). In particular, the use of a lower evidential implicates that the speaker does not have the kind of source of information that would allow them to use a higher evidential. A simplified version of the scale is given in (4).

(4)   Visual > Nonvisual > Inferential > Reportative

De Haan also uses this scale to make typological predictions about possible language systems, both synchronically and diachronically. His main claim is that evidential systems are constructed from weak to strong, such that if a language has just one evidential it will be the weakest/lowest on the scale. If a language has an evidential that is high on the scale, it will also possess all evidentials lower on the scale. In section 2.4, I will discuss de Haan's (1998) proposal and argue that while the typological predictions it makes may be valid, the pragmatic underpinnings are not. For example,

according to de Haan's scale, a Reportative is weaker than an Inferential. The use of a Reportative evidential should, therefore, implicate that the speaker could not have used an Inferential. I will show that this implicature is not valid in Quechua.

I will argue that, pragmatically, we have to recognize two independent scales with different ordering criteria, and that the scales should order evidential types, not evidentials: one scale that is ordered according to the amount of inference involved in arriving at a statement, and a second scale that is ordered according to the number of intervening speakers. This proposal is shown in simplified form in (5).

(5)   a. VISUAL > AUDITORY > OTHER SENSORY > INFERENCE FROM RESULTS
          > REASONING

       b. (DIRECT) > SECONDHAND > THIRDHAND > HEARSAY/FOLKLORE

One effect of having two different scales is that inferential and reportative evidence will not be ordered with respect to each other at all.

1.1.3   Evidentiality and epistemic modality

Since evidentiality is a concept that became the object of linguistic investigation only fairly recently, it is still a matter of debate whether it should be analyzed as a linguistic category in its own right, or whether it can be identified with or subsumed under an already established category. The hypothesis of this dissertation is that evidentiality is a grammatical category in its own right.

As mentioned above, cross-linguistic research has shown that elements that indicate an evidential value are often also markers of epistemic modality, tense and aspect.[7] One therefore has to ask whether and how evidentiality is related to these

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[7]According to Anderson's (1986) criterion (3c), such elements are not considered true evidentials, unless it can be established that the marking of evidentiality is their *primary* function. This, however, may not always be possible. Diachronically, evidential meanings are often acquired by modal and tense morphemes (Bybee et al. 1994), and one would therefore be hard pressed to determine at what stage an element has become an evidential in the sense of (3c). In linguistic practice, researchers, including myself, take a more liberal approach, requiring only that the evidential value be encoded by the element in question.

other concepts. The discussion in the literature has focused on the relation of evidentiality and epistemic modality as these two are most closely related: it is quite clear that one's source of information for a proposition influences one's judgment of its truth. Because of this conceptual relationship and the fact that the same grammatical devices are often used for expressing the two concepts, some previous studies have proposed analyzing evidentiality as a subtype of epistemic modality, or the other way round (Chafe 1986, Palmer 1986).

I will argue that there are sufficient grounds for distinguishing the category of evidentiality from that of epistemic modality, but that the two categories overlap. First, despite the close (causal) relationship between the two concepts, they are sufficiently distinct conceptually: the indication of the speaker's source of information and the speaker's commitment to the truth of the proposition expressed conveying that information are really quite different things. Assuming the standard conception of epistemic modality as the speaker's judgment regarding the necessity or possibility of the embedded proposition's truth, it is quite clear that evidentiality is a different concept. Second, even though it is the case that many languages have elements that express both notions, there are clear cases of markers that only indicate one of them. Third, there are methodological reasons for starting from the assumption that the two categories are distinct: a true evidential *encodes* a type of source of information, as opposed to (conversationally) *implicating* it.[8] The same can be said for modals: a true modal encodes a degree of a speaker's commitment and does not just implicate it. Thus, when investigating an element that conveys both meanings, it may well be that one of them is merely implicated. If one assumes that both concepts belong to the same category, the distinction between encoded and implicated meaning aspects may go undetected. Fourth, the standard definition of epistemic modality is in terms of possibility and necessity. However, I will show that only REASONING, but not direct and reportative evidence, is analyzable in these terms.

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[8]I take this distinction between encoded and conversationally implicated meaning to be the standard one: an element's encoded meaning is specified in the lexicon, and is generally not cancellable. The encoded meaning of a sentence consists in the meaning derived compositionally from the encoded meanings of its constituents. In contrast, conversational implicatures arise through interactions between the encoded meaning of a sentence and general conversational principles (Grice 1989). In contrast to encoded meaning, conversational implicatures are cancellable.

Maintaining a distinction between the two concepts does not preclude the possibility that they may overlap. Following van der Auwera and Plungian (1998), I argue that evidentiality and epistemic modality overlap in the concept INFERENCE. On the one hand, inference is a way of "acquiring" information through reasoning. On the other hand, inference expresses the speaker's judgment that the proposition expressed is necessarily true. It is not possible to separate one from the other, and I therefore conclude that INFERENCE is a subtype of both evidentiality and epistemic modality. This is depicted in Figure 1.2 (adapted from van der Auwera and Plungian (1998), Table 3).[9]

Necessity				
...	Deontic necessity	Epistemic necessity = Inferential evidentiality	Quotative evidentiality	...
		Evidentiality		
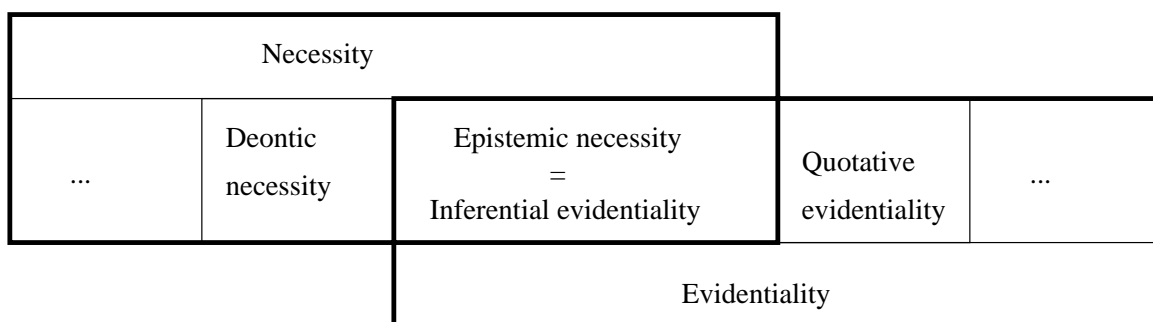
Figure 1.2: Overlap of evidentiality and modality

A related issue is the question of whether the tools developed for analyzing epistemic modals can also be used for analyzing evidentials. Some previous researchers (Kratzer 1987, Ehrich 2001, Izvorski 1997, Garrett 2000) have answered this question affirmatively for evidentials that also have uses as tense/aspect/modality markers. In fact, these researchers analyze those evidentials essentially *as* epistemic modals. For evidentials that are not clearly also epistemic modals this question is still open. I claim that evidentials that are not epistemic modals will require a different set of tools than that developed for epistemic modals, and I will defend this claim for the Quechua evidentials.

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[9]Van der Auwera and Plungian (1998) use the term Quotative instead of the term Reportative used here.

1.2 Evidentiality in Cuzco Quechua

1.2.1 Background on Cuzco Quechua

The term 'Quechua' refers to a number of different varieties spoken primarily in Ecuador, Peru and Bolivia, but also in parts of Argentina, Brasil, Chile and Columbia. These varieties have been classified into two large groups, Quechua A and Quechua B (Parker 1963) or alternatively Quechua I and Quechua II (Torero 1964). The variety I refer to as Cuzco Quechua belongs to Quechua II, and is spoken in the Department of Cuzco.[10] According to Cerrón-Palomino (1987:61), the total estimated number of Quechua speakers (mono- and bilinguals) in Peru was 4,402,023 in 1981 as projected by the *Ministerio de Educación* from a census carried out in 1972.[11]

The basic word order of Cuzco Quechua is SOV as in (6),[12] but in fact all possible orderings are felicitous in main clauses, subject to pragmatic considerations (Cerrón-Palomino 1987).

(6) Pay-qa   t'anta-ta-n   mikhu-sha-n
     (s)he-TOP bread-ACC-mi eat-PROG-3
     '(S)he is eating bread.'

The only productive word formation process is suffixation. Nouns are inflected for person, number and case as illustrated in (7a), verbs are inflected for person (subject, and first and second person "recipients"), number, tense, aspect and mood, as illustrated in (7b,c,d).

(7) a. irqi-n-kuna-ta
        child-3-PL-ACC
        '(to) her/his children'
     b. para-sha-n-man
        rain-PROG-3-IRR
        'It might be raining.'

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[10]Peru's political subdivisions or states are called 'Departamento' in Spanish, and 'Department' in English.

[11]Unfortunately, newer data are not available to me.

[12]That is, in a sentence that contains a subject (S), an object (O) and a main verb (V), S is followed by O, which is followed by V.

    c. qu-rqa-sunki
       give-PST1-3S2O

       '(s)he gave (it) to you'

    d. qu-wa-nqa
       give-1O-3FUT

       '(s)he will give (it) to me'

Derivation is also done via suffixation, as illustrated in (8).

(8)   a. wañu-y   wañu-chi-y
         die-INF   die-CAUS-INF

         'to die'   'to kill'

      b. puñu-y   puñu-na
         sleep-INF   sleep-NMLZ

         'to sleep'   'bed'

      c. wasi   wasi-cha-y
         house   house-VBLZ-INF

         'house'   'to make a house'

In addition to suffixes, Cuzco Quechua has a great number of enclitics[13] which can attach to almost any syntactic category (Cerrón-Palomino 1987, Lefebvre and Muysken 1988). In (9a), the contrastive enclitic *-taq* attaches to a question word, and the topic enclitic *-ri* to a pronoun. In (9b), the evidential enclitic *-mi* attaches to the negation particle *mana*, the negation enclitic *-chu* to the verb, and the topic enclitic *-qa* to the object. As shown in (9c), more than one enclitic can attach to a word: the certainty enclitic *-puni* and the question enclitic *-chu* both attach to the negation particle, the topic enclitic *-ri* is attached to the verb.[14]

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[13]Some researchers call these independent suffixes rather than enclitics. I have decided to use the term enclitic in this dissertation, because it is more convenient to talk about *evidential enclitic* than about *evidential independent suffix*. By this choice of terminology I do not intend to make any particular claims about their morphosyntactic and phonological behavior.

[14]Note that I gloss *-chu* as NEG in (9b), and as QUEST in (9c). This is based on the fact that one is a negated assertion whereas the other is a polar question. However, this distinction might not be adequate for Quechua, and further research may show that *-chu* is not ambiguous in the way assumed here, and that the two types of sentences are really the same type.

(9) a. Pi-taq   qan-ri   ka-sha-nki?
     who-CONTR you-TOP be-PROG-2

     'And who are you?'   (Cusihuaman 1976:238)

  b. Mana-**n** muna-ni-chu kuka-ta-qa
     not-**mi** want-1-NEG   coca-ACC-TOP

     'I don't want coca.'   (Cusihuaman 1976:238)

  c. Mana-puni-chu yanapa-ra-mu-wa-nki-man-ri.
     not-CERT-NEG   help-HORT-CIS-1O-2-IRR-TOP

     'You really couldn't help me?'

The class of enclitics can be subdivided into subcategories based on their position within the enclitic order as well as their pragmatic function (Calvo Pérez 1993, Cusihuaman 1976). Cusihuaman (1976), for example, distinguishes between *topic*, *focus*, *relational* and *specification* enclitics. The evidential enclitics, which are the main focus of this dissertation, are a subset of the focus enclitics. Focus and topic enclitics always attach last and are mutually exclusive.

The elements that are most relevant to the study of evidentiality in Quechua are described in more detail below. For a full description of Cuzco Quechua grammar I refer the reader to Cusihuaman (1976),[15] and for a general background on Quechua linguistics, including historical linguistics, to Cerrón-Palomino (1994).

That Quechua has evidentials is well-known, and evidentiality has in fact attracted much more attention than other topics in Quechua semantics and pragmatics. This is not to say that it is uncontroversial that the three enclitics studied here should be analyzed as evidentials—some researchers argue that they are not, and prefer to analyze them as *validationals* instead, that is, as markers of the speaker's degree of certainty that the expressed proposition is true (e.g. (Adelaar 1977)). In this dissertation, I defend the hypothesis that all three enclitics are in fact evidentials.

The principal predecessors for the current study are Weber (1986) on evidentials in Huánuco Quechua, Floyd's work of several articles and a dissertation on evidentials

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[15]A more comprehensive grammar is Weber's (1986) for Huánuco Quechua. Though the two varieties are quite distinct, they also share a substantial amount of features. A reader interested in Cuzco Quechua grammar should, therefore, also consult (Weber 1986), which in addition has the advantage of being available in English.

in Wanka Quechua (Floyd 1999, Floyd 1994, Floyd 1997b), and Nuckolls (1993), who attempts to give an account of the enclitic *-mi* across Quechua varieties. I also refer to Cusihuaman's (1976) grammar of Cuzco-Callao Quechua, Adelaar's (1977) grammar of Tarma Quechua, Cerrón-Palomino's historical work on Quechua and his comparison between Quechua and Aymara, as well as to Muysken (1995), who discusses the focus function of the evidential enclitics, and Levinsohn (1991) and Howard-Malverde (1990), who touch on the topic of evidentiality in analyzing tense/aspect markers.

Cuzco Quechua distinguishes between the three main types of acquiring information mentioned above. These evidential contrasts are primarily made by a subset of the focus enclitics: the Direct *-mi* (allomorph *-n*), the Reportative *-si* (allomorph *-s* or *-sis* for some speakers in Cuzco), and the Conjectural *-chá* encode the evidential values DIRECT, REPORTATIVE and REASONING, respectively. The use of these evidentials is not obligatory, but I will argue that their absence implicates that the speaker has direct information.

In addition, Cuzco Quechua has two past tense suffixes, *-rqa* and *-sqa*, which have been claimed to differ in terms of evidentiality such that *-rqa* is used for experienced, and *-sqa* for non-experienced past events (Cusihuaman 1976, Cerrón-Palomino 1994). In this dissertation, I will only discuss the evidential enclitics. As I will briefly argue in section 1.2.8 for *-sqa* and 4.4 for *-rqa*, the tense morphemes may not encode an evidential value at all, although *-rqa* implicates the same value as the Direct enclitic *-mi*.

1.2.2   Background on speech act theory

One question that is rarely addressed in the study of evidentiality is how the formal tools offered by current semantic and pragmatic theories can be used to analyze evidentials. For the Cuzco Quechua evidential enclitics, I hypothesize that they are illocutionary operators, and I will couch their analysis within speech act theory as developed by Searle and his colleagues (Searle and Vanderveken 1985, Vanderveken 1990, Vanderveken 1991), who based it on ideas first introduced by Austin (1962). In this section, I give a brief introduction to the basic speech act theoretic concepts.

Searle and Vanderveken develop a logic of illocutionary acts, called Illocutionary Logic (IL), the main objective of which is "to formalize the logical properties of illocutionary forces" (Searle and Vanderveken 1985:1). Though I will not use much of the logical apparatus of IL for analyzing the Quechua evidentials, the basic concepts underlying the logic, in particular the notion of an illocutionary force modifier, will prove useful.

The basic assumptions of speech act theory are summarized in the following quote from Searle and Vanderveken (1985).

> The minimal units of human communication are speech acts of a type called *illocutionary acts* [terminology introduced by Austin (1962), M.F.]. Some examples for illocutionary acts are statements, questions, commands, promises, and apologies. Whenever a speaker utters a sentence in an appropriate context with certain intentions, he performs one or more illocutionary acts. In general an illocutionary act consists of an illocutionary force F and a propositional content P. For example, the two utterances "You will leave the room" and "Leave the room!" have the same propositional content, namely that you will leave the room; but characteristically the first of these has the illocutionary force of a prediction and the second has the illocutionary force of an order (Searle and Vanderveken 1985:1).

An illocutionary force F is a complex entity. According to Vanderveken (1990:103), it has the following six components: "an illocutionary point, a mode of achievement of an illocutionary point, propositional content, preparatory and sincerity conditions and a degree of strength." I briefly discuss each of these in the following.

The illocutionary point indicates how the propositional content of the illocutionary act relates to the world. For assertions, the illocutionary point is to match the propositional content to the world, for other speech acts such as directives, it is to match the world to the propositional content. Vanderveken (1990:105), following Searle and Vanderveken (1985), recognizes five illocutionary points:

- the *assertive point* which consists in representing as actual a state of affairs;

- the *commissive point* which consists in committing the speaker to a future course of action;

- the *directive point* which consists in making an attempt to get the hearer to do something;

- the *declarative point* which consists in performing an action which brings into existence a state of affairs by representing oneself as performing that action;

- and the *expressive* point which consists of expressing propositional attitudes of the speaker about a state of affairs.

These five illocutionary points are claimed to be the only basic illocutionary points. However, the Quechua Reportative suggests that we need a sixth illocutionary point, which I call *presentative* (see chapter 5).

The mode of achievement determines how the point of an illocutionary force must be achieved for the illocutionary act to be successful. For example, the mode of achievement of a request is that the speaker leave the option of refusal to the hearer (Vanderveken 1990:110). This component of illocutionary force is not relevant for the analysis of Quechua evidentials.

Illocutionary forces have three types of pre-conditions as components: propositional content conditions, preparatory conditions, and sincerity conditions.

Propositional content conditions put restrictions on the propositional content of an illocutionary act of a particular force. "For example, the propositional content of a promise must represent a speaker's future course of action" (Vanderveken 1990:112). I will make use of propositional content conditions only in the analysis of evidentials in content questions (section 6.3.2).

Preparatory conditions are certain propositions that the speaker takes for granted in performing the illocutionary act. Some types of propositions that Vanderveken (1990) analyzes as preparatory conditions are not taken for granted in Quechua, but *expressed*, and I will therefore analyze them as sincerity conditions.

Sincerity conditions are "*propositional attitudes* of the form $m(P)$, where m is a *psychological mode* such as, for example, desire, regret, or hope [. . .] A performance of an illocutionary act is *sincere* when the speaker has the mental state that he expresses in the performance of that act, and it is *insincere* otherwise" (Vanderveken 1990:117). I will analyze the evidential meaning of the Quechua evidentials as affecting the sincerity conditions.

Lastly, the degree of strength of an illocutionary force is a property of the mental states that are expressed in the sincerity conditions. "For example, the degree of strength of the sincerity conditions of a supplication is greater than that of a request, because a speaker who supplicates expresses a stronger desire than a speaker who requests. Similarly, the degree of strength of a testimony is greater than that of a conjecture, because a speaker who testifies something expresses a stronger belief than a speaker who simply makes a conjecture" (Vanderveken 1990:119). Degree of strength also plays a role in the analysis of Quechua evidentials, but arguably in some cases in a slightly different way than postulated here.

One task of speech act theory is to determine how these different components are calculated for a particular utterance from the meaning of the elements in the sentence and contextual factors. I will not discuss this in this dissertation, but simply assume that the result of this calculation is given. One simplifying assumption I make is that the declarative mood determines the illocutionary act of assertion.[16]

A further notion that I will refer to in a few places is that of illocutionary entailment between speech acts. A sentence has another sentence as it illocutionary entailment if "it expresses in every possible context of use a speech act that the speaker cannot perform without also performing the illocutionary act expressed by the other sentence in the same context" (Vanderveken 1990:2).

Let me also point out that I have chosen the theory developed in Searle and Vanderveken (1985) and Vanderveken (1990) as my point of departure, because it is the standard framework. Its limitations with respect to Quechua evidentiality will become obvious during the discussion in chapters 5 and 6.

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[16]This is of course too simple-minded but sufficient for my purposes.

In the next section, I will present my analysis of the three evidential enclitics and their absence in assertions informally.

1.2.3   Direct *-mi*

As its name suggests, the Direct enclitic *-mi* can be used to indicate that the speaker bases his or her statement on direct evidence, and this is what Weber (1986) took to be *-mi*'s basic meaning. As other researchers, for example Nuckolls (1993) and Floyd (1999) have observed, this analysis cannot be upheld. Some analyze *-mi* not as an evidential at all, but as a marker for the speaker's degree of certainty instead (for example Nuckolls (1993)). I will argue in chapter 4 that the evidential analysis of *-mi* can be maintained if its meaning is widened, and I will analyze it as indicating that the speaker has the best possible source of information required for the type of event described. Having direct evidence is only a particular instance of this wider concept. Furthermore, I will argue that in giving the meaning of *-mi* it is necessary to distinguish between *personal* and *encyclopedic* information. By personal information I mean information about events in the speaker's private life. *Encyclopedic information* includes knowledge that is taken for granted within a culture, and knowledge that is typically taught in school or found in encyclopedias.

Personal information

For personal information the best possible source of information is determined in terms of *directness* such that in order to use *-mi*, the speaker has to have (had) the most direct access to the information. For observable events the most direct access is the perception of the event. For non-observable events, the most direct access is either the report of the actor or experiencer of the described event, or the speaker's inference. These cases are illustrated in (10).

(10)   a. Pilar-qa   t'anta-ta-**n**   mikhu-rqa-n.
           Pilar-TOP bread-ACC-**mi** eat-PST1-3

           p='Pilar ate bread.'
           EV= speaker saw that *p*   (elicited)

b. Warmi-taq-mi   tutal-ta   qitipiyayu-n
woman-CONTR-**mi** total-ACC jump.around-3

p='And the woman totally jumps around.'
EV= speaker saw that *p*.   (spontaneous)

c. Lima-ta-**n**   viaja-n.
Lima-ACC-**mi** travel-3

p='She travelled to Lima.'
EV= speaker was told by her (=speaker's sister) that *p*   (spontaneous)

d. Mana-**n** muchila-y-pi-chu   ka-sha-n.
not-**mi** backpack-1-LOC-NEG be-PROG-3

p='It is not in my backpack.'
EV= speaker "infers" from not having seen it in the backpack that it is not in the backpack   (elicited)

Examples (10a,b) describe directly observable events, and *-mi* is only felicitous if the speaker saw Pilar eating bread, and if the speaker saw the woman jumping around. What is described in examples (10c,d) is not observable in principle, since one makes reference to the future, and the other is a negative event. A speaker making these statements can therefore not be expected to have observed what is expressed by them. The most direct source of information for (10c) is the subject's report that she went to Lima, since the speaker is in Cuzco, and has not seen that the subject is indeed in Lima, and for (10d) it is that the speaker has searched the entire backpack thoroughly and can therefore safely "infer" that the keys are not in it. The use of *-mi* is only felicitous in these examples if the speaker has acquired the information in the most direct way possible.

Encyclopedic information

In contrast to personal information, encyclopedic information is normally acquired through teaching (including books and other media) or through immersion in a culture. That is, people are not expected to have a more direct access to this kind of information than having been taught. For this kind of information, I argue, *-mi* is licensed when (i) the speaker obtained the information from a source of authority or when it is "known by everyone", and (ii) when the speaker considers him- or herself

to have authority over the information conveyed, that is, they should be able to relate the current piece of information to other relevant pieces. Consider (11).

(11)   a. Yunka-pi-**n**   k'usillu-kuna-qa ka-n.
          Rainforest-LOC-**mi** monkey-PL-TOP be-3

          p='In the rainforest, there are monkeys.'
          EV= p is common cultural knowledge

       b. Africa-pi-**mi**   elefante-kuna-qa ka-n.
          Africa-LOC-**mi** elephant-PL-TOP be-3

          p='In Africa, there are elephants.'
          EV= speaker learned that p from an authority

Example (11a) is information that is known by any Quechua speaker, whether or not they have actually been to the rainforest. Thus, *-mi* is licensed here because it is part of general cultural knowledge. (11b) is something that a Quechua speaker might have learned in school, and *-mi* is only felicitous if the speaker has in fact learned it from an authority such as a teacher. Furthermore, the speaker should have authority over this information in the sense that they should be able to expand on the topic, that is, (s)he should be able to also say what kind of creatures monkeys and elephants are, and that Africa is a continent. If a speaker was simply told (11b) by someone, and the speaker has no idea that Africa is a continent, they will not pass on this information with *-mi*, but will use the Reportative *-si* instead.

Factuality

The enclitic *-mi* cannot be used in a statement if the speaker doubts that the embedded proposition is true—even if (s)he has the most direct source possible for the described event. For example, if Pilar tells the speaker that she will go to Cuzco the next day, but the speaker knows Pilar to be a person who easily changes her mind about such things, (s)he will not use *-mi*. Even for direct perception it is possible that the speaker doubts the truth of what his or her eyes tell him or her (for example at a magician's show), and in such cases *-mi* would also not be used. This has been taken by some previous researchers as evidence for analyzing *-mi* as a marker of factuality or as encoding a high degree of certainty—either exclusively, or in addition

to its evidential meaning. I will argue in chapter 4 that it is not *-mi* that encodes this interpretation, but that this is the interpretation of assertions in general—with or without *-mi*.

Descriptively then, my account of the meaning of *-mi* in assertions is that it only encodes that the speaker has the best possible source of information, or more generally *best possible grounds* (*Bpg*) for making a speech act. For simplicity, I will continue to call *-mi* the Direct enclitic, and say that the speaker has direct evidence in those cases in which the event reported is observable.

1.2.4 Conjectural *-chá*

The enclitic *-chá* is used for information that the speaker "acquired" by reasoning. This includes mere speculations, assumptions, hypotheses, as well as inferences, that is, deduction, abduction, and induction. Examples are given in (12).

(12) a. Pilar-qa   yachay wasi-pi-**chá**   ka-sha-n.
       Pilar-TOP know   house-LOC-**chá** be-PROG-3

       p='Pilar must/may be at school.'
       EV= speaker conjectures that Pilar must/may be at school   (elicited)

    b. Mana-**n** para kan-chu. Kunan wata-qa   mana-**chá** allin-chu   kuhichu
       not-**mi** rain be-NEG   now   year-TOP not-**chá**   good-NEG harvest
       ka-nqa!
       be-3FUT

       'There is no rain. I guess/suppose/Surely, the harvest this year will be
       bad!'   (Cusihuaman 1976:245)

Example (12a) may be used by a speaker who has fairly unmistakable evidence that Marya is at school, for example, her school bag, school uniform and other things are gone, and it is the usual time for her to be at school, or by someone who is merely guessing that she is at school. (12b) can also be a more or less strong conclusion: it can be used if the speaker knows from past experience that whenever there is no rain the harvest is bad, that is, when (s)he is making an inductive prediction, or when (s)he is simply assuming that the harvest will be bad if there is no rain.

Thus, *-chá* is vague between indicating (pseudo-)logical inference and specula-tion/assumption on the one hand and reasoning triggered by external evidence on the other. A speaker who uses *-chá* does not consider the embedded proposition to be a fact, but—as I will argue in chapter 5—presents it as a proposition that is pos-sibly true according to his or her own reasoning. In contrast to the Direct *-mi*, the type of information conveyed does not affect the evidential meaning of *-chá*.

1.2.5   Reportative *-si*

The enclitic *-si* is used when the speaker obtained information from others, which includes secondhand and thirdhand information, general hearsay/rumor and folktales. Typical examples are given in (13).

(13)   a. Marya-qa   yachay wasi-pi-**s**   ka-sha-n.
          Marya-TOP know   house-LOC-**si** be-PROG-3

   p='Marya is at school.'
   EV= speaker was told that *p*   (elicited)

   b. [...] wakin-**si** maqa-mu-n-ku, hayt'a-mu-n-ku, wakin-taq-si   riki
          some-**si** hit-CIS-3-PL   kick-CIS-3-PL   some-CONTR-**si** right
      ch'usti-mu-sha-n-ku-ña
      take.away-CIS-PROG-3-PL-DISC

   'some hit (him), kicked (him), others, right, robbed (him).'
   EV= speaker was told that *p*   (radio)

   c. Huk kutin-**si** huk forastero Pinchimuro ayllu-manta ch'in
      one time-**si** one *forastero* Pinchimuro village-ABL   quiet
      pajonal-kuna-pi puri-sha-sqa.
      pajonal-PL-LOC walk-PROG-PST2

   'One time a *forastero* from Pinchimuro was walking through quiet *pa-jonales*.'   (Condori Mamani 1996:39)

The speaker of (13a) might have been told that Marya is at school by Marya herself, or by some other person. (13b) is from a news report on the radio. (13c) is taken from a folktale. It is typical for folktales to have *-si* in almost every sentence, and past tense events are usually related by using the so-called inexperienced past tense

suffix *-sqa* in addition to *-si*. This combination is also typical for relating past tense events that were acquired through reports in daily life.

In section 5.3, I argue that *-si* is modally neutral, that is, it does not encode whether or not the speaker believes the embedded proposition to be true or a possibility. A degree of certainty can be expressed by using additional markers, or be implied by the context, but it is not encoded by *-si*—contrary to some claims in the literature that Reportatives cross-linguistically typically implicate or even encode a low degree of certainty.

My descriptive analysis of *-si* is that the speaker presents the embedded proposition for consideration on the basis that somebody else (the original source) takes it to be a fact.

1.2.6   No evidential

As mentioned, the use of evidentials is not obligatory in Quechua. However, the absence of an evidential implicates that the speaker has the most direct evidence possible for the described event, that is, it implicates the same evidential value that is encoded by *-mi*. Consider (14).

(14)   Pilar-qa   t'anta-ta   mikhu-rqa-n
          Pilar-TOP bread-ACC eat-PST1-3

          p='Pilar ate bread.'
          EV= speaker saw that *p*

Without further context, (14) means the same as (10a), including that the proposition is presented as factual. The difference between (10a) and (14) is felt by consultants to be one of emphasis such that (10a) is stronger than (14). However, if a sentence like (14) is embedded in a context that is entirely reportative, it will also be taken to be reportative.

To summarize, Quechua speakers have two basic means at their disposal for presenting a proposition as factual: unqualified assertions with no evidential and assertions with the evidential enclitic *-mi*. When using *-mi* the speaker justifies his or

her judgment of the proposition as factual by claiming that (s)he has the best possible source of information for it. In the case of an unqualified assertion, the factuality claim is not overtly justified, but it is implicated that the speaker has the best possible source of information.

In addition to presenting a proposition as a fact, the speaker has the option of presenting it as a conjecture by using -*chá*, or as a proposition that is considered to be (possibly) true by others by using -*si*.

1.2.7   A speech act analysis of the three evidential enclitics

Only a few studies exist which address the question of what kinds of elements evidentials are from a formal semantic or pragmatic point of view. These studies mostly deal with indirect evidentials,[17] and most treat those essentially as epistemic modals (Kratzer 1987, Ehrich 2001, Izvorski 1997, Garrett 2000) within possible world semantics.[18] This might have to do with the fact that the evidentials these researchers analyze are verbal elements that also (either ambiguously, or simultaneously) mark tense, aspect or modality, and possible world semantics is a framework with the potential to account for these different uses of one marker in a uniform way. Quechua evidentials are different, however: they are enclitics which have the marking of focus as their only other function. Possible world semantics (nor any other framework that applies the tools developed for TAM markers to evidentials) therefore does not offer itself immediately as a framework for accounting for the Quechua evidentials, except perhaps for the Conjectural -*chá*, which I argue to be an epistemic modal. Moreover, I will show in chapters 4 and 5 that the Direct and Reportative do not share the defining features of epistemic modals: they cannot be analyzed in terms of necessity and possibility, and they do not contribute to the proposition expressed. This latter fact I take as an indication that the evidential enclitics belong on the illocutionary

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[17]An exception is Garrett, who analyzes direct evidentiality in Tibetan as having three parts: (i) a non-evidential verbal component, (i) a demonstrative component *Dem*, and the pragmatic feature of assertion, *Know* (Garrett 2000:52) (see also footnote 14, chapter 4).

[18]Apart from these studies, I am only aware of Blass's (1989) study of a reportative marker in Sissala within Relevance Theory, and Ifantidou's (2001) account of a Modern Greek particle with indirect evidential uses, also within Relevance Theory. Both analyze evidentials as so-called interpretive use markers.

level, and I develop an analysis of them as illocutionary modifiers. An illocutionary modifier can, according to Vanderveken (1990), add to or modify any of the felicity conditions associated with a speech act. The evidentials, I will claim, are modifiers of the sincerity conditions.

The representation of a simple assertion such as (15) has the following components: the propositional content p, the illocutionary force ILL of assertion, the sincerity condition SINC that the speaker s believes p, and a degree of STRENGTH, which in the case of simple assertions is by convention 0.[19]

(15)   a. Para-sha-n.
        rain-PROG-3

        $p=$'It is raining.'
        ILL$=$ASSERT$_s(p)$
        SINC$=\{Bel(s,p)\}$
        STRENGTH$=0$

In my account, adding *-mi* to a statement such as (15) has the effect of adding a sincerity condition, which is a predicate justifying the speaker's belief. In (16) the speaker's belief that it is raining is justified by the fact that the speaker sees the event e described by p, that is, that (s)he sees that it is raining.

(16)   Para-sha-n-**mi**.
        rain-PROG-3-**mi**

        $p=$'It is raining.'
        ILL$=$ASSERT$_s(p)$
        SINC$=\{Bel(s,p),\ See(s,e_p)\}$
        STRENGTH$=+1$

A side effect of adding the justification condition is that the strength of the assertion is increased by (a symbolic) 1. As the meaning of *-mi* in assertions I propose the function given in (17).

(17)   **-mi**: $\dfrac{\text{ASSERT}(p)}{\text{SINC}=\{Bel(s,p)\}} \longmapsto \dfrac{\text{ASSERT}(p)}{\text{SINC}=\{Bel(s,p),\ Bpg(s,p)\}}$

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[19]Here, 0 is assumed to be the zero point of a number scale with both negative and positive integers.

This function takes the illocutionary act associated with simple assertions as its argument and outputs the illocutionary act of assertion with the added sincerity condition.

Since the three evidential enclitics occupy the same morphological slot and have the same functions, namely to indicate an evidential value and mark focus, I hypothesize that all three denote the same semantic type. Thus, if the analysis proposed for Direct -*mi* is correct, the Reportative -*si* and Conjectural -*chá* should also be analyzed as illocutionary operators. That this analysis is also the right one for these two enclitics is supported by the observation that they, too, do not contribute their evidential meaning to the main proposition expressed. However, their analysis as illocutionary modifiers is not as straightforward as that of -*mi*.

Since -*chá* is argued to be both an evidential and an epistemic modal, the meaning of a sentence containing it can be represented as in (18).

(18)   Para-sha-n-**chá**.
           rain-PROG-3-**chá**

           q='It is raining.'
           $p=\Diamond q$
           ILL=ASSERT$_s(\Diamond q)$
           SINC=$\{Bel(s, \Diamond q),\ Rea(s, Bel(s, \Diamond q))\}$
           STRENGTH= -1

If my hypothesis is correct, that -*chá* is of the same type as -*mi*, then it should be possible to give its meaning as a function that derives the meaning components in (18) from those in (15). However, this is problematic, because this function would operate both on the sincerity conditions as well as on the propositional content p. This problem and possible solutions will be discussed in section 5.2.

In section 5.3, I will argue that a speaker who utters a sentence with the Reportative does not perform any of the five basic speech acts recognized by Searle and Vanderveken (see section 1.2.2), but a new kind, which I will call PRESENTATION. (19) shows the sincerity condition that I propose to be associated with this speech act.

(19)   Para-sha-n-**si**.
         rain-PROG-3-**si**

         p='It is raining.'
         ILL=PRESENT(p)
         SINC=$\{\exists s_2[Assert(s_2, p) \wedge s_2 \notin \{h, s\}]\}$

This sincerity condition says that there exists some speaker s_2, which is neither the current speaker s nor the hearer h, such that s_2 asserted the embedded proposition p. By comparing (19) with (15) it can easily be seen that it is not straightforward to define the meaning of the function that *-si* is assumed to denote so that (19) can be derived from (15). This will be discussed in section 5.3.3.

An analysis of the Quechua evidentials has to take into account their interactions with other operators, and I will argue that the illocutionary approach makes the right predictions for these interactions. The relevant markers will be briefly described in the following.

1.2.8   Other relevant markers

Negation: *mana* and *-chu*

Sentence negation involves two elements: the particle *mana* and the enclitic *-chu*, which occupies the same morphological slot as the three evidential enclitics. An example is given in (20).

(20)   a. Pilar-qa   mana-**n/-s/-chá** t'anta-ta-**chu**   mikhu-rqa-n.
           Pilar-TOP not-**n/-s/-chá**   bread-ACC-**chu** eat-PST1-3

           'It wasn't bread that Pilar ate.'

        b. Pilar-qa   mana-**n/-s/-chá** t'anta-ta   mikhu-rqa-n-**chu**.
           Pilar-TOP not-**n/-s/-chá**   bread-ACC eat-PST1-3-**chu**

           'Pilar didn't eat bread.'

As can be seen from the glosses, the focus of the negation changes with the position of *-chu*, which, like the evidential enclitics, is a focus marker. Usually, but not obligatorily, one of the evidential enclitics attaches to *mana*. The evidentials always have scope over the negation, that is, the sentences in (20) do not have the interpretation

It is not the case that I have direct/reportative/conjectural evidence that Pilar ate bread. This is straightforwardly accounted for under the illocutionary analysis, since illocutionary operators always have scope over propositional operators, and negation is a propositional operator.

The suffix *-chu* is furthermore used to form polar questions, as in (21).

(21)   Pilar-qa   t'anta-ta-**chu**   mikhu-rqa-n
         Pilar-TOP bread-ACC-**chu** eat-PST1-3

         'Did Pilar eat bread?'

Polar questions will not be discussed further.

Modal markers: *-man* and *-puni*

The verbal suffix *-man* has been called a conditional or potential marker (Cusihuaman 1976). I will here call it an irrealis mood marker to use a more standard term. It is used in counterfactuals, and to indicate potentiality/epistemic possibility, as shown in (22).[20]

(22)   a. Qulqi-y ka-sha-n-**man**   chayqa caballu-ta ranti-y-**man**.
          money-1 be-PROG-3-**man** then   horse-ACC buy-1-**man**

          'If I had money, I'd buy a horse.'

       b. Pilar-qa   yachay wasi-pi(**-n/-s/-chá**)   ka-sha-n-**man**.
          Pilar-TOP know   house-LOC(**-mi/-si/-chá**) be-PROG-3-**man**

          'Pilar may be at school.'

---

[20]The suffix *-man* can also be used for deontic possibility. This is illustrated in (i).

   i. Ichaqa kay Fiscal-ta   wakmanta elegi-n-ku-**man** iskay wata-puwan
      but   this Public.Prosecutor-ACC again   elect-3-PL-**man** two   year-COM
      llank'a-na-n-paq,   mana astawan-chu.
      work-NMLZ-2-DAT not   more-NEG

   'But the Public Prosecutor can be reelected for two more years but not more.'
                                                              (Chirinos Rivera 1999:115)

The three evidential enclitics can also co-occur with *-man* in its deontic use, but this will not be discussed in this dissertation.

As shown in (22b), all three of the evidential enclitics can co-occur with *-man*. The given gloss does not take into account the meaning of the evidential enclitics. With *-mi*, a possible translation into English is *Pilar must be at school*, meaning that the speaker is making an inference from direct evidence. With *-si*, (22b) can have two interpretations: (i) *Speaker was told that Pilar may be at school*, and (ii) *Speaker was told that Pilar is at school, and speaker thinks that this is possible*, that is, the judgment that the proposition *Pilar is at school* is a possibility can either be the original or the current speaker's. Adding *-chá* just reinforces the judgment of *Pilar is at school* as a possibility, and indicates that this judgment is based it on the speaker's own reasoning.

The enclitic *-puni*, which in Cusihuaman's (1976) system is a *specification* enclitic, expresses (among other, unrelated, things) high certainty.

(23)   Pilar-qa   yachay wasi-pi-**puni(-n/-s/-chá**)   ka-sha-n.
         Pilar-TOP know   house-LOC-**puni(-mi/-si/-chá**) be-PROG-3

         'Pilar is certainly at school.'

As shown in (23), *-puni* can co-occur with all evidential enclitics. Adding *-mi*, will add the meaning that the speaker has direct evidence for considering the embedded proposition a certainty. Unlike *-man*, the combination of *-puni* and *-si* only allows one interpretation, namely *(It is said that) Pilar is at school, and I'm certain of it.* Adding *-chá* serves to indicate that the speaker's judgment is based on his or her own reasoning.

In chapter 6, I will discuss how the illocutionary analysis can account for these and other interactions, such as the occurrence of the evidentials in content questions and the resulting ambiguities.

Tense

Cuzco Quechua distinguishes present tense, future tense, and two forms of past tense. Tense is marked by verbal suffixes, except present tense, which is unmarked. The two past tense suffixes *-rqa* (allomorph *-ra*) and *-sqa* have been claimed to encode an

evidential contrast such that *-rqa* is used for experienced and *-sqa* for inexperienced past events (Cusihuaman 1976, Cerrón-Palomino 1994).

This is indeed a contrast that consultants are aware of. Thus, the sentences in (24) are understood as the speaker having experienced the rain in (a), but not in (b).

(24)   a. Para-sha-**rqa**-n.
          rain-PROG-**rqa**-3

          'It was raining.'

      b. Para-sha-**sqa**.
          rain-PROG-**sqa**

          'It was raining.'

In section 4.4, I will argue that *-rqa* does not encode the evidential value EXPERIENCED, but, like simple assertions in the present tense (section 1.2.6), implicates the same value as is encoded by the Direct *-mi*. The case of *-sqa* is much more complex, and I will not provide an analysis of it in this dissertation. Let me point out, however, that it appears to have a similar range of meanings as Turkish *mIş* and similar suffixes in a great variety of languages, which have been called perfects of evidentiality by Izvorski (1997). These suffixes often combine reportative interpretations with interpretations as inferences from result states to the causing event and mirative interpretations.[21] Thus, (24b) is possible in a situation in which the speaker sees that the streets are wet from the rain, or in which the speaker was told that it rained. More examples with *-sqa* are given in (25).

(25)   a. Chay-**si** chay p'asna-qa uña   ukukucha-ta wachaku-mu-**sqa**.
          this-**si** this girl-TOP puppy bear-ACC   give.birth-CIS-**sqa**

          'In this way, this girl gave birth to a bear puppy.'

                                               (Cusihuaman 1976:170)

      b. Macha-sqa-**s** imaymana-ta   rimayu-**sqa**-ni.
          drink-PP-**si** lots.of.things-ACC say-**sqa**-1

          'Drunk, I said a lot of things.'   (Cusihuaman 1976:170)

---

[21]Mirativity is the grammatical marking of notions such as surprise and unexpectedness. For a discussion of mirativity and its relation to evidentiality, I refer the reader to DeLancey (2001) and Lazard (1999).

    c. Kay-pi-**má**   ka-sha-**sqa**   Marya-qa.
        this-LOC-**má** be-PROG-**sqa** Marya-TOP

        'Marya is here.'

On its reportative reading, *-sqa* usually combines with the Reportative enclitic *-si*, as shown in (25a), which is from a folktale, and (25b). (25c) is an example with a mirative use of *-sqa*. It can be uttered by someone who is surprised at finding out that Marya is here.

     The suffix *-sqa*, like the perfects of evidentiality of other languages, also has more typically perfect uses such as (26), which can be uttered by someone who just opened the door and announces Marya's arrival to other people in the room.

(26)   Marya-qa   hamu-**sqa**.
           Marya-TOP come-**sqa**

           'Marya has come.'

Whether *-sqa* should be analyzed as encoding an evidential and mirative value, whether these meanings can be derived from its perfect use, or whether all these interpretations should be derived from a more abstract common meaning has to be investigated further. However, the following sequence of sentences from a real-life story about a thief told by Ciprian Phuturi Suni suggests that *-sqa* is not an evidential, unless one assumes that it is ambiguous between the different interpretations.

(27)   a. […] kuti vuelta-cha riki   astaru-**ra**-n.
                time return-DIM right carry-**rqa**-3

           'back and forth they (s)he carried (it), right.'   (Phuturi Suni 1997:302)

     b. Pisi-lla-ña   yaqa   tawa saku-cha hina-lla-ña   muhu ka-**sqa**.
        little-LIM-DISC almost four   sack-DIM like-LIM-DISC   seed   be-**sqa**

        'There was only a little, almost only around four sacks of seeds.'
                                               (Phuturi Suni 1997:302–304)

Here, the narrator talks about how he found most of his seeds gone. He had had 16 sacks of seeds, and one morning there were only around 4 sacks left. It is clear that Phuturi saw the 4 remaining sacks, and *-sqa* in (27b) can, therefore, not be

analyzed as encoding the value not experienced. One could argue that this use of -*sqa* is a stylistic use of the reportative -*sqa* that is typically found in folktales in order to make the narration of this real-life event more story-like. However, this would then suggest that -*sqa* should be used throughout, as is the case in folktalkes. That this is not the case is shown by the preceding sentence which contains -*rqa*. Thus, -*sqa* cannot be analyzed as an evidential encoding non-experienced. Also note that (27a) describes the thief's actions during the night, which the narrator had obviously not witnessed. This is further evidence for my claim that -*rqa* is not an evidential encoding experienced. Neither does it encode best possible grounds, since the event was witnessable in principle.

1.3   Implications

This dissertation is a contribution to Quechua semantics and pragmatics. However, I hope it will also make a contribution to semantic and pragmatic theory in general in ways which I will briefly touch upon here.

Much of the discussion of the Quechua evidentials will be concerned with determining whether they are evidentials or modals. One may wonder why one should go to all this effort, given that there is the alternative route of calling any element that combines certain evidential or modal meaning aspects a (broad) evidential or modal, as, for example, Chafe (1986) and Palmer (1986) have done. The effort of teasing these aspects apart is worthwhile, however, as it is a central goal of linguistics to determine which categorial distinctions are important for predicting and explaining the linguistic behavior of elements. If it can be shown that making a categorial distinction in at least one language correctly accounts for an empirical difference between two elements, then it can be hypothesized that this distinction is universally relevant for predicting the grammaticalization of conceptual categories.

I will show that making a distinction between evidentials and epistemic modals in Quechua can account for the following two empirical observations: (i) statements with Direct -*mi* are stronger than those without -*mi*, and (ii) the speaker of statements with -*si* need not believe that the embedded proposition is possibly true. In this

respect, and also through the discussion of cross-linguistic scales, the dissertation is a contribution to linguistic typology.

A second recurring question is whether an element contributes (part of) its meaning to the main proposition expressed p, and what type of meaning those aspects are that are not part of p. It is a fairly standard assumption in current theories of meaning that there is a more or less well-defined distinction between sentence meaning (=proposition expressed) and utterance meaning (what the speaker does in uttering the sentence) on the one hand, and between encoded, implicated and presupposed meaning on the other. Different sets of tools and vocabulary are offered to analyze these different types of meaning. In attempting to decide for each of the three Cuzco evidential enclitics whether it contributes to the sentence or the utterance meaning, and what is encoded or implicated, I follow established methodology. The analysis I propose for the three enclitics is based on the assumption that these basic distinctions are correct. As will become clear, the tools provided by the different theories to a large extent enable me to account for the empirical facts, which indicates that making these distinctions is the right direction to take.

Thus, making the distinction between implicated and encoded meaning, and using the Gricean heuristics available for dealing with implicated meaning allow one to account for the similarities and differences between sentences with *-mi* and without an evidential enclitic. Similarly, by maintaining the distinction made between propositional and illocutionary meaning, and by using the tools from possible world semantics and speech act theory one can account, for example, for the lack of interaction between the evidential enclitics and propositional operators.

However, it will also become clear that not everything can be accounted for directly with the available tools. For example, the Reportative *-si* poses a problem for theories that claim that there are only 5 basic illocutionary points, and Conjectural *-chá* poses problems both for speech act theory and for possible world semantics. The existence of elements like *-chá* which appear to contribute to both levels, raises the question of whether there really is such a clear-cut distinction between the illocutionary and the propositional levels. I hope that the dissertation will also make a contribution to the further development of existing semantic and pragmatic theories.

1.4 Overview of dissertation

Chapter 2 discusses evidential taxonomies and scales proposed in the previous literature to predict possible evidentials and evidential systems, and extends them in ways that capture the empirical data satisfactorily.

Chapter 3 addresses the question of whether evidentiality is a linguistic category in its own right. I argue that it is, but that it overlaps to some extent with epistemic modality.

Chapter 4 describes the two ways of expressing that the speaker has the best possible grounds for asserting a proposition in Quechua. These involve using the evidential enclitic *-mi* and not using any evidential at all. In contrast to previous analyses, I argue that *-mi* does not encode an epistemic modal value, and that the high certainty interpretation associated with assertions containing it is a general property of assertions. An analysis of assertions with and without *-mi* within speech act theory is proposed.

Chapter 5 describes the meaning of the enclitics *-chá* and *-si*. It is argued that *-chá* encodes both a modal value, namely that the speaker judges the embedded proposition to be an epistemic possibility, and an evidential value, namely that this judgment is based on the speaker's own reasoning. The fact that *-chá* encodes both an evidential and a modal value makes plausible both an analysis of it as an illocutionary operator on sincerity conditions as well as an analysis as an propositional modal operator. None of the two alternatives is without problems. Regarding *-si*, I argue that it is a pure evidential, indicating that the speaker obtained his or her information through reports from others, and does not encode a modal value. An analysis of assertions with *-si* within speech act theory is proposed that makes use of a new type of illocutionary act, which I call PRESENTATION.

Chapter 6 provides further arguments for analyzing the three enclitics as illocutionary operators, and refines the analysis to account for the presence or absence of scope interactions with other operators and their meaning in content questions.

Chapter 7 summarizes the main points made in the dissertation, and presents some issues that require further investigation.

Before discussing in detail the issues addressed in this dissertation in the following chapters, let me briefly list the issues that are not addressed, but which are nevertheless interesting and important in the study of evidentiality in Quechua.

1.5 Issues not addressed in this dissertation

A dissertation cannot address all interesting issues relating to its topic, and this one is no exception. I already mentioned that I will not present an analysis of the past tense suffix *-sqa*. Among the other interesting issues not discussed here, and that the reader is likely to wonder about, are the following.

i. Information structure and evidentiality. As mentioned above, the three evidential enclitics are a subset of the larger group of focus enclitics. It is therefore interesting to ask whether there is a connection between these two functions.

ii. The diachronic development of the evidential enclitics. Cross-linguistically, evidentials often develop from perception verbs, tense/aspect markers, or deictics (Chafe and Nichols 1986). To date, it is not known (and this has to my knowledge also not been investigated) whether the Quechua enclitics have developed from any of these sources.

iii. Stylistic variation. It is very likely that the evidential enclitics are used differently according to a number of stylistic factors. Thus, the written texts available to me contain an evidential enclitic in almost every sentence. In contrast, everyday conversations contain very few enclitics. It may be hypothesized that written communication requires more backing up of the claims made, because it has more weight than spoken communication in general, reaches people that are not face-to-face with the speaker/writer, and is intended to have value over a longer period of time. It is also plausible to assume that the use of evidentials changes according to the formality of the speech situation, and to other sociological factors.

iv. Exploitation of the evidential enclitics.   As has already been observed by Weber (1986) and Floyd (1999), the Reportative and the Conjectural have a variety of uses that are not evidential in the strict sense, such as irony, sarcasm, etc. In general, it is to be expected that evidentials are exploited in a number of different ways.

v. How do Quechua speakers themselves interpret their language?   At this point I would also like to point out that although all examples have been confirmed with several consultants, several times, their interpretation is entirely mine. It can, however, not be taken for granted that my interpretations would be the same interpretations of a native Quechua speaker. Nuckolls (1993:237) criticizes Weber (1986:138) for describing the Quechua speaker as "a pragmatic, maximizing individual who believes that 'only one's own experience is reliable,' who 'avoids unnecessary risk,' and assumes responsibility 'only if it is safe to do so'." Let me therefore make it clear now that the analysis proposed for the Quechua evidentials is my interpretation of what I believe to be underlying the use of the Quechua evidentials from the point of view of a linguist educated within a Western tradition. It is an interesting research question whether this interpretation would coincide with that of native Quechua speakers.

1.6   Data collection

The data that the results presented in this dissertation are based on were collected by myself during several trips between 1999–2001 to Cuzco, Peru. They include primarily examples collected in elicitation sessions, but also data from radio shows, natural conversations between friends, and written material. For the elicitation sessions, I worked with three main consultants: Inés Callalli, Edith Zevallos, and Rocio Moscoso. All three are native speakers of Quechua and Spanish. Inés Callalli (age: late fourties) is a kindergarden teacher in a school with a large percentage of native Quechua speakers, including monolinguals. She also teaches Quechua to foreigners. Edith Zevallos (age: late fourties) is a secondary school teacher, and one of her classes is Quechua for both native and non-native speaking students. She also teaches Quechua

to adult foreigners and to non-Quechua speaking Peruvians. Rocio Moscoso (age: mid-twenties) has completed secondary school, but does not have a profession, and is not professionally involved with Quechua.

The elicitation sessions were conducted largely using Spanish as a contact language, but Quechua was used whenever possible. Elicitation tasks included acceptability judgments of constructed sentences within a given context, acceptability judgments of naturally occurring sentences within the natural context as well as in constructed contexts, asking questions designed to elicit a certain response, translation of Spanish sentences with respect to a given context, correction of constructed texts, and correction of modified, natural texts. The contexts for the sentences under investigation were either given descriptively in the case of constructed contexts, or by way of reminder to situations that the consultant had experienced or knew about.

During the first part of several of the sessions, a bilingual Spanish/Quechua speaker, Wilbert Vera Robles, was present, and engaged the consultants in normal conversations—that is, without the goal of eliciting specific data—which made it possible to also obtain natural conversational data between Quechua speakers. The responses of the consultants were noted down during the elicitation sessions, which were also usually taped. The tapes were later partially transcribed with the help of Wilbert Vera Robles.

In addition to the above-mentioned main consultants, I worked for a lesser amount of time with Carmela Manga (age: late fourties), a housewife with a basic university degree, and consulted various other Quechua speakers whenever possible.

The radio material comes from the daily program entitled *Warmikuna rimanchis— We women talk*, several hours of which were taped and partially transcribed by Wilbert Vera Robles.

The written material used are two so-called testimonials, Phuturi Suni (1997) and Condori Mamani (1996),[22] a translation of the Peruvian constitution (Chirinos Rivera 1999), a collection of texts by an unknown author available on the internet, and folktales. Data available in grammars and linguistic work were also used.

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[22]A testimonial is a text in which a person talks about his or her life and views on society, history, etc. They are usually rendered in spoken form and collected and transcribed by an anthropologist.

Unless otherwise indicated, the examples presented in this dissertation are constructed/elicited examples discussed and checked during elicitation sessions. The data presented in the dissertation represent only a fraction of the data considered in developing the proposed analysis.

Chapter 2

Evidential Hierarchies

2.1 Introduction

In this chapter, I discuss one of two central issues in the cross-linguistic study of evidentiality, namely the internal structure of evidential systems. The second central issue in this area is the relation between evidentiality and epistemic modality. This will be discussed in chapter 3.

In the literature on evidentiality, proposals have been made to structure evidential systems in terms of category membership, that is, in the form of *is-a* hierarchies or taxonomies, as well as in terms of gradual concepts such as preference, that is, in the form of scales. Both kinds of structures are intended to capture typological generalizations and to predict possible evidentials and evidential systems. In section 2.4, I argue that a scalar conception of the typological evidential space does a better job at predicting possible evidentials than a strict division into evidential subcategories.

As shown in chapter 1, Cuzco Quechua distinguishes three basic evidential types, DIRECT, REPORTATIVE, and CONJECTURE. While this three-way distinction is by no means made by all languages, it does in fact reflect the three main ways of acquiring information: through direct perception, through reports from others, and through reasoning. Other languages make fewer or more fine-grained distinctions, and it is the task of the typologist to determine which evidential types are marked cross-linguistically, and classify them in a manner that is useful for making predictions

about possible language-particular evidentials and evidential systems.

In typology, three related types of categories are distinguished, which Palmer
(2001:19) identifies as "the typological categories that are seen as common to vari-
ous different languages, the grammatical markers associated with them in individual
languages and the notional features that justify the typological identification." The
concepts I have been calling *evidential types* and typeset in small caps are notional
categories, whereas evidentials written with initial caps are the language individual
grammatical markers. One can establish a typological category once the grammati-
cal category that marks the notional category has been identified as being the same
across languages (Palmer 1986:2). Thus, the identification of a typological category
involves both semantic and grammatical properties, but it is ultimately the semantic
properties that are decisive. The criteria proposed by Anderson (1986) presented in
chapter 1 define the typological category of evidentials by using both semantic and
grammatical properties.

In order to develop a typology of evidentiality one therefore has to be able to
compare evidential systems across languages. At present, there is no standard set of
labels for evidentials. Most researchers develop their own terminology according to
the evidential distinctions made in the languages they study. Below, I will discuss the
evidential systems of two languages: Tuyuca, a Tucanoan language, and Kashaya, a
Pomo language. Tuyuca has an evidential called Secondhand and Kashaya one that
is called Quotative, but both appear to be used for the same types of evidence.
Conversely, two evidentials in different languages might have the same label, but
indicate slightly different types of evidence. It is therefore important to make a clear
distinction between evidential types, that is, the concepts underlying evidentials, and
evidentials. One goal should be to develop a uniform terminology for evidence types,
even though this might not be possible for evidentials.

2.2   Examples of evidential systems

Before discussing some proposals regarding the typology of evidentiality in the follow-
ing sections, it is useful to look at some evidential systems that are different from the

Cuzco Quechua system, and show how their evidentials map onto evidential types. I will present the evidential system of Turkish, which is a representative of a language that makes a minimal evidential contrast between just two types, DIRECT and IN-DIRECT, and of Tuyuca and Kashaya, which were selected for their great variety of evidentials, and because the authors from whose work the examples are taken have suggested that the evidentials can be arranged in hierarchies, which will be discussed in section 2.4.

2.2.1 Turkish

Turkish is one of the many languages that encode a minimal evidential contrast within their tense/aspect system, often with perfect forms. According to Aksu-Koç and Slobin (1986), the past tense form *-dI* marks direct experience, and the form *-mIş* indirect experience, where the indirect experience suffix can convey both inference and hearsay. The two forms are exemplified in (28).[1]

(28)　　a. Düştü.
　　　　　fall-DI.PST

　　　　　'It/(s)he fell.' 　　　　　　　　　　　　　　　　　　　(Csató 2000:31)

　　　　b. Ahmet gel-　miş.
　　　　　Ahmet come *mIş*

　　　　　'Ahmet came / must have come.'
　　　　　(a) inference: The speaker sees Ahmet's coat hanging in the front hall, but has not yet seen Ahmet.
　　　　　(b) hearsay: The speaker has been told that Ahmet has arrived, but has not yet seen Ahmet. 　　　　　　　(Aksu-Koç and Slobin 1986:159)

The direct experience past suffix *-dI* is used when the described event was witnessed by the speaker, but also for "generally familiar events, such as those related in historical accounts and realistic fiction" (Aksu-Koç and Slobin 1986:160).

　　The reportative use of *-mIş* is straightforward, but it is worth pointing out that when *-mIş* is used inferentially, the basis on which the inference is drawn "can be any kind of sensory evidence of resultant state, with the provision that no aspect of the

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[1]Both *-dI* and *-mIş* can have various surface realizations.

antecedent process itself has been present in the speaker's consciousness" (Aksu-Koç
and Slobin 1986:160). That is, *-mIş* can only be used for inferences from a resultant
state to the causing event, not for any kind of inference.[2]

The mapping between the Turkish evidentials onto evidential types is straightfor-
ward: *-dI* indicates DIRECT, and *-mIş* indicates INDIRECT.

2.2.2   Tuyuca

Tuyuca belongs to the Tucanoan language family, and was reported by Barnes in
1984 to be spoken in Colombia and Brazil by approximately 700 people. According to
Barnes, Tuyuca has five sets of evidential verbal suffixes: Visual, Nonvisual, Apparent,
Secondhand and Assumed.[3] The following variations on the same sentence illustrate
the basic meanings of the evidentials.[4]

(29)   a. díiga apé-wi.   *-wi* = Visual
          'He played soccer.' (I saw him play.)

       b. díiga apé-ti   *-ti* = Nonvisual
          'He played soccer.' (I heard the game and him, but didn't see it or him.)

       c. díiga apé-yi.   *-yi* = Apparent
          'He played soccer.' (I have seen evidence that he played: his distinctive
          shoe print on the playing field. But I did not see him play.)

       d. díiga apé-yigɨ.   *-yigɨ* = Secondhand
          'He played soccer.' (I obtained the information from someone else.)

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[2]The suffix *-mIş* also has a mirative use, and Aksu-Koç and Slobin (1986) make a proposal to
account for all three uses in psychological terms.

[3]The evidentials are portmanteau morphemes. For each evidential category, there are subsets
for present and past tense, the members of which are further distinguished for person (3 versus
other), gender (fem. versus masc.), and number (sg. versus pl). It might be possible to separate the
evidential morpheme from the agreement morpheme, but Barnes herself leaves this area for further
research. Furthermore, the paradigm has gaps: there is no first person present tense Apparent, and
there are no present tense evidentials for Secondhand. See Barnes (1984) for an explanation of these
gaps.

[4]All Tuyuca examples are directly taken from Barnes (1984:257), including the explanatory con-
texts in parentheses. Unfortunately, no morpheme-by-morpheme glosses are available. However, the
evidential is separated from the verb by a hyphen. All evidentials in (29) are past tense and third
person masculine singular.

  e. díiga apé-hĩyi.   *hĩyi* = Assumed
   'He played soccer.' (It is reasonable to assume that he did.)

                      (Barnes 1984:257f.)

The examples in (29) sufficiently illustrate how the evidentials Visual, Nonvisual and Secondhand are used, but this might not be so clear for Apparent and Assumed, especially how they differ from each other. Barnes (1984) describes their use as follows:

> An apparent evidential is used when the speaker draws conclusions from direct evidence (Barnes 1984:260).

> An assumed evidential is used when the speaker has prior knowledge about the state of things or about habitually general behavior patterns (Barnes 1984:262).

However, a closer look at the examples Barnes gives for Apparent and Assumed, shows that her definitions are not sufficient to predict when a speaker uses one or the other. (30a,b) are further examples Barnes gives for the use of Apparent, and (31a,b,c) for Assumed.

(30) a. *pisã́nã mĩnĩmãkɨ́re nɛ́ɛ̃yahã̃-yi*
   '(Apparently) the cat caught and ate a bird.' (Said while looking at feathers on the ground.)

  b. *bóahõã̃-yu*
   '(Apparently) it rotted.' (Said of a plant after pulling it up to examine it.)   (Barnes 1984:260)

(31) a. *Bogotápɨ nɨ̃́ɨ̃-ko*
   'She is in Bogotá.' (She left last week and said that was where she would be.)

  b. *wĩmã́ra hóa-hĩya*
   'The children drew those pictures.' (It is apparent that someone drew them, but it is assumed that the children did it.)

    c. *diágo tii-kú*
       'You are sick.' (The way you are groaning, you must be sick.)

<div align="right">(Barnes 1984:262)</div>

The examples for Assumed show that the "prior knowledge" Barnes requires for its use can be a report, (31a), or direct information, (31b) and (31c). Thus, one difference between Apparent and Assumed is in terms of evidentiality: Assumed can be used for conjectures based on reports, but Apparent cannot. However, the difference between (31b) and (31c) on the one hand, and (30a) and (30b) on the other, cannot be evidential, as in all cases the speaker makes an inference or conjecture on the basis of direct evidence.

A plausible hypothesis is that the difference is one of strength of the available direct evidence. When using an Apparent the speaker conveys that (s)he found the direct evidence on which (s)he bases their inference completely convincing, whereas with an Assumed, (s)he leaves open the possibility that their conjecture might be wrong. The difference between Apparent and Assumed is therefore not purely evidential.

How do the five Tuyuca evidentials map onto evidential types? It seems clear that Visual and Non-Visual together cover the range of DIRECT evidence, such that Visual indicates VISUAL evidence, and Non-Visual all the other sensory types. It is also immediately clear that Secondhand indicates REPORTATIVE evidence, although it is not obvious whether this evidential covers all subtypes of REPORTATIVE, or only SECONDHAND. It is also relatively clear that Apparent and Assumed both indicate REASONING, and we might say that they map onto two different subtypes: reasoning from direct evidence and reasoning from non-direct evidence, or relatively more inconclusive (direct) evidence. So far, the relation between evidence types and evidentials is quite straightforward. We can however already detect a problem in drawing the line between NON-VISUAL and REASONING from direct evidence. To take an example from the philosophical literature, imagine that you hear the sound of an alarm clock, but you cannot see it (Kamp 1990). Would a speaker of *An alarm clock went off* have direct, non-visual evidence, or would this constitute a conclusion arrived at by some amount of reasoning from direct evidence? I do not know which evidential a

Tuyuca speaker would use in this case, Non-Visual or Apparent; the point of this example is to show that though the difference between the three basic evidential types is intuitively clear, there are cases which cannot be immediately classified.

2.2.3 Kashaya

Kashaya belongs to the Pomo language family in Northern California. It, too, has five evidentials: Performative, Factual-Visual, Auditory, Inferential and Quotative. These evidentials are suffixes with mostly no other meaning or function than the indication of source of information. The Performative and Factual-Visual evidentials are in fact two different morphemes each, one is used for perfective, the other for imperfective aspect. For the other evidentials there exists only one underlying form. The examples in (32) (taken from Oswalt (1986)) illustrate each of these evidentials.[5]

(32) a. qowá-qala (Performative Imperfective: *-wêla*)
'I am packing (a suitcase).'

b. qowáhmela (Performative Perfective: *-mela*)
'I just packed.'

c. qowá-q^h (Factual Imperfective: *-ŵă*)
'(I see) he is packing.'

d. qowahy (Visual Perfective: *-yă*)
'(I just saw) he packed, I just saw him pack.'

e. mo·dun (Auditory: *-V̂nnă*)
'I hear/heard someone running along.'

f. mu cohtoc^{h}q^h (Inferential: *-qă*)[6]
'He must have left, he has left.' (Said on discovering that the person is no longer present; the leaving itself was not seen [...] nor heard)

g. mul =í-do-· hayu cáhno-w (Quotative: *-do*)
'Then, they say, the dog barked.'

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[5]Due to morphophonemic processes the underlying evidential forms get fused with other underlying morphemes to surface as a portmanteau morpheme. The underlying form of the evidential is given in parenthesis after each example.

[6]This is the so-called Inferential I. There is also an Inferential II, *-bi*, which has the same meaning as Inferential I, but has a different morphological distribution.

The Inferential is not only used for clearly inferential cases such as (32d), but also for certain kinds of sensory evidence, as exemplified by (33) (Oswalt 1986).

(33)   cuhni· mu$^{?}$'ta-q^{h}
            'Bread has been cooked.'

Example (33) can be uttered by someone who enters a house and perceives the smell of freshly baked bread.

How do the Kashaya evidentials relate to evidence types? The clear cases are Visual, Auditory and Quotative, which indicate VISUAL, AUDITORY and REPORTATIVE evidence. Performative might also be said to indicate a subtype of DIRECT evidence, in fact it might be said to be the most direct evidence possible, since the speaker knows something because (s)he is doing it. Inferential obviously indicates that the speaker bases his or her statement on REASONING, but as (33) shows it also maps onto part of DIRECT evidence. Consider again the alarm clock example. It seems clear that in Kashaya, the speaker would use Auditory in this case.

Comparing Tuyuca and Kashaya, we can note a number of things. First, Kashaya has more subtypes of direct evidence grammaticalized than Tuyuca. Tuyuca makes a two-way, and Kashaya a three-way distinction. Second, touch, smell and taste are in Tuyuca included in Non-Visual, together with auditory evidence, but in Kashaya they are indicated by the Inferential. Third, Tuyuca distinguishes between inference from evidence and less certain inferences, whereas Kashaya only has a single Inferential. It is not clear whether the Kashaya Inferential can be used in the same cases in which Tuyuca Assumed can be used. Lastly, different labels are used for similar evidence types.

2.3   Evidential taxonomies

Typologists working on evidentials have surveyed a greater number of languages than I have presented in the previous section, with the goal of determining the principles that structure language-particular systems. These principles are often captured in

the form of hierarchies. The hierarchies used in typology are of three kinds: (i) categorical or *is-a* hierarchies such as the one shown in Fig. 2.1 (repeated from Fig. 1.1, chapter 1), (ii) scalar hierarchies, which order their elements according to degrees of strength or some other criterion, and (iii) implicational hierarchies that predict the existence or absence of a certain element in a language from the existence or absence of another element (for example, if a language has element x then it will also have element y). I call the first type a taxonomy, the second a scale, and the third an implicational hierarchy. The different types of hierarchies are usually put to different uses. Thus taxonomies primarily serve to determine sub- and supertype relationships between their members, and to predict possible meaning combinations for the grammatical markers of the category. Scales are often used to derive conversational implicatures, and to explain why a certain element is preferred over another in a given context. Implicational hierarchies are used to predict language-particular inventories. However, this tripartite division cannot always be maintained. For example, I will show in the remainder of this section, based on the evidential taxonomies proposed in the literature, that we already need some scalar conception of evidential taxonomies to derive empirically more adequate predictions regarding possible evidentials and evidential systems. And as discussed in section 2.4 on evidential scales, de Haan (1998) proposes using a pragmatically defined scale of evidentials as an implicational hierarchy as well.

I now turn to the cross-linguistic evidential taxonomies proposed in the literature.

```
                    Types of Source of Information
                   /                            \
              Direct                          Indirect
                |                            /         \
            Attested                   Reported      Inference
                |                          |             |
             Visual                   Secondhand      Results
            Auditory                  Thirdhand      Reasoning
          Other Sensory               Folklore
```
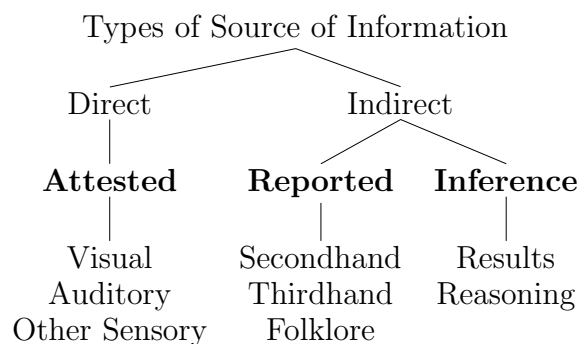
Figure 2.1: Willett's taxonomy of types of source of information

The best known taxonomy of evidential types (based on a survey of 38 languages) is Willett's (1988). Figure 2.1 relies on Willett's taxonomy. According to this taxonomy, the primary evidential distinction is that between direct and indirect evidence. A second major division is made within the category of indirect evidence into reported and inferring evidence, and each of these three major types can have several subtypes.[7] The subtypes INFERENCE FROM RESULTS and INFERENCE FROM REASONING are defined by Willett (1988:96) as follows.

> *Inference from results*: the speaker infers the situation described form the **observable evidence** (that is, from perception of the results of the causing event or action).
>
> *Inference from reasoning*: the speaker infers the situation described on the basis of intuition, logic, a dream, previous experience, or some other **mental construct**.

These two types are instantiated for example by the Tuyuca Apparent and Assumed. The subtypes of REPORTATIVE are self-explanatory.

One use one would like to put a taxonomy of this sort to, is to make predictions about possible evidentials and systems. Thus, one can hypothesize that the principles that determine the *is a* relations in Figure 2.1 are the same principles that structure the evidential inventories of languages. Assuming that this hypothesis is right, Figure 2.1 constrains evidentials to refer only to nodes of the tree structure in Figure 2.1, and evidential systems to be structured from top to bottom. For instance, Figure 2.1 predicts that all evidential systems distinguish at least between direct and indirect evidence. Used this way, the taxonomy in Figure 2.1 does not make all the right predictions. First, it does not contain a node onto which the Tuyuca Non-Visual can be mapped. This is easily remedied by introducing more structure among the subtypes of direct evidence. However, the case of the Kashaya Inferential is a real problem. There is no way to introduce a node with daughters SMELL, TASTE, TOUCH

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[7]It is not clear what the difference is between DIRECT and ATTESTED. Willett does not justify this. Possibly, there are languages that have an evidential called Attested and others with one called Direct. However, this terminological difference does not justify postulating two different evidence *types*.

and INFERENCE without either giving up the main distinction between DIRECT and INDIRECT, or allowing nodes to have more than one mother-node.

In fact, there is evidence that *directness* is not the only possible parameter for organizing evidential systems. There are languages which distinguish only between REPORTATIVE vs. NON-REPORTATIVE evidence (Plungian 2001), thus grouping DIRECT and REASONING together. In such a language the main organizing parameter appears to be the degree of *personal involvement* in acquiring the information. The simple tree structure in Figure 2.1 can therefore not be considered universal. As Plungian (2001) puts it, we need a classification "which is flexible enough to integrate new data without a drastic reorganization of existent framework [sic]". Plungian proposes the classification in Figure 2.2 (format slightly modified). He uses the term REFLECTED for inferential evidence, and MEDIATED for reportative.

Indirect evidence

Direct evidence   Reflected evidence   Mediated evidence
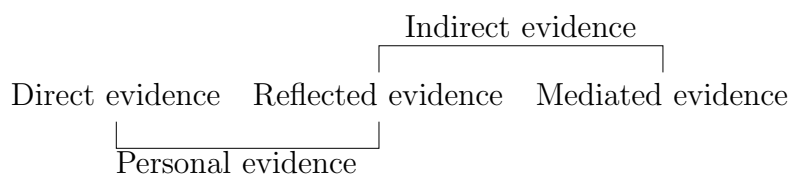
Personal evidence

Figure 2.2: Plungian's taxonomy of types of information

Figure 2.2 allows evidential systems to be organized according to the parameters *directness, personal involvement* or both: (i) DIRECT versus INDIRECT, (ii) PERSONAL versus MEDIATED, and (iii) DIRECT versus REFLECTED versus MEDIATED. It disallows a system that is based on the parameter of *reflection*, that is, a system that opposes REFLECTED and NON-REFLECTED (that is, DIRECT+MEDIATED). Is this prediction correct? Consider English, and assume that English does not possess evidentials for DIRECT and MEDIATED.[8] English can be argued to have an evidential for REFLECTED, namely the epistemic modal *must*. Given these assumption, can English be considered a representative of the type REFLECTED versus NON-REFLECTED? It could, if zero marking can be equated with NON-REFLECTED. In general, we must allow for zero-marking to represent an evidential value, because many languages only have overt

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[8]This assumption is debatable, as Anderson (1986) for example takes *I hear* to be an evidential.

evidentials for indirect evidence types, and in those cases, zero is usually interpreted as DIRECT.[9] Thus, if it can be shown that *must* is indeed an evidential, then we would have to allow for languages of the type REFLECTED versus NON-REFLECTED, and Plungian's classification would have to be modified to allow for this possibility.[10] As I will argue below, epistemic modality and evidentiality overlap in the concept INFERENCE. Since *must* is a grammatical marker of INFERENCE, it follows that it is both an evidential and an epistemic modal. The proposed modification of Plungian's classification is therefore justified, though I will not pursue it further here.

Plungian's classification does not go into more depth than is represented in Figure 2.2. That is, it does not make predictions about possible subdivisions of the three main types. In particular, it does not have anything to say about how the difference discussed above between Tuyuca and Kashaya can be accounted for: Tuyuca has an evidential for visual evidence and combines all other senses in one evidential, while Kashaya has distinct evidentials for visual and auditory evidence, but uses the Inferential for smell, taste and touch.

In order to account for the Kashaya system, I propose giving up the idea that DIRECT and REASONING are entirely distinct categories, and to conceive instead of personal evidence as a cline of increasing amounts of reasoning from evidence. At one extreme there is performative and visual evidence, on the basis of which it is possible to make a statement with no or a minimal amount of reasoning. Making a statement on the basis of auditory evidence, already involves some amount of inference and for the other senses even more. This cline is represented in (34).

(34)   **The Personal Evidence Cline:**
          PERFORMATIVE > VISUAL > AUDITORY > OTHER SENSORY > REASONING
          > ASSUMPTION

One can now hypothesize that only those evidentials that cover a contiguous area on this cline are possible evidentials, which will rule out, for example, an evidential that

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[9]Zero marking is not a possibility for just any type. Thus, languages of type (i) can only zero Direct, those of type (ii) Personal, and those of type (iii) Direct.

[10]At this point, I do not know of a language that is standardly considered to be an evidential language and that possesses only Inferentials.

covers AUDITORY and REASONING, but not OTHER SENSORY.[11]

The subtypes of MEDIATED may also be arranged as a cline, the ordering parameter being the number of intervening speakers, rather than amount of reasoning. With SECONDHAND there is one intervening speaker, and with THIRDHAND two. With HEARSAY and FOLKLORE there is an unspecified (large) number of mediaries. This cline is represented in (35).

(35)   **The Mediated Evidence Cline:**
         (DIRECT >) SECONDHAND > THIRDHAND > HEARSAY/FOLKLORE

The cline in (35) includes DIRECT at the left extreme. This is theoretically motivated, because DIRECT involves 0 intermediate speakers. However, I put it into parenthesis, because at this point we are trying to use these representations to predict possible evidentials. As with the Personal Evidence cline, it would be most straightforward to restrict possible evidentials to cover a contiguous area. Including DIRECT on this cline would then allow evidentials that cover DIRECT and SECONDHAND (and any of the lower types). As discussed above, it is somewhat problematic to allow for the existence of such evidentials, as it is very likely that it would only occur in the form of zero marking in languages that possess only Inferentials, and such languages are standardly not considered evidential languages.

The use of clines as proposed above is a deviation from strict categorical taxonomies, which leads directly to the concept of a scale to be discussed in section 2.4. Before I turn to scales, however, let me discuss one more issue regarding the inventory of evidential types, which is whether we need a separate type for LEARNING.

2.3.1   An aside: Do we need an evidential type for learning?

In the discussion of the Cuzco Quechua evidential Direct enclitic *-mi* in chapter 4, I will argue that its evidential value is not DIRECT in the literal sense when the information conveyed is what I will call *encyclopedic information* (as opposed to *personal*

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[11]This prediction accords with Croft's "*Semantic Map Connectivity Hypothesis*: any relevant language-specific and construction-specific category should map onto a CONNECTED REGION in conceptual space" (Croft 2001).

information). The Quechua Direct *-mi* can be used for this type of information just
in case the speaker has learned it from a source of authority—which includes infor-
mation one "absorbs" as part of one's culture. Consider the examples in (36) which
all allow the use of the Direct enclitic *-mi.*

(36)   a. Schroder-**mi** Alemania-q   umalliq-ni-n ka-sha-n.
          Schröder-**mi** Germany-GEN head-EUPH-3 be-PROG-3

          'Schroeder is the current chancellor (*lit.* head) of Germany.'
          EV= speaker learned that p from an authority

       b. Africa-pi-**mi**   elefante-kuna-qa ka-n.
          Africa-LOC-**mi** elephant-PL-TOP be-3

          p='In Africa, there are elephants.'
          EV= speaker learned that p from an authority

       c. Toledo-**n**   Peru-pa umalliq-ni-n ka-sha-n   kunan.
          Toledo-**mi** Peru-GEN head-EUPH-3 be-PROG-3

          p='Toledo is the current president of Peru.'
          EV= speaker knows that p from being immersed in Peruvian society and
          culture

       d. Yunka-pi-**n**   k'usillu-kuna-qa ka-n.
          Rainforest-LOC-**mi** monkey-PL-TOP be-3

          p='In the rainforest, there are monkeys.'
          EV= speaker knows that p from being immersed in Peruvian society and
          culture

For example, (36a,b) convey information that a Quechua speaker might have learned
in school or from the media. Examples (36c,d) convey information that any Peruvian
will know, even if they have not seen Toledo being elected or acting as president, or
been to the jungle themselves.

   Given that *-mi* can be used for this type of information, and not only *-si* —as one
might perhaps expect—we might want to consider LEARNING to be an evidential type.
Information acquired by learning is little discussed in the literature on evidentiality.
The most explicit reference is still Givón (1982:42), who discusses "*apriori-synthetic*
knowledge, the huge body of generic knowledge shared within the culture, most com-
monly coded in language in the knowledge of the *dictionary.* Such knowledge is seldom

given to the speaker via evidence. Rather it is given *by definition* […]." According to Givón (1982:43), apriori-synthetic knowledge, together with deictically obvious and presupposed knowledge, knowledge given by revelation, and analytic knowledge (=shared knowledge of the rules of various games, including logic), falls under the following contract between speaker and hearer:

(37) a. Propositions falling under the scope of this contract are *not challengeable* by the hearer; and

  b. Propositions falling under this contract *require no evidentiary justification* by the speaker.

Other researchers who mention this type of information at all, usually refer back to Givón (1982) without further discussion. One immediate question that arises is why it is that we find evidentials with this type of information, despite the fact that evidentiary justification is not required. This is a question of cross-linguistic relevance, since Quechua is not the only language that allows the use of Direct evidentials for this type of information. Consider the examples in (38).

(38) a. **Tuyuca**
   ĩsá kõnéa hɨ́-a
   'We call them woodpeckers.'   (Barnes 1984:)

  b. **Kashaya**
   'sihta=ya^{h}ma cahno-w
   bird-PL-SUBJ sound-FACTUAL
   'Birds sing.'   (Oswalt 1986:37)

  c. **Jaqaru**
   Utxutxullquq aq"inw utki.
   'Elves live in caves.'   (Hardman 1986:115)

Example (38a) is offered by Barnes (1984) as an example where the Visual is used for what she calls timeless expressions. According to Oswalt (1986), (38b) can be interpreted either as a general truth or as a specific action that was seen. Hardman (1986) presents (38c) as an exception to the rule that the Personal Knowledge marker is used for "knowledge acquired by personal experience, through the senses."

The information conveyed in these examples may all be said to fall under Givón's (1982) category of *apriori-synthetic knowledge*, and can reasonably be assumed to be acquired by learning or given by definition.

One reason why these languages use an evidential at all for this kind of information, even though evidentiary justification is not required, might be that evidentials are required for morphosyntactic reasons. This may be said to be the case for Tuyuca, where the evidential meaning is combined with agreement morphemes. A speaker who chooses an agreement morpheme is forced to also choose an evidential value. However, as mentioned in chapter 1, evidential enclitics in Cuzco Quechua are not required by morphosyntax. In chapter 4, I will argue that the use of *-mi* can be accounted for in this type of example by appealing to the notions of authority, assimilation, the accepted factual status of the information within the speaker's community, and the fact that this type of information is not expected to be acquired in any other way. In particular the fact that *-mi* signals that the speaker claims authority over the information suggests that *-mi* is used to ward off any potential challenges. Thus, I disagree with Givón (1982) that propositions conveying apriori-synthetic, presupposed, revealed, or analytic information are not challengeable. Consider as an example the rules of a game, including the rules of logic. Even if we accept, contrary to fact, that the rules themselves are fixed and not challengeable, a speaker's claim that something is a rule certainly is. A speaker may *present* these rules as unchallengeable, but that in itself does not mean that (s)he will not be challenged. In Quechua, speakers who convey this kind of information may choose to not use an evidential when they do not anticipate any challenges. However, if they do anticipate a challenge, or need to assert their authority for any other reason, they may choose to use the Direct evidential. In the case of an anticipated challenge, speakers may also choose to use the Reportative, which will have the effect of deferring the responsibility for the information to someone else, that is, they signal that they themselves are not prepared to defend the proposition.

To return the the question at hand, should LEARNING be included in a taxonomy of evidential types? If yes, where is its place? Given that Direct evidentials can be used for conveying this kind of information, that we want to use these taxonomies to

predict possible evidentials, and that I have argued above that possible evidentials can only cover a contiguous area in the taxonomy, it follows that LEARNING should be next to DIRECT. Furthermore, it should go on the Mediated evidence cline, since it is after all mediated information. Thus, we might include LEARNING below (DIRECT) on the Mediated evidence cline, as shown in (39).

(39)   **The Mediated Evidence Cline—revised:**
        DIRECT > LEARNING > SECONDHAND > THIRDHAND
        > HEARSAY/FOLKLORE

This cline makes the correct prediction that both Direct and Reportative evidentials can be used for learned information. However, we can now no longer maintain the claim that the cline's ordering criterion is the number of intervening speakers. Information learned in school is usually passed on through a great number of speakers, and should therefore be on the same level as HEARSAY. I will not attempt to resolve this issue in this dissertation, but leave it to future research.

2.4   Evidential scales

In this section,[12] I will discuss proposals to arrange evidentials in a scale according to gradable notions such as strength. Of particular interest is de Haan's (1998) proposal that such a pragmatic hierarchy can also account for the evidential inventory of languages.

   While de Haan's is probably the most thorough cross-linguistic study of this kind of evidential hierarchy, and the first to apply it to typology, the idea that evidentials can be arranged in such a way is not new. Willett (1988) proposes a linear ordering in addition to the taxonomy presented in the previous section, and there have been several proposals for language-specific hierarchies. As it is useful to review some language-specific evidential hierarchies before discussing cross-linguistic proposals, the following section presents the hierarchies proposed for Tuyuca (Barnes 1984) and Kashaya (Oswalt 1986). I then turn to Willett's (1988) and de Haan's (1998) cross-linguistic hierarchies, and argue that in order to capture the empirical pragmatic

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[12]This section is based on Faller (to appear)b.

facts, one has to give up the linear form of the evidential hierarchy adopted by all previous proponents.

2.4.1   Language specific scales

The following evidential scale is proposed by Barnes (1984) for Tuyuca.

(40)   Visual > Nonvisual > Apparent > Secondhand > Assumed

The ordering relation $x > y$ in (40) is a relation of speaker preference, such that evidential x will be preferred over evidential y where possible. Barnes does not explain, however, why a speaker prefers certain evidentials over others.

The effects of this hierarchy can most easily be seen when a speaker has more than one source of information for the same event. In such a case (s)he will use the evidential that is higher on the hierarchy. For example, a person watching a soccer game will usually have both visual and nonvisual information for an event such as described by the sentences in (41), but will choose (41a) over (41b) (repeated from (29)).

(41)   a. *díiga apé-wi.*   *-wi* = Visual
            'He played soccer.' (I saw him play.)

        b. *díiga apé-ti.*   *-ti* = Nonvisual
            'He played soccer.' (I heard the game and him, but didn't see it or him.)

But in Tuyuca the preference for certain evidentials, in particular the Visual, has, according to Barnes, more complicated effects: a speaker prefers a somewhat more indirect proposition if that allows her or him to use a Visual. In order to understand what I mean by "more indirect", one has to know that a main verb can enter into a so-called compound construction with the auxiliary *nií.* In this construction the evidential—which, recall, is also a tense marker—is suffixed to the auxiliary, and the resultative morpheme *-ri* followed by a gender-number morpheme is suffixed to the main verb. This compound construction is used to describe the end result of an event,

and is thus a more indirect way of giving information about an event than using the simple construction. An example is given in (42).[13]

(42)   *María diáhõãrigo nı̃́ı̃-wo*
         'María died.'   (Barnes 1984:262)

Example (42) was used by a man who had first heard that María, who lived in a different town, had died. He had then later gone to that town and visited her family, where he obtained VISUAL information about her death, including her grave. Now, when giving this information, he (theoretically) had a choice between using the simple verb construction with the Secondhand evidential, as he would have done before travelling to María's town, and using the compound construction with the Visual. He could obviously not use the simple construction with the Visual, since he had not seen the event (or the body) itself. According to Barnes, speakers in such a situation generally prefer the compound construction because that allows them to use the Visual. In fact, one might read Barnes to mean that a speaker has very little choice in the matter: "[he] no longer could use a secondhand evidential, since he had finally obtained some firsthand information" (Barnes 1984:263).

However, this preference of a more indirect proposition over a simpler one cannot be an effect of the hierarchy. If it were, we would expect that the speaker preferred a slightly different proposition in order to be able to use any evidential over others that are lower on the hierarchy. But this is not the case, as the sentences in (43) illustrate. (43a) is a simple construction with an Apparent, and (43b) is a compound construction with a Visual.

(43)   a. *wáahõã-ya*
            '(Apparently) they went away.'
         b. *wáahõãrira nı̃́ı̃-wa*
            'They went away.'   (Barnes 1984:264)

The contexts for the two sentences are similar. The speaker saw a line of ants crossing a footpath and shortly after that they were gone. In neither case did the speaker see

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[13]Given the description Barnes herself gives of this construction, which I have summarized here, the gloss for (42) is somewhat surprising. I would have expected *María is dead*. This might indicate that the construction in Tuyuca is quite different from the English resultative construction.

the event of the ants going away. Here, the speaker has a free choice between the two, even though Visual is higher than Apparent. According to Barnes, the difference between the two sentences is that in (43a), the speaker focuses on the event, whereas in (43b) no attempt is made to describe the event itself, but only the end result.

A further example that illustrates this point is (44) (=(31a)).

(44)   *Bogotápɨ nɨ̃́-ko*
         'She is in Bogotá.' (She left last week and said that was where she would
         be.)

The speaker uses an Assumed evidential in the present tense. However, (s)he could (theoretically) also have said something like *She was going to go to Bogotá* using a Secondhand in the past.[14] Unfortunately, Barnes does not say whether or not the speaker had a free choice in this case. But it is clear that if the hierarchy played a role in choosing one proposition over the other, we would expect that the speaker prefers the Secondhand evidential.

As the quote from Barnes above suggests, the important factor here is *firsthand* vs. *secondhand*, or in de Haan's (1998) terms, speaker involvement. Thus, we are in fact dealing with two different kinds of preference. One is captured by the hierarchy, the second, firsthand over secondhand, is not.[15] Thus, it is important to state clearly, what the motivation behind the preference relation for the hierarchy is. This question will be discussed further in section 2.4.2.

For Kashaya, Oswalt (1986) proposes the hierarchy in (45), which is also based on speaker preference.

(45)   Performative > Factual-Visual > Auditory > Inferential > Quotative

Oswalt (1986) only discusses preference of the simple kind: what evidential is chosen for the same proposition, when the speaker learned of the event through various

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[14]Recall that Secondhand present tense evidentials do not exist in Tuyuca.

[15]If it were the case that (44) is actually preferred over the suggested alternative, then this preference would in fact go contrary to the hierarchy. But unfortunately we do not have enough data to make this strong a claim.

sources of information. Like Barnes (1984), he treats the preference relation as primitive, that is, he does not state why a speaker prefers certain evidentials over others.

However, he explicitly excludes the possibility that different evidentials express different degrees of certainty, a claim that has been made for evidentials of other languages.

> It might be noted that, despite the hierarchy, all propositions with the Kashaya evidentials are presented by the speaker as certain and true. However, the evidentials themselves are at the top of a continuing hierarchy of modals expressing increasing uncertainty on part of the speaker. These include a Suppositional suffix ('I suppose that ... '), a Speculative ('I wonder if ... '), an Optative ('I hope or wish that ... ') and others (Oswalt 1986:43).

Oswalt mentions in the above quote a suffix Suppositional, which he classifies as a non-evidential modal. Unfortunately, this mention is the only information we have at this moment about this suffix. Nevertheless, given the English gloss Oswalt provides, it is fairly safe to assume that the Kashaya Suppositional has roughly the same meaning as the Tuyuca Assumed. But Barnes (1984) classifies Assumed as an evidential. Recall that I argued in the previous section that the Tuyuca Apparent and Assumed differ in terms of strength of the available evidence on which the speaker bases his or her inference. This notion is closely linked to the notion of speaker certainty, that is, a Tuyuca speaker using an Assumed will also convey that (s)he is not convinced of the truth of his or her statement. Thus, if we adopt Oswalt's criterion that all evidentials express high certainty, we have to classify Tuyuca Assumed also as a modal. However, if Oswalt is right that modals and evidentials occupy adjacent segments on the same hierarchy, then we actually expect to find borderline cases for which it is impossible to decide whether they belong to one or the other category. The Tuyuca Assumed and the Kashaya Suppositional are prime candidates for such borderline cases.[16] In

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[16]The proposal that the evidential scale is part of a larger scale that contains epistemic modals is an interesting one. However, the resulting scale would be one with different types of ordering criteria. Within the evidential section, the ordering is determined by strength of type of evidence, whereas in the modal section it would be determined by degree of the speaker's certainty that the proposition is true. These are independent, though obviously related ordering criteria.

other words, we expect that some elements can be both evidentials and epistemic modals. In chapter 3, I argue, following van der Auwera and Plungian (1998), that epistemic modality and evidentiality do in fact overlap in this way.

2.4.2 Cross-linguistic scales

As mentioned at the beginning of this chapter, scales, and more generally hierarchies, have proven useful tools in typology as well as in semantics and pragmatics. In typological research, the most common type of hierarchy are implicational universals which are used to predict possible and impossible language systems as well as directions of diachronic language change, among other things (Croft 1990, Dik 1981). In semantics and pragmatics, linguistic scales are taken to be an ordering of a set of linguistic expressions belonging to a single grammatical category, where the order is determined by degree of informativeness or semantic strength (Levinson 2000). These scales are generally used to explain conversational implicatures (Grice 1989) associated with the linguistic expressions they order. As shown below, section 2.4.5, Indirect evidentials also give rise to conversational implicatures, and it is a reasonable hypothesis that the evidentials form a linguistic scale of the familiar kind. In this and the following sections, I discuss proposals for universal scales and their pragmatic properties.

Oswalt (1986) suggests that the hierarchy in (45) is universal. However, comparing the Tuyuca and Kashaya hierarchies, repeated in (46) for convenience, we notice some mismatches in addition to the question of whether Assumed belongs on the evidential (part of the) hierarchy: The meanings of the Kashaya Performative and Factual-Visual are combined in the meaning of the Tuyuca Visual, and the Kashaya Auditory and parts of its Inferential (Other Sensory) are combined in the Tuyuca Non-Visual.

(46)   **Tuyuca**
          Visual > Nonvisual > Apparent > Secondhand > Assumed
          Kashaya
          Performative > Factual-Visual > Auditory > Inferential > Quotative

If one wants to construct a hierarchy with cross-linguistic applicability, these mismatches and discrepancies arising between evidential systems have to be accommodated.

De Haan's (1998) goal is to construct an evidential hierarchy which can be used both for making typological claims and for explaining certain Gricean implicatures associated with evidentials. Such a hierarchy is desirable, since in addition to having explanatory power in each of the two areas, it would provide us with a pragmatic reason for the existence of the typological implicational universals.

In the following, I take a closer look at the pragmatic underpinnings of de Haan's evidential hierarchy, and discuss what features it should have in order to accommodate the observations made for Tuyuca and Kashaya in the previous section, the Quechua data presented below, and ultimately to have universal validity. In particular, I will address the following questions.

   i. What kinds of items are ordered by the evidential hierarchy?

  ii. What is the conceptual basis for the ordering relation?

 iii. Is the hierarchy a linear or a non-linear ordering?

 iv. How can the conversational implicatures be accounted for?

The hierarchies discussed in the previous section order evidentials, and so do the hierarchies de Haan (1998) proposes.[17] However, the hierarchies of some researchers, for example Willett's (1988), order *evidence types*, the cognitive concepts underlying the meaning of evidentials. The two language-particular hierarchies discussed in the previous section take "preference" as their ordering criterion and so do the cross-linguistic scales proposed by de Haan (1998) and Willett (1988). However, the two studies disagree as to how preference is determined. For Willett (1988) preference is based on directness and reliability, and for de Haan (1998) on directness and speaker involvement. Furthermore, all evidential hierarchies proposed in the literature take

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[17]While de Haan (1998) sometimes seems to conceive of the hierarchy as ordering evidence types, rather than evidentials, he clearly states in his definition of the abstract evidential hierarchy in (47) below that x_i stands for an evidential marker.

the form in (47). That is, the evidential hierarchy is generally conceived of as a *linear* ordering of evidentials or evidence types, x_i.

(47) $x_1 > x_2 > \ldots > x_n$

I first argue that an evidential hierarchy should be conceived of as defining an evidential space which languages can divide up in different ways, which in turn requires that the hierarchy order evidence types rather than evidentials. In section 2.4.3, I discuss the conceptual basis of the preference relation, and argue in section 2.4.4 that it is directness. However, one has to recognize two kinds of directness, and that linearity is not a feature that can be maintained for evidential scales. In section 2.4.5, I will show that evidential scales differ from linguistic scales that give rise to conversational implicatures.

That the evidential hierarchy cannot be taken to order evidentials can be seen already when trying to construct a hierarchy that accounts for both Tuyuca and Kashaya. As we have seen in section 2.4.1, Tuyuca and Kashaya have different kinds of evidentials. Thus, we would first have to determine which evidentials in these languages correspond to each other and then decide on a common label for those. This is roughly the approach de Haan (1998) takes. In his language sample there are 5 languages that make the same evidential distinctions as Tuyuca, and two of the Kashaya type (including Tuyuca and Kashaya, respectively). (48a) shows the ordering de Haan presents for the Tuyuca type, and (48b) the one for the Kashaya type.

(48)   a. Visual > Nonvisual > Inferential > Quotative
        b. Visual > Auditory > Inferential > Quotative[18]

Both hierarchies contain an evidential called Inferential. However, in (48a) it corresponds to the Tuyuca Apparent, and in (48b) to the Kashaya Inferential. As we have seen in the discussion of Tuyuca and Kashaya, however, the Kashaya Inferential

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[18]Notice that the Kashaya Factual-Visual has been collapsed here into Visual, and that the Kashaya Performative has disappeared altogether, because de Haan does not consider the Performative to be an evidential. These decisions are not relevant for my current purposes, but see Garrett (1999) for arguments in favor of analyzing the Performative as an evidential.

is also used for evidence obtained through the sensory modes TOUCH and SMELL, whereas in Tuyuca these are subsumed under Nonvisual, and Apparent is exclusively used for inference. Thus, the term Inferential refers to two different kinds of evidentials in the two hierarchies, which I will distinguish in the following as Inferential$^-$ (not used for OTHER SENSORY), and Inferential$^+$ (used for OTHER SENSORY). This shows for one that it is not always possible to find one-to-one correspondences between the evidentials of different languages. It also has a more theoretical implication: with the hierarchy in (48a), we do not get a relative ranking of Auditory and Nonvisual/Nonauditory, in (48b) we do. Conversely, with (48a) we do get a ranking of Nonvisual/Nonauditory sensory and Inference, but with (48b) we do not. Thus, neither of the two can be said to be universal, even if we ignore the fact that the same labels refer to slightly different things in different languages.

In fact, de Haan (1998) never presents a universal hierarchy, only specific hierarchies for language types such as (48). Instead of a universal hierarchy, he offers the different concept of a "prototypical" hierarchy, given in (49).[19]

(49)   Visual > Nonvisual > Inferential > Quotative

Nevertheless, as mentioned above, it is part of de Haan's enterprise to use the hierarchy to make universal typological predictions. The typological universal he proposes is given in (50):

(50)   If a language possesses a certain evidential category, it will possess all
          evidential categories lower on the Evidential Hierarchy (de Haan 1998).

In order for (50) to have any predictive power, however, it must be based on a universal ordering; it is not sufficient to base it on the prototypical hierarchy in (49). While de Haan does not present a universal hierarchy, the following implicational universals that determine a universal ordering of evidentials are implicit in his work.

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[19]De Haan (1998) does not define the concept of a prototypical hierarchy. My interpretation of it is that, typically, languages with evidentials make the distinctions in (49), but for any language that makes these distinctions, the ordering is as in (49). That is, the prototypicality does not refer to the ordering, but to the evidential inventory. Note that the Inferential in (49) is Inferential$^-$.

(51)   a. If a language has a Visual, then it will be ordered above all other evidentials (see (48a,b))

        b. If a language has a Nonvisual and an Inferential$^-$, then Nonvisual will be ordered above the Inferential$^-$ (see (48a))

        c. If a language has an Auditory and an Inferential$^+$, then the Auditory will be ordered above the Inferential$^+$ (see (48b))

        d. If a language has an Inferential$^{+/-}$ and a Reportative, the Inferential$^{+/-}$ will be ordered above the Reportative (see (48)a.,b)[20]

Combining the universals in (51), we get the partial hierarchy in (52). The split in the hierarchy arises because it is not possible to order Nonvisual and Auditory, and Inferential$^-$ and Inferential$^+$ with respect to each other.

(52)   Visual $\langle$ Nonvisual $\longrightarrow$ Inferential$^-$ $\rangle$ Reported
                         Auditory $\longrightarrow$ Inferential$^+$
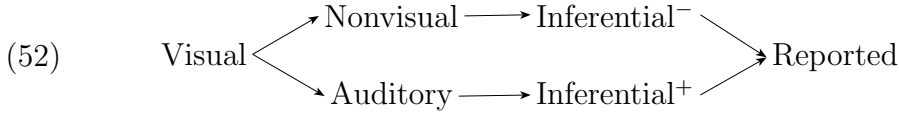
A universal hierarchy of the kind in (52) could get very complex, given that it is generally not possible to exactly identify two evidentials from different languages as having the same meaning, and this might be the reason for why de Haan does not attempt to construct a full universal hierarchy. The reason for this complexity, I believe, has to do with the fact that we have been trying to order *evidentials* cross-linguistically. We get a simpler picture, and a better understanding of how such a hierarchy determines the internal structure of language-specific evidential systems, if we take the view that the hierarchy orders *evidence types*.

    Based on the discussion in section 2.3, I assume the following (preliminary) universal set of evidence types: VISUAL, AUDITORY, OTHER SENSORY, SECONDHAND, THIRDHAND, INFERENCE, ASSUMED, where INFERENCE should be understood as the concept behind the Tuyuca Apparent, that is, excluding TOUCH and SMELL.[21] For illustratory purposes, I will use the preliminary ordering in (53), which is partially

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[20]De Haan (1998) does not distinguish between Inferential $^-$ and Inferential$^+$, but it is clear that he would order both above Reported.

[21]Following de Haan (1998), I exclude the concept behind the Kashaya Performative from the set, I also leave out FOLKLORE, as it appears to be in a different class than the other types of evidence. The cognitive reality of the evidence types in this set should be confirmed by independent cognitive studies.

derived from the ordering suggested by de Haan (1998), although I will argue below that such a linear ordering can in fact not be maintained.

(53)   VISUAL > AUDITORY > OTHER SENSORY > INFERENCE
         > SECONDHAND > THIRDHAND > ASSUMED

While the hierarchy of evidentials and that of evidence types superficially look very similar, the move from the former to the latter is theoretically motivated. This can most clearly be seen with the concept OTHER SENSORY. No language in the samples of Willett and de Haan has an evidential that encodes specifically and exclusively OTHER SENSORY. In Tuyuca it is grouped together with AUDITORY in the evidential Nonvisual, and in Kashaya it is grouped together with the concept INFERENCE. Thus, OTHER SENSORY features in none of de Haan's language-specific or prototypical hierarchies, and it will therefore also never feature in an implicational universal of the kind in (51). There is therefore no explicit way in his system to state that OTHER SENSORY is ordered above INFERENCE, although we might be able to derive that from language-specific hierarchies such as the Tuyuca hierarchy.[22] A further advantage of the hierarchy in (53) is that one-to-one correspondences between the evidentials of distinct languages are not expected to be found. It is perfectly acceptable that the evidential called Inferential in Kashaya and the Tuyuca Apparent mean slightly different things. A hierarchy of evidence types is therefore simpler than a hierarchy that tries to order evidentials cross-linguistically.[23]

2.4.3 The preference relation

In the previous sections, I have argued that a universal evidential hierarchy should be taken to order evidence types rather than evidentials. In the following, I address

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[22]One might of course argue now that it is a good thing that we cannot make any explicit statements about the position of OTHER SENSORY, if indeed no language has a specific evidential for it. To that I would respond that we cannot be sure that there is no such language, and with (53) we can predict where such a specialized evidential would go on the hierarchy.

[23]The hierarchy in (53) is also more versatile than one that orders evidentials. While de Haan restricts himself explicitly to languages with grammatical evidentials, and in this dissertation I do, too, (53) can potentially also be used to explain linguistic differences between lexical items that encode evidential concepts.

the question of what underlies the preference relation that Barnes (1984) and Oswalt (1986) appeal to in constructing their hierarchies, and how this affects the form of the hierarchy.

As mentioned, the pragmatic function of the evidential hierarchy is primarily to capture why speakers prefer certain kinds of evidentials over others, or rather why (s)he prefers to base his or her statement on one type of evidence rather than another when they have different types of evidence for the same event. Another way in which one can observe the speaker's preference of evidence types, one which has not been brought into the discussion so far, is the speaker's choice of proposition (plus indication of source of information) in a case where (s)he has *conflicting* information from different sources of information. We will see an example of such a case shortly. However, as the discussion of Tuyuca in section 2.2.2 shows, the hierarchy does not play a role in all cases in which the speaker prefers one evidential over another. It is therefore necessary to state clearly the reason underlying speaker's preference that is supposed to be captured by the hierarchy.

Speaker preference is not a concept usually taken to form the basis of the ordering relation of a linguistic scale. In semantics and pragmatics, a scale is commonly taken to be based on degree of informativeness and semantic strength (Levinson 2000). In conjunction with Grice's Maxim of Quantity, part I ("make your contribution as informative as is required for the current purposes of the exchange" (Grice 1989:26)), such scales give rise to conversational quantity implicatures. By asserting a sentence containing a less informative expression, the speaker implicates that (s)he cannot assert the same sentence containing a more informative expression (see section 2.4.5).

This kind of implicature can also be observed with certain evidentials: by using an evidential lower on the hierarchy, the speaker implicates that (s)he could not have used a higher evidential, and thus indirectly negates that (s)he has a higher type of evidence (de Haan 1998). For example, a Tuyuca speaker of (41b), which contains a Nonvisual evidential, implicates that (s)he does not have visual evidence.

The fact that the hierarchy induces such implicatures can in turn be used to test whether a given ordering is correct. For example, the ordering in (53), predicts that the Reportative triggers the implicature that the speaker does not have inferential

evidence. I will show below that this is in fact not the case.

While all hierarchies shown so far order INFERENCE above REPORTATIVE, there have also been proposals for the reverse ordering. For example, Willett (1988) proposes the hierarchy in (54),

(54)   ATTESTED > REPORTED > INFERRING

which he explains as follows:

> On a scale from most to least direct, Attested evidence is ranked as the most reliable source, Inferring evidence as the least reliable, and Reported evidence somewhere in the middle (Willett 1988:86).

Thus, for Willett the speaker's preference of certain evidence types over others is based on two criteria: directness and reliability. He goes on to say that "a speaker using an Inferring evidential denies having reported or direct evidence", that is, for him the indirect negation between INFERENCE and REPORTATIVE goes in the opposite direction. We have already seen that de Haan (1998) orders Inferential above Quotative, but on what criterion does he base this order? He, too, uses two ordering criteria, the first of which is also directness. However, his second criterion is not reliability. With respect to the relative ordering of Inference and Quotative, de Haan (1998) states:

> Within the area of indirect evidence, Inference is closer to direct evidence than Hearsay because by using a Quotative, the speaker relies wholly on evidence that comes from another source. The Inferential is used when the speaker is involved him- or herself with the evidence to a certain degree. The speaker makes deductions on the basis of evidence. This evidence has been collected by the speaker, which makes him or her more of an active partner than in the passive act of receiving information from another source.

Thus, de Haan's second criterion is speaker involvement. Willett and de Haan therefore agree on the relative orderings derived from directness, namely that all kinds

of DIRECT evidence should be ordered above all kinds of INDIRECT evidence, but their different second criteria lead them to postulate different relative orderings of INFERENCE and REPORTATIVE.

2.4.4   Proposal: a non-linear evidential scale

Is de Haan's (1998) or Willett's (1988) ordering of INFERENCE and REPORTATIVE right? I will argue that neither is correct, and that for the general case it is in fact impossible to fix the relative ordering of INFERENCE and REPORTATIVE. Using Quechua data, I will show that by using a Reportative, a speaker does not necessarily deny having INFERENTIAL evidence, and vice versa. Moreover, speakers do not prefer to bases their statements on either on INFERENTIAL or REPORTATIVE evidence. The data were elicited by asking consultants to imagine scenarios similar to some of the Tuyuca examples cited above, and imagine what they would say in the given situation.

The first situation is one in which a farmer, say Pedro, notices that one of his hens is missing, and at the same time sees a trail of feathers on the ground leading away from the house. Knowing that foxes frequently steal hens, he might with fairly high certainty infer (55), and use the conjectural enclitic -*chá* to express this.

(55)   Atuq-**chá** wallpa-y-ta apa-rqa-n.
         fox-**chá**   hen-1-ACC   take-PST1-3

         p='A fox must/could have taken my hen.'
         EV= speaker conjectures that p

If later a neighbor were to tell him that she actually saw a fox leave Pedro's yard with a hen, he would use (56) to report the event to other people.

(56)   Atuq-**si** wallpa-y-ta apa-sqa.
         fox-**si**   hen-1-ACC   take-PST2

         p='A fox took my hen.'
         EV= speaker was told that p

The speaker of (56) prefers the eyewitness report over his or her own inference. Now consider the same situation to begin with, that is, Pedro infers (55). But he then

is told by a different neighbor who is known to invent things and tell stories that he saw a puma leaving his yard with his hen. In this case, Pedro has conflicting information from two different sources. Let us assume that pumas are rarely seen in Pedro's village, and that it is much more likely that it was indeed a fox. Then, given that the source of the report is not trustworthy, Pedro will probably simply disregard the second neighbor's report, and continue to use (55) to tell other people about the event. A more complicated situation is one in which the source of the report is a trustworthy person, say the first neighbor. Then, Pedro will have to seriously consider that it was in fact a puma, even though they are rare. He might in fact not be able to resolve this conflict, and choose to inform his hearers of both possibilities, marking each one with the respective evidential, as in (57).

(57)   Atuq-**chá** wallpa-y-ta apa-rqa-n.   Ichaqa wasi masi-y riku-sqa,
       fox-**chá**   hen-1-ACC take-PST1-3. But   house friend-1 see-SQA,
       puma-**s** apa-n-man ka-rqa-n.
       puma-**si** take-3-IRR be-PST1-3

       p='A fox must/might have taken my hen. But my neighbor saw it, and a puma took (it).'
       EV= speaker conjectures that a fox must have taken the hen, and speaker was told (by neighbor) that a puma took the hen.

In the case of the neighbor who likes to invent things the speaker prefers his or her own inference over a report.[24] In a case in which the conflict cannot be resolved, neither Inferential nor Reportative is preferred over the other.

Thus, a speaker may sometimes prefer to base a statement on INFERENTIAL evidence, sometimes on REPORTATIVE and sometimes might not give preference to either. Furthermore, in none of the cases described above can the speaker be said to implicate that (s)he does not have the other type of evidence. Neither of the orderings

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[24]One might object that in order to be able to determine whether a speaker prefers to make his or her own inference or to report someone else's observation, it is necessary to assume that the source of the report is a reliable and trustworthy person. But even so, it is not possible for the general case to fix the ordering. As we have seen in the discussion of Tuyuca, a speaker prefers his or her own inference over the report from someone else, if his or her inference is based on visual evidence, as example (42) shows. There is no indication that the speaker of (42) had reasons to doubt the reliability of the persons who reported María's death to him.

INFERENCE > REPORTATIVE or REPORTATIVE > INFERENCE can therefore be said
to be the correct in the abstract.

Rather, the speaker evaluates all evidence available to him or her, decides which
proposition to believe in the case of conflicting information, and then chooses to
mark the type of evidence that (s)he considers to be the strongest. The details of this
evaluation process are very complex, and require further study, although probably
not within the field of linguistics. Two things seem to play a decisive role. The
first is the trustworthiness of the source in the case of reportative evidence, and
strength of evidence in the case of inferential evidence, both of which might be said
to be subsumed under Willett's criterion of reliability. The second is the subjective
likelihood that the proposition is true.

The fact that INFERENCE and REPORTATIVE cannot be ordered with respect to
each other does not mean, however, that we have to give up the idea of a universal
evidential hierarchy. It is clear, for example, that DIRECT evidence is always preferred
over INFERENCE and REPORTATIVE evidence. Likewise, INFERENCE FROM RESULTS
will always be preferred over INFERENCE BY REASONING, and SECONDHAND over
THIRDHAND. What we do have to give up is the idea that it is possible to order
all types of evidence with respect to each other. I therefore propose to use the two
separate clines presented in section 2.3, repeated here in slightly modified form to
also capture the observed preference relations.

(58) a. **The Personal Evidence Cline:**
          PERFORMATIVE > VISUAL > AUDITORY > OTHER SENSORY
          > INFERENCE FROM RESULTS > REASONING > ASSUMPTION

      b. **The Mediated Evidence Cline.**
          DIRECT > SECONDHAND > THIRDHAND > HEARSAY/FOLKLORE

The ordering relation in both clines in (58) is based on directness. However, we are
dealing with two different kinds of directness. In (58a), directness is measured in
terms of amount of inference involved in reaching the conclusion conveyed by the
utterance. In (58b), directness is measured in numbers of intervening speakers.

For both clines, directness translates directly into preference such that speakers

prefer to base their statements on the most direct type available to them. Furthermore, the hierarchy predicts conversational implicatures to be associated with the corresponding evidentials, that is, a speaker using an evidential for a type lower on the hierarchy implicates that (s)he does not have a higher type.

For those types between which no relation of directness can be established, a relation of preference is not defined, and conversational implicatures are not expected. Thus, there is no measure of directness, on the basis of which one can compare, for example, SECONDHAND with INFERENCE FROM RESULTS, that is, it is meaningless to say that one is more or less direct than the other, and we therefore do not expect that the use of a Secondhand evidential implicates that the speaker does not have INFERENTIAL evidence, and vice versa.

One can imagine combining these two clines into one hierarchy with two branches, but this would require a decision as to where to make the split. It could occur immediately after VISUAL or after any of the other DIRECT types. In order to decide this matter, one has to investigate whether the use of a Reportative implicates that the speaker does not have AUDITORY or OTHER SENSORY evidence. If it does, then the split has to occur below AUDITORY or OTHER SENSORY. However, the following example suggests that this is not the case.

Imagine that someone hears a shot during deer hunting season, and that they are later told that a deer was shot. It is not unreasonable to assume that a Reportative will be used in a situation like this.[25]

Note that with the proposed separation of de Haan's single universal scale into two scales, we can no longer account for the typological universal in (50). Recall that it predicts, for example, that any language that has an evidential Inference will also have an evidential Reportative. This prediction is indeed confirmed by the language sample de Haan surveys. From (58) this implicational universal and others can no longer be read off. We therefore lose one of the most interesting features of

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[25]Preliminary data for Quechua indicates that speakers will use the Reportative *-si* in a situation like this, not the Direct *-mi*, which suggests that the use of the Reportative does not implicate that the speaker does not have auditory evidence, since *-mi* can be used for auditory evidence. However, to confirm the hypothesis that the use of a Reportative does not implicate that the speaker does not have auditory evidence, data from a language that has an Auditory evidential is necessary.

de Haan's hierarchy. In de Haan's account the typological distribution of evidentials is motivated by their pragmatic behavior. On the basis of (58), however, no such direct link between pragmatics and typology can be established. If (58) is indeed more adequate from a pragmatic point of view, as I have argued above, then this suggests perhaps that the pragmatic factor that motivates typological distribution is not directness. One therefore has to investigate whether de Haan's second criterion, speaker involvement, is sufficient to derive the typological distribution of evidentials.

2.4.5   The conversational implicatures of evidential scales

To finish this section on evidential scales, I briefly discuss how the conversational implicatures associated with evidentials arise. Recall that by using an evidential lower on the hierarchy, the speaker conversationally implicates that (s)he could not have used a higher evidential, and thus indirectly negates that (s)he has higher evidence (de Haan 1998). These implicatures are illustrated for the Quechua Reportative *-si* and the Conjectural *-chá* in (59).

(59)   a. Para-sha-n-**si**
           rain-PROG-3-**si**

           p='It is raining.'
           EV= speaker was told that it is raining
           +> Speaker does not have Bpg

    b. Para-sha-n-**chá**
           rain-PROG-3-**chá**

           p='It is raining.'
           EV= speaker was told that it is raining
           +> Speaker does not have Bpg

These implicatures look very much like typical quantity implicatures (Q implicatures), and we might therefore expect that the evidential scales have the properties of other linguistic scales that give rise to this type of implicature. In the following, I will show that this is not the case, and argue that the implicatures are not triggered by entailment relations or degrees of informativeness, but by degrees of strength of evidence.

The most typical type of scale that gives rise to quantity implicatures is a Horn (Horn 1972) or entailment scale, which is "an ordered n-tuple of expression alternates $< x_1, x_2, \ldots, x_n >$ such that, where S is an arbitrary simplex sentence-frame and $x_i > x_j$, $S(x_i)$ unilaterally entails $S(x_j)$ (Levinson 2000:79). Given that quantity implicatures arise with certain evidentials, one can hypothesize that the evidential scales are Horn scales.

An example of a Horn scale is the quantifier scale: $<$*all, most, many, some*$>$.

(60)   a. All children love ice cream.
            entails: (60b)

        b. Some children love ice cream.
            +> Not all children love ice cream.

As captured by the quantifier scale, sentences containing *all* entail the same sentences with *some* substituted for *all*. The examples in (60) show that the scale makes the right prediction regarding quantity implicatures: (60b) implicates that the speaker was not in a position to use (60a). If the evidential scale were a Horn scale, sentences containing a Direct evidential such as Quechua *-mi* should entail the same sentences with an Indirect evidential substituted for the Direct. Assuming for the moment that my analysis of the evidential enclitics as not contributing their evidential meaning to the proposition expressed is correct—this assumption will be defended in the subsequent chapters—it is of course the case that the proposition expressed p by a sentence with *-mi* such as (61a) will entail that of the same sentence with *-si* or *-chá*. But note that p of (61b) also entails p of (61a). Clearly, entailment between the propositions expressed is irrelevant for the question at hand. The relevant notion of entailment for the Quechua evidentials is illocutionary entailment in the sense of Vanderveken (1990:2): a sentence has another sentence as illocutionary entailment if "it expresses in every possible context of use a speech act that the speaker cannot perform without also performing the illocutionary act expressed by the other sentence in the same context."

(61)   a. Para-sha-n-**mi**.
          rain-PROG-3-**mi**

          p='It is raining.'
          EV= speaker sees that it raining
          does not have (61b,c) as illocutionary entailments

       b. Para-sha-n-**si**
          rain-PROG-3-**si**

          p='It is raining.'
          EV= speaker was told that it is raining

       c. Para-sha-n-**chá**
          rain-PROG-3-**chá**

          p='It is possibly raining.'
          EV= speaker conjectures that it is raining

Though illocutionary entailment is the only notion of entailment that is relevant here, it does not help us to explain the conversational implicatures. (61a) does not have (61b) or (61c) as illocutionary entailments, because a speaker uttering (61a) does not automatically also perform the speech acts expressed by (61b) and (61c). Thus, evidential scales—at least in Quechua—are not Horn scales.

But Q implicatures do not only arise with Horn scales, they also arise between elements that do not stand in entailment relations to each other, as has been observed many times before. For example, Levinson (2000) discusses different types of linguistic expressions that do not form an entailment scale, but nevertheless give rise to conversational implicatures. He suggests that these "are related under the Q umbrella by the fact that in each case the inferences are (a) negative, (b) metalinguistic, in the sense that they depend on a contrast set of expressions, and (c) they rely on the fact that the unmentioned alternates are either more informative alone (the scalar case) or a conjunction of two or more of them would have been so (the alternates case)" (Levinson 2000:101).

The example in (62) illustrates the "alternates case" for the set of expressions <*white,red,blue, ...* >.

(62)   The flag is white.
          +> The flag is not white and red.
          (... *white and red* entails ... *white*)

The entailment relation that gives rise to the implicature in (62) does not hold between *red* and *white*, but between *white and red* and *white*.

Thus, even if the evidentials do not form a Horn scale, we might expect that they form a set conforming to Levinson's three criteria. However, this is not the case. While the implicatures observed with the evidentials conform to criteria (a) and (b) of Q-implicatures, they do not conform to criterion (c). First, a sentence containing the Direct *-mi* is not more informative than the same sentence containing the Reportative *-si* or the Conjectural *-chá*, since the addressee will know that the speaker has the best possible grounds when *-mi* is used, that (s)he has reportative evidence when *-si* is used, and that (s)he has conjectural evidence when *-chá* is used. Second, while the evidentials might be said to be alternates like the colors in the above example, one cannot claim that the conjunction of *-mi* and either *-si* or *-chá* is more informative than *-si* or *-chá* alone, for the simple reason that a single clause can only contain one evidential.[26] Thus, the evidential implicatures are not covered by Levinson's Q-umbrella.

Note that this is an unexpected result if one assumes that evidentials are epistemic modals, since epistemic modals are generally assumed to give rise to Q implicatures. For English, for example, we have the (partial) scale <must, may>, which is an entailment scale since, for example, *Jo must be the thief* entails *Jo may be the thief*. As expected under the Q heuristic, the use of *may* implicates that the speaker is not in a position to use *must*. This difference between the implicatures that arise with epistemic modals and evidentials is one argument in support of the claim made in the next chapter, which is that evidentiality and epistemic modality are two distinct categories.

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[26]One might want to say that it is more informative to convey that one has both direct and either reportative or conjectural evidence than to convey that one has just reportative or conjectural evidence, and that therefore, the use of the Reportative or the Conjectural implicates that the speaker does not have direct and reportative or direct and conjectural evidence, and that (s)he therefore does not have direct evidence. This is a very unnatural and forced way of accounting for the observed implicature and is furthermore not licit, because it violates criterion (b), which requires the contrast to hold between linguistic expressions, and it is never even possible to express with evidentials that the speaker has two types of evidence.

How then can we account for the implicatures in (59) and those associated with Indirect evidentials cross-linguistically? Intuitively, they arise because a speaker should indicate the best evidence they have for making an assertion—not because this is more informative, but because this will strengthen the point (s)he is trying to make. Given this assumption, the addressee can reason in standard Gricean fashion that a speaker who uses an evidential lower on the scale was not in a position to use one higher on the scale. Since this notion of strength is not captured by the Maxim of Quantity, I propose deriving a new sub-maxim from Grice's second Maxim of Quality "Do not say that for which you lack adequate evidence" (Grice 1989:27) to take into account that evidence is a gradable concept. I preliminarily formulate this derived version of Quality II as 'Base what you say on the strongest evidence available to you.' The observed implicatures can now be accounted for by reference to this version of the second Maxim of Quality: a speaker using an evidential lower on the scale implicates that (s)he could not have used one higher up. Furthermore, as I will discuss in section 4.4, a speaker of Quechua who uses no evidential at all implicates that they do have best possible grounds, which can also be accounted for by this derived version of this maxim: unless otherwise indicated, it can be assumed that the speaker adheres to this maxim, and therefore that (s)he has the strongest evidence.

I do not want to suggest that this maxim has universal validity,[27] since it makes the wrong predictions for languages without evidentials, such as English. For example, it is perfectly acceptable to say *It is raining* when this information was acquired through reports, even though this does not constitute the strongest evidence. That

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[27]It is often implicitly assumed by researchers working in the Gricean tradition that the maxims have cross-linguistic/cross-cultural validity. This has to my knowledge not yet been shown to be a valid assumption—though it is intuitively appealing. Wierzbicka (1991:392), for example, argues that a Gricean account of English "tautologies" such as *Boys are boys* or *Business is business* "suggests that the import and use of such constructions should be calculable from some universal, language-independent principles." However, she argues that this is not the case. Literal translations of such tautologies are often meaningless, and if they exist they often convey different meanings in different languages. While Wierzbicka (1991) does not argue "against the validity or the significance of language-independent pragmatic maxims like those posited by Grice," but "only against the use to which such maxims have been put in much current literature on linguistic pragmatics, and in particular against attempts to explain the use of English 'tautological constructions' exclusively in terms of universal pragmatic principles", her argument nevertheless raises the question of the universality of Gricean maxims as such.

is, in English, the absence of an evidential does not implicate that the speaker has the best possible grounds. Note however that the use of *must* does implicate that the speaker does not have direct evidence.

One need also not claim that the derived version replaces the original maxim in Quechua or other evidential languages. Instead, I suggest that the evidential version of the Maxim of Quality is available to speakers as the result of applying the original maxim to a language that possesses evidentials. As discussed above, quantity implicatures are often derived on the basis of linguistic scales. The Q heuristic therefore only makes sense in languages that have scalar expressions. The same can be said about strength of evidence: only in a language that has the grammatical means of expressing a contrast in strength of evidence will one be able to observe this kind of implicature. Clearly, this is a rich area for further research.

2.5 Summary

I discussed proposals from the literature to predict the possible evidentials and evidential systems from the conceptual space underlying evidentiality and from implicational universals. I argued that categorical taxonomies of the form in Figure 2.1 cannot capture the differences between the meanings of evidentials across languages, and that a scalar conception of the category of evidentiality does a better job.

Furthermore, I showed that the scalar character of evidentiality cannot be captured in a single scale, if one requires that the elements on a scale are ordered with respect to a single criterion. I argued that at least two criteria are relevant, namely the amount of inference on which a statement is based and the number of intervening speakers in acquiring the information conveyed.

De Haan's (1998) proposal that a pragmatically ordered scale can also be interpreted as a hierarchy of implicational universals is very interesting, since such a scale would provide a useful explanatory link between language-specific evidentials inventories and the pragmatics of evidentiality. However, I argued that the pragmatic ordering criteria do not lead to a single scale but to the two independent scales proposed before in the discussion of taxonomies. This reopens the question for typologists

of why languages have the evidential inventories they do.

Lastly, I discussed how the conversational implicatures associated with evidentials lower on the scale can be accounted for. I argued that they are not quantity implicatures in the standard sense, but that they can be accounted for with a revised version of Grice's Maxim of Quality, which takes into account that evidence is a concept gradable in terms of strength.

It was also mentioned that Oswalt (1986) conceives of the universal evidential scale as the upper part of a larger scale, the lower part of which is occupied by (epistemic) modals. This proposal leads us directly to the next chapter and the question of how evidentiality and epistemic modality are related.

Chapter 3

Evidentiality and epistemic modality

3.1 Introduction

In addition to defining the principles that structure a typological category such as evidentiality internally, typological theory is also concerned with delimiting these categories against each other. Since evidentiality was recognized only relatively recently as a grammatical category, its boundaries are still a matter of ongoing research, especially with respect to the somewhat more firmly established category of modality. In this chapter, I argue that evidentiality deserves category status, and should not be subsumed under modality.

As Dendale and Tasmowski (2001) observe, most researchers would agree that there is a conceptual difference between indicating the type of one's source of information and indicating one's judgment as to how likely it is that that information is true. It is equally clear that one's judgment of the truth of a proposition is at least in part influenced by one's source of information. Thus, for Frajzyngier (1995) "it appears rather obvious that the different manners of acquiring knowledge correspond to different degrees of certainty about the truth of the proposition." It is therefore reasonable to say that there is a close relationship between the two concepts. What is not so clear is the nature of this relation, and how it manifests itself linguistically.

In the next section I argue that evidentiality and modality are distinct, but overlapping linguistic categories. In section 3.3, I discuss if and how linguistic markers may implicate values of epistemic modality and evidentiality.

3.2   Overlap versus inclusion

Two linguistic categories can in principle stand in three types of relation to each other, and all three have been proposed in the literature for evidentiality and epistemic modality. These three types are (i) disjunction or separation, that is, the two categories are said to be unrelated, (ii) inclusion, that is, one category is analyzed as a subtype of the other, and (iii) overlap, that is, the two categories are taken to be different, but having an intersection (Dendale and Tasmowski 2001). This choice of terminology assumes that linguistic categories are basically sets or some kind of continuous space. Lazard (1999) in his discussion of the linguistic categories of evidentiality and mirativity notes that

> [the conceptual universe ...] is the common background against which
> grammatical systems are delineated. But since grammatical structures are
> the only objects of the linguist, it is appropriate to conceive of the universe
> of meanings as a multidimensional space, within which each language
> slices up its own categories in its own particular way. This space in itself
> is amorphous (or appears to be so to the eyes of the linguist), in the sense
> that the notions contained therein have no clearcut boundaries prior to
> receiving linguistic expression. The boundaries are established only by
> the oppositions obtaining between linguistic units.

If this is right, we can identify a linguistic category initially with language-specific sets of its grammatical markers. However, in order to be able to make cross-linguistic comparisons, we need a more abstract definition of linguistic category. I assume here that a cross-linguistic category is the collection of all possible (conceptual) *values* a category can take on. It then depends on one's conceptual definition of the linguistic category what values are considered to be in the set and which are not. This sounds

circular, and in a way it is. But this circularity only reflects the process of linguistic research. We typically start out with a set of grammatical markers that form a clearly identifiable class of their own in one language, for example, the core modals in English, and then take their values to constitute a category. Or, we may start out from a purely conceptually defined category, and see how it is encoded in a particular language. Then, when studying another language, we may find that these values are expressed by a set of markers which belong to a larger grammatically identifiable set, and will then have to decide whether the values encoded by the additional markers belong to the category or not. Or we may find that the same markers in the initial category encode other concepts in addition to the ones identified as belonging to the category, and again we will have to decide whether these belong to the category or not. This decision is guided by our conceptualization of the category. Conceptualization thus feeds the definition of linguistic categories, and vice versa. The definition of linguistic categories is therefore a matter of continuous negotiation, and some categories are more firmly established than others. Regarding evidentiality, we might say that we have only recently begun the process of negotiation. Modality is somewhat more firmly established though there are plenty of different definitions to be found in the literature.

Evidentiality is in this dissertation defined as the linguistic encoding of the speaker's grounds for making a speech act, which in the case of assertion is the type of source of information. The category of evidentiality thus may be said to be the set consisting of the evidential types/values identified in section 2.3. The definition of modality I adopt follows van der Auwera and Plungian (1998), according to whom the term is used "for those semantic domains that involve possibility and necessity as paradigmatic variants, that is, as constituting a paradigm with two possible choices, possibility and necessity." *Epistemic* modality "refers to the judgment of the speaker: a proposition is judged to be uncertain or probable relative to some judgment(s)" (van der Auwera and Plungian 1998:80-1), that is, a proposition is judged as necessarily or possibly true.[1] Under this definition, the category of modality can be said to have

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[1] I omit van der Auwera and Plungian's (1998) definition of deontic and other types of modality, since I am only interested in epistemic modality. All types have in common that they involve possibility and necessity.

the members *necessary* and *possible*, although it is probably more accurate to conceive of modality as a graded concept. These definitions allow evidentiality and modality to be completely disjoint or to be overlapping, but not for one to be included in the other. Before discussing what overlap means in this case, I present some arguments for adopting these narrow definitions of evidentiality and modality.

As mentioned at the beginning of this chapter, some researchers work with different definitions. For example, Chafe (1986) uses a very broad definition of evidentiality which covers all kinds of attitudes a speaker has towards the proposition expressed, including the speaker's judgment regarding (the likelihood of) its truth. That is, for Chafe, epistemic modality is included in the concept of evidentiality. The converse view can also be found in the literature. For example Palmer (1986:51) widens the usual interpretation of the term *epistemic*: "It was suggested in 1.3.5 that the term 'epistemic' should apply not simply to modal systems that basically involve the notions of possibility and necessity, but to any modal system that indicates the degree of commitment by the speaker to what he says. In particular, it should include evidentials such as 'hearsay' or 'report' (the Quotative) or the evidence of the senses."[2]

Widening either the meaning of the term evidentiality or modality in the indicated ways is usually motivated by the fact that evidentials are often multi-functional, combining in particular modal functions with evidential functions, and that diachronically, markers tend to shift between indicating evidentiality or epistemic modality (Bybee et al. 1994, Mithun 1986), and that there are cases in which it is quite impossible to tease the two functions apart. According to Palmer (1986:70), "it would be a futile exercise to try to decide whether a particular system (or even a term in a system in some cases) is evidential rather than a judgment. There is often no very clear distinction because speaker's judgments are naturally often related to the evidence they have."[3] A case in point is the sentence *This must be the postman* uttered upon

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[2]Note that the second edition of Palmer (1986), Palmer (2001), does not claim that evidentiality is included in epistemic modality. Instead, he considers both to be (equal) subtypes of 'propositional modality', the expression of the speaker's attitude towards the proposition. However, he still considers evidentiality a type of modality, and frequently refers to it with the term 'evidential modality'.

[3]Note, however, that Palmer (1986:70) regarding evidential system goes on to say that "it is still reasonable to argue that some systems, e.g. that of Tuyuca, are predominantly evidential, while

hearing the doorbell. Is *must* here indicating that the speaker is making an inference, or is it indicating a high degree of certainty (though not complete certainty)? It appears impossible to separate the two functions (Lampert and Lampert 2000).

In using the narrow definitions, I follow van der Auwera and Plungian (1998) and de Haan (1999) among others for the following reasons. First, as already pointed out, there is a fairly clear conceptual difference between source of information and judgment of truth. By using the broad terminology, we run the risk of obscuring this conceptual difference as well as potential linguistic differences. By the latter I mean that it is conceivable that the syntactic/morphological behavior of an element is restricted by its semantic function (or vice versa).[4] Secondly, not all grammatical markers of evidentiality and modality are multi-functional. There are languages with markers which only indicate the speaker's source of information, and there are languages with markers which only indicate the speaker's judgment regarding the truth of the proposition expressed. Furthermore, there are languages with ambiguous markers, the meanings of which are clearly separable. These cases will be illustrated in the following.

3.2.1 Pure modals

It should be fairly uncontroversial that many languages have pure modals. The English possibility modal *may* is as good a representative as any. Consider the sentence *Jo may be the thief*. The speaker is simply stating that there is a possibility that Jo is a thief without indicating on what grounds this speculation is based.

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others, e.g. that of English, are predominantly judgments.

[4]Moreover, if the main criterion for adopting the broad definition is the multi-functionality of elements that have evidentiality as part of their semantics, then the term should be broadened even more to include tense and aspect, because these are just as frequently—if not more often (see Willett (1988))—a function of evidentials as modal notions. And there is just as much diachronic categorical crossing over between tense markers and evidentials as there is between modal markers and evidentials. Would those researchers who adopt the broad definition want to include tense and aspect in the category of evidentiality/epistemic modality? It seems more reasonable to keep those categories distinct for the same reasons that I prefer to maintain a distinction between epistemic modality and evidentiality: there is a clear conceptual difference between these categories.

More interesting languages to consider are probably those that have uncontroversial evidentials, and show that modality can be expressed outside the evidential system. De Haan (1999) shows that a variety of languages possess non-evidential markers of epistemic modality, which can co-occur with evidentials in the same clause. An example is Western Tarahumara, an Uto-Aztecan language, as described in Burgess (1984), which has a Reportative suffix *-ra*. This suffix can be combined with suffixes that indicate truth or doubt, as shown in the examples in (63).

(63)   a. alué hu-rá
           he   be-QUOT
           'They say it is he.'

        b. rahá-ra-guru
           burn-QUOT-TRUTH
           'They say he burned it and it's probably true.'

        c. simí-le-ga-ra-e
           go-PAST-STAT-QUOT-DUB
           'Someone said he went but he did not.'

Cuzco Quechua is also a representative of this type of language. As mentioned in chapter 1, Cuzco Quechua has an enclitic *-puni* which expresses certainty. As illustrated in (64), this enclitic can occur in sentences that do not contain one of the evidential enclitcs, as well as in sentences that do, in which case it often attaches to the same word as the evidential enclitics.

(64)   a. T'anta-ta-**puni** irqi-ta-qa   qu-rqa-n.
           bread-ACC-**puni** child-ACC-TO give-PST1-3

           p='(S)he certainly gave bread to the child.'

        b. T'anta-ta-**puni-n/-s/-chá**   irqi-ta-qa   qu-rqa-n.
           bread-ACC-**puni/-mi/-si/-chá** child-ACC-TO give-PST1-3

           p='(S)he certainly gave bread to the child.'
           EV= speaker has direct/reportative/conjectural evidence for p

Example (64a) carries an implicature of direct evidence, which arises in the absence of an evidential enclitic (arguments for this claim will be given in section 4.4), that

is, it is independent of the presence of *-puni*. In the examples in (64b), the speaker both indicates his or her source of information, and expresses that (s)he is sure that the proposition expressed is true.

Furthermore, the irrealis mood suffix *-man*, which was also introduced in chapter 1, can express a low degree of certainty, as shown in (65).

(65) a. Pilar yachay wasi-pi   ka-sha-n-**man**.
       Pilar know   house-LOC be-PROG-3-**man**.

       p='Pilar might be at school.'

   b. Pilar yachay wasi-pi-**n/-s/-chá**   ka-sha-n-**man**.
      Pilar know   house-LOC-**n/-s/-chá** be-PROG-3-**man**.

      p='Pilar might be at school.'
      EV= **-mi**: speaker has best possible grounds for saying that Pilar might school (=inference).
      -si: speaker was told that Pilar might be at school.
      -chá: speaker conjectures that Pilar may be at school.

Example (65a) simply expresses a possibility, (65b) furthermore indicates on what kind of evidence the speaker bases this judgment. With the Direct *-mi*, (65b) expresses an inference based on the speaker's direct knowledge of some fact, for example, the speaker might know that Pilar is always at school at this time of day.

Both in (64b) and (65b), the use of the Reportative *-si* results in an ambiguity as to whether the certainty/doubt expressed is the current speaker's or that of the original speaker. The interaction of these modals with the evidential enclitics will be discussed in more detail in section 6.3.4.

Western Tarahumara and Cuzco Quechua therefore do have elements which do not express any evidential value. They are epistemic modals in the narrow sense. If their evidentials were also analyzed as epistemic modals, one would have to distinguish between pure epistemic modals and the other kinds.

3.2.2 Pure evidentials

There are also languages which have pure evidentials. Tuyuca, discussed in section 2.3, is famous for having a pure evidential system. But even languages which do not

have pure evidential systems can nevertheless have pure evidentials. In most debates on whether evidentials necessarily encode epistemic modal values, the researchers who argue against this bring forth the example of the Reportative in one or more languages. For example, Eastman and Eastman (1963:191) observe for the Reportative in Iquito, a language spoken in the Andes, that the use of "the reportative suffix *-na* and free form *kináhá* "so it is said," does not mean to cast doubt as to the truth of the statement, but merely implies that it is a reported statement."

Givón (1982) presents the case of a Lama who narrates the *Life of the Buddha* using almost exclusively the hearsay/indirect evidence suffix. According to Givón, this story is considered to be the truest of all stories by buddhists, that is, the narrator strongly believes it to be true. Nevertheless, since he did not have direct evidence for the narrated event, an Indirect evidential has to be used.

As will be argued in section 5.3, the Reportative in Cuzco Quechua is also a pure evidential. Furthermore, the Cuzco Quechua Direct *-mi* will be argued to be a pure evidential in section 4.5.

Such claims have also been made with respect to Inferentials. For example Frachtenberg (1922:388) states for the Coos (a Penutian language) Inferential *cku* that it is used "whenever the speaker wishes to state a fact that occurred beyond doubt, but whose causes are not known to him." And Oswalt (1986:43) states for all Kashaya evidentials that "all propositions with the Kashaya evidentials are presented by the speaker as certain and true."

If epistemic modals and evidentials were analyzed as belonging to the same category, one would have to distinguish between pure evidentials and other kinds within that category.

3.2.3   Ambiguous markers

Additional support for the separation of epistemic modality and evidentiality comes from elements that encode both concepts, but in a clearly distinguishable way. An example is the German verb *sollen*, which has deontic, epistemic and evidential uses. The latter two are exemplified in (66) (see also Ehrich (2001)).

(66)   a.   Der Film **sollte**   gut   sein.
            the movie **sollen**-3.SG.SUBJ good be

            'The movie should be good.'
            MV: possibility

       b.   Der Film **soll**   gut   sein.
            the movie **sollen**-3-SG good be

            'The movie is said to be good.'
            EV: reportative

Example (66a) expresses that the speaker considers it likely that the movie will be good, with no indication of how (s)he arrived at this judgment. (S)he might have seen the list of actors and concluded from that that the movie should have been good, or (s)he might have heard somebody whose opinion they value say that (s)he liked it. In contrast, in (66b) the speaker is reporting what other people said about the movie without expressing his or her own judgment as to whether or not there is a possibility of it being good.

These two uses of *sollen* are clearly distinguishable from each other, since the epistemic use requires subjunctive, and the evidential use requires indicative present tense. That is, *sollen* is ambiguous, with a purely evidential and a purely modal use.

Thus, even though Palmer (1986), Chafe (1986), and Willett (1988) are correct in observing that there are elements for which it is hard to tease the two functions apart, it is an equally correct observation that there are elements which are clearly evidential in the narrow sense, those that are clearly modal in the narrow sense, and those which are ambiguous, but for which it is nevertheless possible to separate the two functions.

So, if we adopt either one of the wide definitions of modality or evidentiality, what we will in fact end up with is a large set of elements called modals or evidentials, with clearly distinguishable subsets called narrow modals and narrow evidentials. Let us call an element that expresses evidentiality and epistemic modality simultaneously provisionally *epistential*. Then, under Chafe's broad definition of evidentiality, the set of evidentials will be as in (67a), and under Palmer's (1986) broad definition of epistemic modality, the set of modals will look exactly the same, (67b).

(67)   a. Evidentials: {narrow evidentials, narrow epistemic modals, epistentials}

       b. Modals: {narrow evidentials, narrow epistemic modals, epistentials}

Rather than having the concepts narrow epistemic modality and narrow evidentiality be included in either the wide concept of evidentiality or the wide concept of modality, I prefer to maintain the narrow definitions, and possibly find a third term which can serve as a superterm for the two concepts. A good candidate for such a term is perhaps *qualification*. Thus:

(68)   Qualifications: {evidentials, modals, epistentials}

The terminology in (68) is much simpler, and it allows us to talk directly about evidentials and modals without having to resort to complicated expressions such as "a modal, with only evidential meanings" when we want to be more specific.

Now, when Dendale and Tasmowski (2001) talk about "inclusion" as one of the possibilities in which modality and evidentiality can be related, what they mean is something along the lines of (67): narrow evidentials are included in the set of broad modals, or narrow modals are included in the set of broad evidentials. Since I adopt the narrow definitions of evidentiality and epistemic modality, it is impossible that they stand in an inclusion relation in this sense to each other. However, even with the narrow terminology the term inclusion still makes sense, although only on the level of individual languages. An evidential is a grammatical element which encodes an evidential value, a modal is one which encodes a modal value. If in a particular language modality is included in evidentiality, that would mean that all modals also encode an evidential value, that is, the language might have a set of evidentials and within that set a set of epistentials. Conversely, if a language includes evidentiality in modality, then it might have a set of modals, with a subset of epistentials. A language with only epistentials would be one that does not formally distinguish between epistemic modality and evidentiality. I do not know if such languages exist. Cuzco Quechua certainly is not of any of these three types.

It should also be clear what overlap in this terminology means: epistentials are in the intersection of the set of modals and the set of evidentials, as they encode both an

evidential and an epistemic modal value. The difference with inclusion is that only some of the evidentials or modals are epistentials.

Overlap in this sense is probably most common across languages. If this is indeed the case, then we can generalize and say that epistemic modality and evidentiality as concepts overlap. More cross-linguistic research is needed to determine whether this is indeed the case. In the remainder of this section, the notion of overlap will be discussed in more detail.

On the level of grammatical markers, overlap means that the elements in the overlap encode both modal and evidential values. On the conceptual level, overlap means that a concept that is in the overlap has characteristics of both the larger concepts that form the overlap. Van der Auwera and Plungian (1997) propose that epistemic modality and evidentiality overlap, and that the overlap contains INFERENCE. This is represented graphically in Figure 3.1 (repeated from Figure 1.2, chapter 1, adapted from van der Auwera and Plungian (1998), Table 3).

Necessity				
...	Deontic necessity	Epistemic necessity = Inferential evidentiality	Quotative evidentiality	...
		Evidentiality		

Figure 3.1: Overlap of evidentiality and modality

As an example, van der Auwera and Plungian (1998) discuss the Turkish tense suffix *-mIş*, which, recall, has inferential, reportative and mirative readings. They claim that

> [...] the inferential reading amounts to epistemic modality and more particularly epistemic necessity: for both categories we are dealing with the certainty of a judgment relative to other judgments. From this point of view it also causes no surprise that inferential evidentials often receive

an English translation with epistemic *must*. Inferential evidentiality is
thus regarded as an overlap category between modality and evidentiality
(van der Auwera and Plungian 1998:85-6).

In the so-called semantic maps that van der Auwera and Plungian (1998) go on to de-
velop as representations of the diachronic paths of meaning change of modal elements
and synchronic relationships between meanings, they equate *epistemic necessity =
inferential evidentiality*. It follows that English *must* is also considered an Inferential
in its epistemic reading.

According to this analysis, there is an essential difference between epistemic
modals such as *must* and epistemic modals that do not make reference to the type
of evidence on which a conclusion is based. Palmer (2001) makes a similar distinc-
tion between epistemic modals and epistemic adverbs such as *certainly* and *definitely*,
although he does not talk about it in terms of overlap between the concepts of eviden-
tiality and epistemic modality, but as the difference between inference and confidence.
He states: "It is clear that it is the notion of deduction or inference from known facts
that is the essential feature of MUST, not just the confidence of the speaker, which
is expressed by the adverbs *certainly, definitely*, etc." (Palmer 2001:35). A similar
contrast is claimed to hold between *will* and *probably*, and *may* and *perhaps*, although
Palmer notes that this is less obvious in the latter case. He explains this claim as
follows: "[. . .] there seems to be little difference between *Mary may be at school* and
Perhaps Mary is at school, but this may be because both are negative in the sense
that the first suggests there is absence of good grounds for a conclusion, the second
that there is absence of real confidence. There is, then, little or not difference, just as
there is no difference between coffee without milk and coffee without cream" (Palmer
2001:35). If Palmer is right that *may* also (negatively) refers to the evidence on which
a statement is based, then the overlap in Figure 3.1 should be extended to not only
contain epistemic necessity but also possibility. More research is needed to settle
this question for English, but I argue in the next section that at least one epistemic
possibility modal is in the overlap of the two sets of elements in Cuzco Quechua.

3.2.4 Which Cuzco Quechua evidentials are in the overlap?

Which, if any, of the Cuzco Quechua evidentials should be analyzed as being in the overlap? As I will discuss in detail in section 5.2, *-chá* encodes that the speaker is making a conjecture without claiming to have solid premises. It also encodes a degree of certainty that the expressed proposition p is true which is somewhere between 100% certain that p is true and 100% certain that p is not true. In other words, *-chá* indicates that the speaker considers p to be a possibility. Should we therefore add the equation *epistemic possibility = conjectural evidentiality* to the picture? This would mean that all English epistemic possibility modals would also be considered Conjectural evidentials. At this point, I do not want to make such a claim about the English modals. While the Quechua Conjectural clearly makes reference to the fact that the speaker considers a proposition to be a possibility based on his or her own reasoning, I do not want to claim that an English speaker using *may* makes reference to his or her reasoning process, though see the discussion of Palmer (1986) interpretation of *may* in the previous section. Also note that he calls *may* and *will* Speculative and Assumptive, respectively, which make them sound very much like the Cuzco Quechua Conjectural.

Thus, I conclude that *-chá* should be in the overlap of the sets of Cuzco Quechua evidentials and epistemic modals, without yet making the generalization of regarding CONJECTURE to be in the overlap of evidentiality and modality.

We also have to consider the case of *-mi*. Sentences containing it both convey that the speaker has direct evidence (in a relative sense to be specified in chapter 4), and that the speaker is certain that the proposition is true. However, I argue that the speaker's certainty is in this case not modal. It is a defining feature of epistemic modals that they make reference to the notions of necessity or possibility. However, the certainty associated with sentences containing *-mi* is not based on epistemic necessity or possibility, but on the fact that the speaker considers the proposition to be factual. In this respect, sentences with *-mi* are no different from sentences without an evidential. According to Papafragou (1998:33), the strength ascribed to a non-modalized proposition such as *Judy likes caviar* "will be wholly pragmatically inferred, rather than computed on the basis of a linguistic trigger. By contrast, modal

expressions, on their epistemic interpretation, typically mark the proposition embedded under them as a conclusion. In the specific case of English modal verbs, the conclusion is motivated in terms of inference; modal expressions in other languages may motivate a conclusion in terms of evidence from perception or from communication (for examples, see Palmer, 1986, on modality; cf. also the evidential adverbs *apparently, clearly*, and *allegedly, reportedly*)."

Consider the prototypical use of *-mi* for direct perception, as in (69).

(69)   Irqi-kuna chakra-pi-**n**   puklla-sha-n-ku.
          child-PL   field-LOC-**mi** play-PROG-3-PL

          p='The children are playing in the field.'
          EV= speaker sees the children playing in the field

It seems odd to say that the speaker considers the proposition *The children are playing in the field* an epistemic necessity or possibility because they saw them play there. Rather, the speaker of (69) is presenting this proposition as an unmodalized fact, and at the same time indicates that they can present it as a fact because they have direct evidence. In general, it is the case that speakers take their having perceived the event described by a proposition to be the best indication for its factuality. This has been observed by a number of researchers, including Papafragou (1998:38-9), who a few pages later discusses the difference between (70a) and (70b) uttered by Peter during a football match.

(70)   a. That was an off-side.
          b. That must have been an off-side.

> [Example (70a)] is presented as a factual assumption, guaranteed by Peter's (uninhibited) perceptual access to his environment. Perceptual beliefs, although not necessarily more likely to be true, are normally assumed to be causally related to the structure of reality; therefore they are considered to be our securest form of contact with the world around us (Dancy, 1985: 178). Since we trust our perceptual experience to deliver information of high epistemological respectability, it follows that other sources

of knowledge (e.g. inference) will be valued less when it comes to the
assessment of the same piece of information (Papafragou 1998:38-9).

Consequently (70b) is a weaker statement than (70a). Thus if the Direct evidential
-mi were indeed indicating that the speaker states a conclusion, we expect a state-
ment with *-mi* to be weaker than the same statement without *-mi*. However, as I
will show in section 4.4, the converse is the case: a statement containing *-mi* is per-
ceived to be stronger than one without. Thus, the high degree of certainty associated
with sentences containing *-mi* is not due to the fact that the speaker considers the
proposition a necessity, but to the fact that the speaker presents the proposition as a
fact.

In section 5.3, I will argue that the Reportative *-si* does not encode any modal
value either, and it is therefore not in the overlap either. As I mentioned already above
in section 3.2.1, Quechua has two pure epistemic modals, the irrealis suffix *-man*, and
the enclitic *-puni*. For Cuzco Quechua, the relation between the two categories can
therefore be depicted as in Figure 3.2.[5]

Epistemic Modals   Evidentials
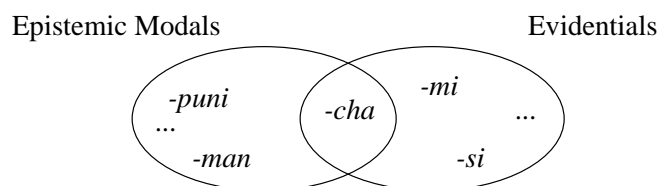
Figure 3.2: The overlap in Cuzco Quechua

In summary, I agree with van der Auwera and Plungian (1998) that INFERENCE
is in the overlap of modality and evidentiality, both on the conceptual level and the
language-individual level. For Cuzco Quechua, this means that only the Conjectural
-chá, a possibility modal, is in the overlap. The overlap does therefore not contain an
epistemic necessity modal—though *-chá* can be used to convey epistemic modality,
it clearly only encodes possibility. To my knowledge, the only element that indicates

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[5]The dots are meant to indicate that Cuzco Quechua may possess additional evidentials and
epistemic modals. Further research will show what elements, if any, have to be added.

something close to epistemic necessity is the enclitic *-puni*.[6] The only other way to express epistemic necessity is to combine the Direct evidential *-mi* with the irrealis suffix *-man* (see section 6.3.4).

3.3   Evidentials and (un)certainty implicatures

The distinction between modals and evidentials (and as a result between evidentiality and modality) is based on my definition of modals and evidentials as *encoding* a modal and evidential value, respectively. These definitions leave open the possibility that modals implicate an evidential value and that evidentials implicate a modal value. I do not know of any claims that epistemic modals implicate an evidential value, and will therefore only discuss whether or not evidentials implicate an epistemic modal value.[7] Consider the following quotes regarding Reportative evidentials from Palmer (1986) and Bybee (1995).[8]

> The *Quotative*, at least, looks *prima facie* to be wholly objective, indicating not what the speaker believes, but what has been said by others. But if this is taken together with other evidentials, for example those that indicate the kind of observation (for example visual versus non-visual) on which the statement is based, it becomes clear that their whole purpose is to provide an indication of the degree of commitment of the speaker: he offers a piece of information, but qualifies its validity for him in terms of the type of evidence he has. In this sense evidentials are not indications of some objective modality, but are subjective in that they indicate the status of the proposition in terms of the speaker's commitment to it (Palmer 1986:53-54).

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[6]I hedge, because it only encodes confidence in Palmer's (2001) terms, not inference. If epistemic necessity is tied to inference, then *-puni* cannot be considered a necessity modal.

[7]Nuckolls' (1993) attempt to derive the evidential use of *-mi* from its indicating a high degree of certainty, discussed in chapter 4, is not a claim that a modal implicates an evidential value, since she analyzes *-mi* as a marker of assertion, which is not a type of modality. The English modals appear to encode the evidential values DEDUCTIVE, SPECULATIVE, ASSUMPTIVE (Palmer 2001).

[8]In the second edition, Palmer (2001), Palmer does no make any claims regarding the degree of certainty of evidentials.

> In particular, an indirect evidential, which indicates that the speaker has only indirect knowledge concerning the proposition being asserted, implies that the speaker is not totally committed to the truth of that proposition and thus implies an epistemic value (Bybee 1995:180).

According to both Palmer (1986) and Bybee (1995) a speaker who uses an indirect evidential implies that they are not fully committed to the truth of the proposition expressed p. For Palmer, this implicature associated with the Quotative is due to the existence of other evidentials that indicate a stronger type of evidence. This claim contrasts with observations made for various languages that Indirect evidentials do not indicate a lesser commitment to the truth of p than Direct evidentials (see discussion in section 3.2). However, it is worthwhile to consider the implicature hypothesis for a moment.

It is part of Grice's definition of conversational implicatures that they can be calculated in systematic ways—otherwise the hearer would not be able to pick up on them. There are two ways in which we can imagine how the alleged epistemic implicatures of Indirect evidentials arise: (i) as hinted at by Palmer (1986), an evidential having been chosen over another may give rise to certain implicatures, or (ii) the different types of source of information can be correlated with a certain degree of certainty.

Take the idea that Indirect evidentials implicate a lower degree of commitment because they form a paradigm with Direct evidentials. This is again reminiscent of Horn scales (Horn 1972) (see section 2.4.2). In order to derive an uncertainty implicature with an Indirect evidential using a Horn scale, it should be ordered below Direct on a scale of certainty. For a language that has both a Conjectural and a Reportative such as Quechua, we can hypothesize two such scales, <Direct,Conjectural> and <Direct,Reportative>, and reason as follows: if the speaker of a sentence containing a Conjectural or Reportative were entirely committed to the truth of the proposition expressed, they should have used Direct. Since they did not, they must not be entirely committed. This reasoning is faulty, however, since the evidentials of course also encode an evidential value. That is, when the speaker only has reportative evidence (s)he could in fact not have used Direct to express his or her commitment since that

would in turn mean that they have direct evidence. The reasoning only goes through for cases in which the speaker would be entitled to use either a Direct or an Indirect evidential on evidential grounds, but chooses Indirect over Direct (*and* the hearer is aware of that *and* the speaker is aware that the hearer is aware, etc.) In chapter 4, I discuss cases in which the speaker is entitled to use either the Direct *-mi* or the Reportative *-si*, namely for non-observable events for which reportative evidence constitutes the most direct evidence, for example the case of a person's internal state. Consider the example in (71).

(71)   Paqarin   Inés-qa   Qusqu-ta-**n/-s**   ri-nqa.
           tomorrow Inés-TOP Cuzco-ACC-**mi/-si** go-3FUT
           p='Inés will go to Cuzco tomorrow.'
           EV= speaker was told by Inés that *p*

If both speaker and hearer know that Inés herself told the speaker the information in (71), then choosing *-si* over *-mi* signals that the speaker is not entirely committed to their truth. Since I will show in section 5.2 that *-chá* encodes an epistemic value, the question of whether it implicates such a value does not arise for it.

Thus, Indirect evidentials may indeed implicate less speaker commitment as a result of their being opposed to Direct evidentials, but only if the speaker could have used any one of the two to begin with.

Consider now the other hypothesis of deriving low commitment implications with Indirect evidentials by assuming that having indirect evidence in and of itself already leads to a lower degree of certainty. In the case of INFERENCE the speaker's degree of certainty obviously depends on the strength of the evidence (s)he has to base his or her inference on. For example, in a situation in which a result state can only have a single cause, and the speaker observes the result state, the degree of certainty that his or her inference is correct will be very high. Thus one might infer *The window broke* from seeing its pieces scattered all over. The speaker will in this case be as convinced of the truth of this statement as if they would have witnessed the actual breaking event. Note that in English, it is not necessary to mark explicitly that this is an inference—in fact, one might not even want to call this an inference. However, there are languages, for example Quechua, in which an Indirect evidential has to be used

for such cases. In Quechua one would have to use the past tense suffix *-sqa*, which has been claimed to encode the value NON-EXPERIENCED in such a case (see section 1.2.8). The past tense suffix *-rqa*, which has been claimed to encode EXPERIENCED, would be infelicitous. Logical deductions are similar. From *A is larger than B* and *B is larger than C*, one can safely infer that *A is/must be larger than C*. Here, an English speaker might mark explicitly that they are making an inference with the modal auxiliary *must*, or they might use *is*. A speaker who infers the conclusion from the given set of premises can be as certain as a speaker who saw the three items in question, and therefore has direct evidence that *A is larger than C*. Even if the speaker is not making an unequivocal inference, but only arrives at a conclusion based on convincing evidence, the speaker might very well be entirely convinced that his or her conclusion is true.

With regard to REPORTATIVE evidence, the speaker's degree of certainty depends to a large extent on the source of the report. If the source was an eyewitness who is furthermore trustworthy, the speaker can be more certain than if the source had only REPORTATIVE evidence him- or herself (for example in the case of rumors), or is not trustworthy. In addition to the quality of the source, what will influence the speaker's degree of certainty is the content of the proposition. A speaker is more likely to believe something they judge to be a normal course of events than something that they find somehow unusual or surprising. For example, I might solve a long logical problem, and make no mistake at any of the steps. If the result I get is not what I expected to get, then I will nevertheless be less certain that it is true. Conversely, if one has a good quality source and the reported content fits with the usual or expected course of events, a speaker might in fact be very certain that his or her statement is true. It is therefore not the case that having indirect evidence always leads to a low degree of certainty.

Even with DIRECT evidence, the speaker may be more or less certain. In chapter 4, I discuss cases of partial and mistaken perception. In addition to less than perfect direct evidence, fading memory may cause the speaker to be less than certain, even though (s)he might have had perfect direct evidence at the time of the event. Statements like *I think I put it in the fridge* or *I think the red car came from the left* are

examples for uncertainty caused by fading memory.

Thus, while it is certainly the case that one's source of information determines one's degree of certainty, how this relation plays out in any given situation is determined by a variety of other factors. In addition to the evidence at hand, its strength and the trustworthiness of the source in the case of reportative information, whether or not the speaker is certain that the proposition expressed is true depends in part on how it fits into his or her existing belief system.

3.4   Interim Summary

In the previous sections, I argued that a categorical distinction should be made between evidentiality and modality, but that these two categories can overlap. The argument is based mainly on the observation that there are languages with pure evidentials, languages with pure modals, and languages with elements that encode both an evidential and a modal value. Putting all of these into one big category does not have any theoretical advantage.

I also discussed the question of whether it is possible to say that evidentials implicate a modal value, or that certain types of evidence always determine the same (range of) degree of certainty. I argued that the latter is not the case, but that evidentials may give rise to certainty implicatures just in case a speaker could have used two different evidentials in the same context. I hope that the discussion made clear that it is important to study very carefully whether a particular element *encodes* or *implicates* an evidential or modal value. Only when it encodes an evidential value, can it be called an evidential, and only when it encodes a modal value can it be called a modal. In chapters 4 and 5, it will be discussed whether the three evidential enclitics are indeed evidentials in this sense.

In the remainder of this chapter, I change gears slightly, and look at the relation between evidentiality and epistemic modality by asking if they belong to the same level of meaning. My answer for Quechua will be given in chapters (4) and (5). Here, I only present the answers given by other researchers for other languages.

3.5 Epistemic modality, evidentiality and levels of meaning

In the previous sections, I argued that epistemic modality and evidentiality are two different concepts, which overlap in the concept of inferential evidentiality. In this section, I take a more formally oriented perspective on the relation between evidentiality and epistemic modality, and discuss proposals to analyze certain kinds of evidentials using the tools developed for epistemic modals. One of the main questions is what level of meaning evidentials contribute to. Following standard assumptions, I make a primary distinction between propositional level and non-propositional level meaning.

One of the most influential theories of epistemic modality in natural language is Kratzer's framework as presented in Kratzer (1987). Izvorski (1997) extends this approach to analyze the so-called perfect of evidentiality, and Garrett (2000) and Ehrich (2001) make similar proposals for the Tibetan Indirect and the German verb *sollen*, respectively. Since the latter two are very similar to Izvorski's proposal, and hers is the most elaborated one, I will only discuss hers.

The underlying assumption of these accounts is that evidentials are essentially epistemic modals with an additional evidential component, and that they contribute to the main proposition expressed. Not all researchers agree that this is the case. For example, Hengeveld (1990) analyzes evidentials cross-linguistically as operators "through which the speaker specifies his attitude towards the (truth of the) propositional content he puts forward for consideration", that is, he locates evidentials outside the propositional content. Similarly, for Valin and LaPolla (1997:48) "[e]videntials are [...] clausal because they indicate how speakers know what they are saying, which is something that modifies the whole proposition." In these theories, epistemic modals are also not analyzed as propositional.

Thus, within approaches that take epistemic modals to be propositional operators, there is a tendency to analyze evidentials as propositional operators as well, and within frameworks that analyze epistemic modals as operating outside the propositional level, this is also assumed to be the case for evidentials. Of course, in principle, it could be possible that epistemic modals are propositional operators, but evidentials

are not and vice versa. Moreover, languages may differ in this respect. That is, some language may encode both epistemic modality and evidentiality on the same level, and others on different levels. It is even conceivable that within the same language the expression of epistemic modality and/or evidentiality is distributed over different levels. General claims as to where epistemic modality and evidentiality live should therefore be based on empirical studies of a variety of languages.

The claim that epistemic modals are not propositional-level operators is often based on the results of a test, which I will call challengeability test. This test will be presented in section 3.5.3 and illustrated for epistemic modals. It turns out that its outcome is actually not as clear-cut as is often assumed with respect to epistemic modals. In contrast, it gives clear results for the Quechua evidential enclitics, as I will show in the subsequent chapters, where this test will be used to argue that they do not operate on the propositional level. In addition to the challengeability test, two other tests are standardly used in the literature for the same purpose. Both involve the embedding of the element under investigation, and I will therefore refer to them collectively as the embedding test. This test will be discussed in chapter 6, where I will argue that it is not conclusive with respect to the question it is supposed to answer, but shows whether or not an element can be used *descriptively*.

Of the existing accounts of evidentials, only Ifantidou approaches the question of whether evidentials are part of the main proposition expressed directly and independently of epistemic modals, by applying the embedding test. Unfortunately, during writing this dissertation, only Ifantidou-Trouki (1993) was available to me, and only during the last few weeks of writing did I have access to her book, Ifantidou (2001). I can therefore not do full justice to her account of evidentials within Relevance Theory, although I will discuss some of her points.

In section 3.5.1, I present the basics of Kratzer's account of English modals as outlined in Kratzer (1987), and discuss Izvorski's (1997) to analyze indirect evidentials within this framework. In section 3.5.3, I discuss the challengeability test, illustrating how it works with English epistemic modals. In the subsequent chapters I will show that the Quechua evidential Direct and Reportative cannot be analyzed as epistemic modals, because they do not have the essential properties of epistemic modals.

3.5.1 Epistemic modals and evidentials in possible world semantics

According to Kratzer (1987:639), "[m]odality has to do with necessity and possibility," which is in line with van der Auwera and Plungian's (1998) definition of modality presented above. Kratzer takes modality to be a doubly relative concept such that a proposition is necessary or possible relative to two *conversational backgrounds*. A conversational background is a set of propositions which are taken to constitute *what the law provides, what is good for you, what I want, what we know*, etc. For example, in a sentence like *Jo must appear in court*, Jo's appearing in court may be necessary because it is demanded by the law, or because this is the only way that the defendant can be shown to be innocent, that is, because of what is good for the defendant, or because this is the only way to satisfy what I want, or because we have concluded this from all the facts we know. In Kratzer's system, there are two conversational backgrounds involved in the evaluation of a modal proposition. One is the *modal base*, the other the *ordering source*. The modal base determines for any world w a set of worlds which are accessible from it in a particular way. An epistemic modal base (*what we know*) determines a set of worlds which are epistemically accessible from w. "A world w′ is epistemically accessible from a world w if and only if w′ is compatible with everything we know in w." The ordering source in turn imposes an order over the worlds in the modal base. As an example, consider a murder investigation. Usually the police will have some evidence, and this evidence is compatible with a set of worlds, any of which could be the real world. Some of the epistemically accessible worlds are more realistic than others. Thus, if the murder took place in the US, a world in which the murderer is from Australia is much more unlikely than one in which the murderer is from the US, even though both worlds are compatible with the available evidence. Kratzer suggests that the ordering factor in this case is the *normal course of events*: normally, a person from Australia is less likely to have a motive than a person nearby. The ordering source is linguistically manifested in the graded expressions for possibility such as *must be, is probably, there is a good possibility, might be, there is a slight possibility, is more likely to be*, etc.

Kratzer provides the following definitions for a proposition to be necessarily or possibly true with respect to a modal base and an ordering source:

> A proposition is a necessity if and only if it is true in all accessible worlds which come closest to the ideal established by the ordering source.[9]

> A proposition p is a possibility in a world w with respect to a modal base f and an ordering source g iff $\neg p$ is not a necessity in w with respect to f and g.

For example, the sentence *John must be the murderer* is true if and only if in all worlds that are compatible with what the speaker knows—and which are the most "normal" ones—it is the case that John is the murderer. It would be false, if there is at least one such world in which John is not the murderer. Similarly, *John might be the murderer* is true if and only if there is at least one world that is compatible with what the speaker knows, and which is among the most normal ones, in which John is the murderer, and false if there is no such world.

Izvorski (1997) analyzes the so-called perfect of evidentiality (PE) in a number of different languages within this framework. The following examples illustrate the two relevant meanings of the PE[10] for Turkish, (72a), repeated from (28), section 2.2.1, and Bulgarian, (72b).

(72)   a. Ahmet gel-   miş.
           Ahmet come *mIş*

           'Ahmet came / must have come.'
           (i) inference: The speaker sees Ahmet's coat hanging in the front hall, but has not yet seen Ahmet.
           (ii) hearsay: The speaker has been told that Ahmet has arrived, but has not yet seen Ahmet.   (Aksu-Koç and Slobin 1986:159)

        b. Ivan izpil   vsičkoto vino včera.
           Ivan drunk-PE all-the   wine yesterday

           'Ivan apparently drank all the wine yesterday.'
           (i) inference, (ii) reportative   (Izvorski 1997:7)

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[9]Kratzer (1987) does not explain how *closest* is defined formally.

[10]PE's can often also convey a mirative meaning, but Izvorski (1997) does not discuss this aspect at all.

Izvorski's analysis of sentences containing a PE is given in (73).

(73) a. Assertion: □ p *in view of the speaker's knowledge state*
      b. Presupposition: *Speaker has indirect evidence for* p[11]   (Izvorski 1997:5)

According to this analysis, the PE is essentially an epistemic necessity modal in that it asserts that the embedded proposition p is necessarily true with respect to the speaker's knowledge state. It differs from epistemic modals in that it presupposes that this claim is based on indirect evidence. This presupposition thus restricts the kind of modal bases the PE can refer to.

Izvorski gives the following example conversational backgrounds for the two interpretations of (72b):

(74) i. Modal base/indirect evidence: *There are empty wine bottles in Ivan's office.*
        Ordering source: *If there are empty wine bottles in someone's office, that person drank the wine.*
      ii. Modal base/indirect evidence: *Mary says that Ivan drank all the wine.*
        Ordering source: *Normally, Mary is reliable as a source of information*

Thus, the inferential meaning of (72b) is computed as follows: the epistemically accessible worlds are those in which there are empty wine bottles in Ivan's office. This indirect evidence is compatible with worlds in which anyone might have emptied these bottles. However, we only consider worlds in which the ordering source is true. It then follows that Ivan drank the wine. In order to derive the reportative interpretation, we consider those worlds in which it is true that Mary told the speaker that Ivan drank all the wine, and where what Mary says is usually true. It then also follows that Ivan drank the wine.

Note that, according to (73), the modal force of PE is universal. However, Izvorski observes that sentences containing a PE have the "interpretation that p is possible,

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[11] This presupposition is meant to exclude certain types of evidence as potential modal bases, which distinguishes the PE from other epistemic modals. For example, according to Izvorski (1997:6), the proposition *John likes wine a lot* justifies the use of *must* in *Knowing how much John likes wine, he must have drunk all the wine yesterday.* However, a PE would not be licensed, just as English *apparently* is not licensed: # *Knowing how much John likes wine, he apparently drank all the wine yesterday.* For the PE or *apparently* to be licensed, "some observable result of John's drinking all the wine, perhaps many bottles or someone's account of the event of drinking" is required.

very likely, or necessary relative to the knowledge state of the speaker." This variability in actual modal force (as opposed to the universal force encoded by PE) is due to the way in which the context determines the ordering source. I will come back to this in section 3.5.2. Ignoring the technical details of Izvorski's account for now, its main features are:[12]

(75)   i. Sentences containing the perfect of evidentiality do not *assert* but *presuppose* that the speaker has indirect evidence,

   ii. The perfect of evidentiality has epistemic modal force (necessity or possibility),

   iii. The modal force of the evidentials is the main predication of the proposition expressed.

In the following two chapters, I argue that the Quechua Direct and Reportative do not share these features, although one can argue that the Conjectural has properties (75ii) and (75iii).

   As mentioned above, it is also still a point of debate whether (75iii) is true for epistemic modals, and sometimes the outcome of the challengeability test for epistemic modals is taken to show that they do not contribute to the proposition expressed. This test is discussed in section 3.5.3. First, I discuss Izvorski's proposal in more detail for the reportative interpretation associated with PE.

3.5.2   Reportatives and possible world semantics

Since Izvorski (1997) is one of the very few formal analyses of evidentials currently available, I find it worthwhile to have a closer look at how it works with respect to the reportative use of PE.[13] This discussion does not directly bear on the problem of analyzing the Quechua Reportative *-si*, however, because (i) we cannot expect an analysis developed for a perfect of evidentiality to carry over to a non-aspectual,

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[12]As mentioned, Garrett (2000) takes over Izvorski's (1997) account more or less wholesale for the indirect evidential in Tibetan, and it is therefore not necessary to discuss this aspect of his analysis. However, in addition to analyzing the Indirect along these lines, he also takes it to be a performative. This feature will be discussed in section 6.2.

[13]It should be clear how this analysis works for the inferential interpretation of PE.

non-temporal evidential enclitic, and (ii) I will argue in section 5.3 that *-si* does not encode an epistemic value.

Recall that Izvorski (1997) analyzes sentences containing the perfect of evidentiality (PE) as asserting $\Box p$. Since it is somewhat unclear—at least to me—how this is supposed to work for the reportative interpretation of PE, I will work through the somewhat tedious exercise of calculating what happens in the evaluation of a sentence of the form PE-p in different cases with respect to what the speaker knows about p, and how reliable (s)he considers his or her source to be.

As an example, I take Izvorski's sentence *John drank all the wine*-PE, with the modal base being *Mary said that John drank all the wine.* Presumably, the modal base is not only generated by what is being said, but also by everything else that the speaker knows. That is, the modal base will depend on what the speaker knows about p.

I consider three cases for the modal base (MB) generated by *Mary says that p* which take into account what the speaker knows with respect to p: (i) speaker knows that p is not true, (ii) the speaker knows that p is true, and (iii) the speaker does not know whether p is true. While case (iii) is the most likely one for someone to make a statement based on reportative evidence, the other two are not completely unlikely, and I will present an example in which the speaker knows that p is false when using a Reportative in section 5.3, example (152). For each case, I begin by considering two types of ordering sources (OS): (a) Mary is reliable, and (b) Mary is unreliable. In the first case, I assume, much too simplistically, that the ordering source eliminates all worlds in which p is false, and in the second all worlds in which p is true.

(76)   i. speaker knows that p is false: MB contains initially only worlds in which p is false

        (a) OS=*Mary is reliable*: all worlds in which p is false are eliminated from MB
            Result: MB is empty, $\Box p$ is vacuously true

        (b) OS=*Mary is unreliable*: no worlds are eliminated
            Result: MB contains only worlds in which p is false, $\Box p$ is false

ii. speaker knows that p is true: MB initially contains only worlds in which p is true

    (a) OS= *Mary is reliable*: no worlds are eliminated
        Result: MB contains only worlds in which p is true, $\Box p$ is true

    (b) OS=*Mary is unreliable*: all p-worlds are eliminated
        Result: MB is empty, $\Box p$ is vacuously true

iii. speaker does not know whether p is true: MB initially contains both worlds in which p is true, and worlds in which p is false

    (a) OS=*Mary is reliable*: $\neg p$-worlds are elminated
        Result: MB contains only worlds in which p is true, $\Box p$ is true

    (b) OS=*Mary is unreliable*: p-worlds are eliminated
        Result: MB contains only worlds in which p is false, $\Box p$ is false

Note that in cases (i) and (ii) the proposition is true or false irrespective of how reliable Mary is judged to be, except in case (i)(a), in which the modal proposition is vacuously true despite the fact that the speaker knows p to be false. In fact, in those cases, the truth value only depends on what the speaker knows about p, not on his or her reportative evidence. It can therefore be argued that, if the speaker knows the truth value of p, to use a PE would be misleading, and it should therefore not be used at all. I do not know whether this is the right prediction for the PE in the languages Izvorski studies, but it should be easily testable.

If this is the right prediction, that is, if Izvorski's analysis of reportative evidentials as epistemic modals predicts that they cannot be used when the speaker knows that p is true or false, then it is clear that it is not appropriate for analyzing Reportatives that can be used in those cases. As I will show in section 5.3, example (152), the Quechua Reportative *-si* can be used when the speaker knows on the basis of higher evidence that the embedded proposition is false.[14] Izvorski's proposal can therefore not be adopted for the Quechua Reportative.

I now turn to case (iii), which for PE's may be the only acceptable context of use. Here, the truth value of the modal proposition clearly depends on the speaker's

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[14]In the case in which the speaker knows p to be true based on higher evidence, the Direct evidential *-mi* should be used in Quechua, since as discussed in section 2.4.5, the use of an indirect evidential implicates that the speaker was not in a position to use a direct evidential for the *same* proposition.

judgment of Mary's reliability as a source of information. If (s)he thinks that Mary is reliable, then the modal proposition will be true, and if (s)he thinks that Mary is unreliable, it will be false. The latter case is somewhat confusing. It appears that a speaker who considers Mary to be unreliable conveys $\neg\Box p$, but according to the meaning of PE, a speaker using a PE asserts $\Box p$. This is inconsistent unless we consider $\neg\Box p$ to be an implicature, rather than part of the encoded meaning. This is, however, not an analysis available within Izvorski's account, because the result of applying the ordering source *is* the denotation of the sentence. It follows that according to this analysis the use of PE should also be infelicitous in a situation in which the speaker does not know whether the embedded proposition is true, but in which (s)he considers her source of information to be completely unreliable. Again, this is a prediction that needs to be tested. Clearly, this is not a restriction on the use of the Quechua Reportative, which can be used in such a situation.

What happens in a case in which the speaker does not consider his or her source completely unreliable nor completely reliable? This can happen, for example, when Mary got the information herself via reports, and it is impossible to trace the original source. The OS in such a case will have to be *Rumors are sometimes true and sometimes false*. Thus, we have:

(77)　iv. speaker does not know whether p is true: MB initially contains both worlds in which p is true, and worlds in which p is false
OS=*Rumors are sometimes true and sometimes false*: no worlds are eliminated
Result: MB contains both p and $\neg p$ worlds, $\Box p$ is false.

Since the reliability of the source is unknown, no worlds can be eliminated on that basis from the modal base, or only some p worlds or only some $\neg p$ worlds. In any case, the resulting modal base will contain both p and $\neg p$ worlds, and $\Box p$ will therefore be false. As with case (iii)(b), a speaker uttering PE-p in this situation, would be making an inconsistent statement, and the prediction is therefore again that PE cannot be used in such a case.

The only case then, in which PE should be felicitous, is (iii)(a). Given the literal meaning of PE, the speaker could only use PE when they consider p to be necessarily

true. However, as mentioned in section 3.5.1, Izvorski (1997) does not take the speaker to convey $\Box p$ but $\Diamond p$. This "real" meaning is calculated from the literal meaning by taking into account how many worlds were eliminated. To repeat, according to Izvorski sentences containing a PE have the "interpretation that p is possible, very likely, or necessary relative to the knowledge state of the speaker." Under the report interpretation of the evidential, the modal interpretation can range from weak possibility to necessity depending on the reliability of the speaker's source.

This variability in actual modal force (as opposed to the universal force associated with PE) is due to the way in which the context determines the ordering source. As I understand Izvorski (1997), universal quantification takes place over the epistemically accessible worlds that remain after the ordering source has applied to the set of worlds determined by the modal base. And this is the way I calculated the truth values in the exercise above.

If this operation resulted in eliminating a lot of epistemically accessible worlds, then the overall interpretation is one of possibility. Izvorski (1997:10) states with respect to rumors: "If the world of evaluation w is such that rumors are normally right, we will consider those accessible worlds where it is true that there is a rumor that p and that rumors are right; [PE-p] will assert that all those worlds are p-worlds. The interpreted modal force is therefore close to universal. [...] If, however, rumors are considered very unreliable as evidence, the set of accessible worlds where it is true that there is a rumor that p and the rumor is right will be very restricted; hence the resulting interpretation that p is only slightly possible in w."

Thus, the actually conveyed modal force is calculated by comparing the size of the set of possible worlds after the ordering source has applied with that of the set of possible worlds before the ordering source has applied. If the difference is small, we get a force close to universal, if it is big, the force is existential. We get universal force just in case the difference is zero. It is unclear to me how the hearer is ever supposed to recover all this information, and how (s)he can determine what counts as a big enough set to give rise to universal force.

Moreover, this is a rather roundabout way of accounting for the possibility interpretation of PE. It would seem more straightforward to analyze PE as a possibility

operator, which of course would also allow for it having a universal interpretation when it is used as an inferential. Izvorski's reason for analyzing it as a universal operator appears to be that universal force is not lexically encoded by PE in her account, but added by a default mechanism. It is common to have universal operators supplied by such default mechanisms, but not existential ones. Not also that the alternative of analyzing PE as a possibility modal would make a truth-conditional difference. In particular, in the last case considered, case (iv), $\lozenge p$ would be true, because the modal base contains both p and $\neg p$ worlds. It remains to be tested whether PE can be used in this situation.

To sum up this discussion, I have shown that Izvorski's analysis of PE predicts that it can only be used in its reportative meaning in a situation in which the speaker does not know the truth value of the embedded proposition, and in which (s)he judges his or her source to be reliable. Furthermore this analysis predicts that a PE can only be used when the speaker considers the embedded proposition to be at least a possibility. These are predictions that can now be used to determine whether Izvorski's is the right analysis for Reportative evidentials in different languages. As pointed out above, it is clearly not the right analysis for the Quechua Reportative, although it may be the right one for the PE's in the languages she studied.

A strong argument for Izvorski's approach is the fact that she studies *perfects* of evidentiality. It is well known that many verbal suffixes combine tense, mood and aspect marking, and it is therefore very desirable to have uniform accounts of these different meanings. This is Izvorski's main goal and contribution, since in addition to providing a semantics for the evidential uses of PE, she successfully links this semantics with that of the PE's pure perfect uses, and shows that it is possible to give a uniform semantics for PE which accounts for both types of uses.

In addition to determining whether or not evidentials can be analyzed as epistemic modals, one also has to determine whether or not they contribute to the proposition expressed in order to develop an analysis for them. In the next section, I discuss the challengeability test and its outcome for English epistemic modals. This test will be used in the subsequent chapters to argue against analyzing the evidential meaning of the three Quechua evidential enclitics as contributing to the proposition expressed.

3.5.3   Testing for propositional-level meaning

In the literature, two tests have been proposed for determining whether or not an element contributes to the proposition expressed. On the basis of the first test, which is illustrated for epistemic modals in this section, I argue in chapters 4 and 5 that the Quechua Direct and Reportative enclitics do not contribute to the truth conditions of the proposition expressed.

The other test, which involves the embedding of the element in question under *if* or an attitude verb, is at best inconclusive regarding the present question. However, it does help to determine whether or not an element can be used *descriptively*, which is an interesting result in itself. This test will be discussed in chapter 6.

Outside of possible world semantics, it is often claimed that epistemic modals do not contribute to the truth conditions of the proposition expressed, but only comment on it (see, for example, Lyons (1977), Sweetser (1990), Palmer (2001)). One piece of evidence in support of this claim are the purported results of the test described in (78), which I will call challengeability test.

(78)   Check whether the meaning of the element in question can be questioned, doubted, rejected or (dis)agreed with. If yes, then it contributes to the truth conditions of the proposition expressed, otherwise, it does not.

Below, I will show that this test does not give unequivocal results for epistemic modals. That this is not due to a malfunction of the test, but has to do with the unclear status of epistemic modality, can be shown by applying it to uncontroversial cases. Consider first the case of illocutionary force in the absence of an overt performative verb.

(79)   a. The area was evacuated.
        b. Is that so?
        c. I agree.
        d. I don't believe it.

The responses in (79b-d) are comments only about the truth of the proposition *The area was evacuated*, not the assertive force of (79a), which is arguably expressed by the indicative mood. As a second example consider the contrastive meaning of *but*.

(80)   Jo was here, but Kim wasn't.

Replying to (80) with any of (79b-d) only provides a comment on the truth of the claim that Jo was here and that Kim was not, not the claim that there holds some kind of contrast between Jo's presence and Kim's absence.

The challengeability test has been used to show that deontic modals do, but epistemic modals do not contribute to the truth conditions of the proposition expressed. The following examples are taken from Papafragou (2000:107), who refers to Lyons' (1977) observation that epistemic modality markers are not affected by expressions of doubt/rejection/acceptance.[15]

(81)   a. Alfred must be secretly seeing Barbara.
         b. Is that so?
         c. I agree.
         d. I don't believe it.

It is claimed that (81b,c,d) are only adequate responses to (81a), if the speaker is questioning, agreeing with or doubting the proposition *Alfred is secretly seeing Barbara*, not the modal proposition in (81a). From this it is concluded that the epistemic modal *must* does not contribute to the proposition under discussion. I will argue below that it is not in general the case that a speaker of at least (81b,c) is responding only to the unmodalized embedded proposition. Contrast the responses to an epistemic statement in (81b,c,d) with those to a deontic statement in (82b-d).

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[15]Papafragou (2000) discusses the following examples as part of the same test.

  i. ?It is surprising that Alfred must be secretly seeing Barbara.

  ii. ?Mary told us that Alfred must be secretly seeing Barbara.

They are claimed to show that epistemic modals cannot occur in the complement of a factive predicate or verb of telling. However, these examples use a different diagnostic from (78), since they involve the overt embedding of the modal under the predicates *be surprising* and *tell* in the same clause. The test in (78) does not involve such an overt embedding. I will discuss the test illustrated by the examples (i) and (ii) in section 6.2, where I will also show that epistemic *must* can occur in the complement of factive verbs—contrary to the claim in the literature that they cannot.

(82)   a. The area must be evacuated.

         b. Is that so?

         c. I don't believe it.

         d. I agree.

The responses to (82a) in (82b,c,d) are taken to be questioning, agreeing with or doubting the proposition *The area must be evacuated*, rather than with *The area is evacuated*. From this, it is concluded that deontic *must*, in contrast to epistemic *must*, contributes to the proposition expressed.

However, the judgments on (81) are not as clear as they seem at first sight. Consider again (81a) and its responses in (81b,c), *Is that so?* and *I agree*. It is my judgment (and that of consulted native speakers of English) that what is being questioned and agreed with is the proposition *Alfred must be secretely seeing Barbara*, not the proposition *Alfred is secretely seeing Barbara*. If the latter were the case, the speaker of (81d) would have to know that this is true, which is however not necessarily the case for (81b) to be a valid agreement.[16,17]

Not only can the modal force be (dis)agreed with, its truth can be directly denied, as the following example shows.

(83)   a. If it's snowing down here, Truckee must be buried in snow.

         b. That's not true. A hundred years or so ago, it snowed down here, but not a single flake in Truckee. So, it could well be that it's not snowing now in Truckee at all.

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[16]Note that Papafragou (2000) accepts the judgment that (81b,c) question and agree with the embedded proposition *Alfred is secretly seeing Barbara*. However, she does not conclude from this that epistemic *must* does not contribute to the truth conditions of the proposition expressed. Papafragou (2000) analyzes epistemic modals as giving rise to a complex proposition. The (apparent) inability of (81b,c) to question or agree with the modal force of *must*, she explains by saying that their speakers question or agree with the main point of the previous utterance, which is expressed by the embedded proposition without the modal. A discussion of Papafragou's (2000) analysis of epistemic modals would lead too far afield, and is not directly relevant to the question whether evidentials contribute to the proposition expressed.

[17]The case of (81c) is different, as it does indeed appear that the speaker does not believe that Alfred is seeing Barbara, rather than that he must be doing that. Of course, not believing that something is the case entails not believing that something must be the case. This example does therefore not show that *must* is not part of the proposition expressed either.

The speaker of (83b) is not saying that it is not true that Truckee is buried in snow. (S)he does in fact not know whether or not it is snowing there. What (s)he is saying is that it does not follow from the fact that it is snowing down here, that Truckee must be buried in snow, that is, (s)he is saying that the logical relation postulated by the speaker of (83a) does not hold.

As an illustration that the epistemic possibility is also challengeable, consider the disagreeing response in (84b) to the statement in (84a).

(84)   a. Jo could be the thief.
        b. That's not true. Jo cannot be the thief. She would never do anything like this.

The speaker of (84b) is disagreeing with the first speaker that there is a possibility of Jo being the thief, not the proposition that Jo is the thief. The speaker of (84b) does not *know* that Jo is not the thief, but this is incompatible with everything (s)he knows, under normal circumstances, and therefore disagrees with the claim that it is a possibility that Jo is the thief.[18]

Thus, contrary to claims in the literature, this test does not show that epistemic modals do not contribute to the proposition expressed. On the contrary, if the possibility of questioning, doubting and agreeing with a certain meaning aspect is taken to show that this meaning aspect contributes to the proposition expressed, then this test shows that epistemic modals like *must* contribute to the proposition expressed. This result is captured by Kratzer's possible worlds account. Recall from section 3.5.1 that a sentence like *John must be the thief* is true under the possible worlds analysis,

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[18]Note that if the speaker knows for a fact that p is not true, p can be challenged directly as in *I disagree. Jo was with me all the time, so she's definitely not the thief.* Of course, denying the truth of p also denies the truth of $\Diamond p$. Thus, a case in which the speaker knows whether or not p is true is not a very good case for determining whether or not the modal force contributes to the proposition expressed. I have therefore tried to formulate the challenge in (84b) in such a way that only the possibility of p is being questioned, by making clear that the speaker does in fact not know whether p is true or not. One might object that denying that p is possibly true also denies that p is true, and that this does therefore also does conclusively show that what is being questioned is the modal force. However, $\neg \Diamond p$ does not entail $\neg p$ in possible world semantics, because the worlds being considered only contain the stereotypically normal worlds. The actual world may be a non-stereotypical world. Thus, denying that p is possible only denies that p is possible if everything is normal. It does not deny that p is not possible if things are not as expected.

if and only if the proposition *John is the thief* is entailed by what the speaker knows. Whether or not John is the thief is not relevant. To see this, suppose that John is not the thief. Then *John must be the thief* can still be true, namely if indeed everything the speaker believes to be true entails *John is the thief*. Such a situation can arise when one or more of the speaker's beliefs from which (s)he deduces that John must be the thief is in fact false.

While the possible worlds account correctly captures that the modal force contributes to the proposition expressed, it does not quite capture when people consider a modal proposition to be true or false—which is what the challengeability test tests for. Recall that, according to the possible worlds analysis, a modal proposition is false when the indicated logical relationship of necessity or possibility does not hold between what the speaker believes to be true and the embedded proposition.[19] If another person wanted to accuse the speaker of having made a false claim, (s)he would have to know what propositions the first speaker believes to be true and to be entailing the necessary or possible truth of the embedded proposition, and show that the claimed logical relation does not hold.[20] It is however not usually the logical relation that is being challenged, when the truth of a modal statement is under debate, but the truth of the premises from which the conclusion is drawn. Consider the example in (83a), in which it is clear that the speaker's premises are *It is snowing here* and *If it snowing here, then it is snowing in Truckee*. From these, it follows necessarily that it is snowing in Truckee. The challenge of the truth of the conclusion in (83b) does not deny that it is entailed by these premises, but that the second premise is false.[21]

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[19]Garrett (2000) points out that a modal utterance relative to the background *in view of what I know* is false if either (i) the speaker reasons with bad logic, or (ii) the speaker is mistaken about what (s)he believes to be the facts, that is his or her conversational backgrounds are not really what (s)he thinks they are. Case (ii) appears to be absurd (though Garrett (2000:31) gives a (somewhat contrived) example to illustrate this case), and the main reason for making a false modal statement would therefore be (i).

[20]Though such cases are arguably rare, they are not impossible. As an example, suppose that we are trying to figure out whether Susan is at home now (6pm), and you have just told me that Susan usually leaves work at 5pm. I might then say *So she must be at home now*. To that, you could respond: *Not necessarily. Maybe today is one of the exceptional days on which she has to stay longer*. In uttering this, you are rightfully accusing me of jumping to conclusions, knowing exactly what premise I based my conclusion on.

[21]A slightly different explanation of what is going on in this example is to say that the second premise is *Normally, if it is snowing here, then it is snowing in Truckee*. That is, the ordering

Thus, in evaluating the truth of an epistemic modal statement, people appear to negotiate the truth of the set of facts that it is claimed to follow from rather than the claim that it follows from one particular set of facts. This is the case in (83b), where speaker B points out that speaker A overlooked a fact in making her inference, and that therefore her modal base was incomplete. The goal is of course to make this set of facts correspond to reality. That is, modal propositions are generally taken to be true or false because of inconsistent or incomplete conversational backgrounds, not because the embedded proposition is not a necessity or possibility relative to a given conversational background. This, however, is not the truth or falsity captured by Kratzer's account. Thus, even though Kratzer's account captures the fact that epistemic modals contribute to the truth conditions of the main proposition, it does not capture the kind of truth that seems more important to speakers. A detailed discussion of this issue lies beyond this dissertation, however. I only point out that Papafragou's (2000) relevance theoretic account appears to capture these observations. Without going into the technical details, Papafragou (2000) takes the speaker of a modal statement to convey a complex proposition, the top level predication of which is the relation encoded by the modal. The addressee can then "disquote" the embedded proposition p in order to evaluate its truth. If (s)he cannot determine the truth of p directly, (s)he will check whether it is compatible with or necessarily follows from what *(s)he* (rather than the first speaker) knows. As in Kratzer's account, a response of agreement or disagreement will therefore concern the modal force indicated by the first speaker, not the truth of p directly. But it also accounts better for the observation that speakers negotiate which conversational backgrounds should be taken as premises for drawing the conclusion, since the disagreement will be supported by a different modal base.[22]

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source could be said to throw out those worlds in which it snows down here, but not in Truckee. So, speaker B's response can be interpreted as pointing out that speaker A might have eliminated too many possible worlds. But again, this is not the same as saying that the relation of necessity does not hold between the modal base speaker A considers to be the normal case and p.

[22] Also note that in Dynamic Semantics, as described in Groenendijk et al. (1996) the semantics of the modal *might* is to check that the embedded proposition is consistent with the information state of the person who is processing the sentence. Taking the perspective of the hearer, the semantics given by Groenendijk et al. (1996:197) for *might* captures that "upon hearing *might-φ* [φ = the embedded proposition, M.F.] one checks whether one's information allows for the possibility that

The important point to take away from this section is that the standard test for truth-conditionality in (78) shows that epistemic modals contribute to the proposition expressed, because their modal force can be challenged. This claim differs from that usually made in the literature, according to which epistemic modal force is not directly challengeable. Researchers who maintain that epistemic modals in English operate above the propositional level would have to argue either that my counterexamples are not felicitous, or that the test does in fact not show whether or not an element contributes to the proposition expressed. Let me therefore defend the claim that the test does show whether or not an element contributes to the proposition expressed. A first argument is that from the speaker's perspective, the epistemic modal auxiliary clearly contributes to the proposition expressed, since (s)he does not claim that the unqualified proposition is true, but that a certain logical relation holds between it and what (s)he knows. Secondly, modal auxiliaries are syntactically the main predication of a sentence, and it would be unusual to not have the syntactically main predication be the main predication semantically. And thirdly, it is hard to imagine how else one can determine what contributes to the proposition expressed, other than by checking when people consider something to be true or false.

I therefore assume in the following chapters that the challengeability test in (78) helps to determine whether or not an element contributes to the proposition expressed, and argue on the basis of its outcome that the evidential meaning of the Quechua evidential enclitics does not contribute to the proposition expressed—in contrast to the epistemic meaning of English modal auxiliaries. This claim is not only based on this test, however, but will be supported by a number of additional observations in chapter 6. I also argue that the Direct and the Reportative do not encode an epistemic modal value on any level, but that *-chá* does.

3.5.4　Non-propositional levels of meaning

Despite the fact that Quechua evidentials do not contribute their evidential meaning to the truth conditions of the main proposition expressed, it seems nevertheless quite

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ϕ." Thus, in contrast to Kratzer's static account, this captures the above observation that the hearer checks whether his or her own beliefs support the logical relation indicated by the speaker.

clear that by using an evidential the speaker makes a claim which can be true or false. By using the Reportative -*si*, for instance, the speaker indicates that (s)he obtained the conveyed information from someone else, and this can be true or not. In general, a speaker who uses an evidential expresses the proposition *I have evidence of type* EV *in support of my claim*, where EV is the evidential value encoded by the evidential.

The question then is what level of meaning this proposition belongs to. Up to now, I have mainly distinguished between propositional and non-propositional meaning levels, but non-propositional meaning can of course be subdivided into different types. Current standard theories of meaning offer the following non-propositional meaning types:[23]

(85)   i. conversational implicature
       ii. presupposition
       iii. conventional implicature
       iv. illocutionary meaning

I argue in the following chapters that evidential meaning in Quechua is not conversationally implicated. Here, I briefly argue that it is not presupposed either. First, presuppositions are propositions that are taken by the speaker to be in the common ground before the utterance, that is, usually the information conveyed by a presupposition is old information. Though accommodation of presuppositional meaning is a wide-spread mechanism, it is not the rule, but the exception. This cannot be said for the evidential value conveyed by the Quechua enclitics. Speakers can usually not assume that it is in the common ground already what type of evidence they have for the sentence they are about to utter. So, if the evidential meaning were presuppositional, it would have to be accommodated as a rule, not as an exception.

Furthermore, the projection properties of the evidential meaning are different from that of typical presuppositions. In particular, in contrast to presuppositions, it is not

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[23]In recent versions of Relevance Theory, a further distinction is made between conceptual and procedural meaning. I will not take these types into account in this dissertation, although this distinction might bring useful insights with respect to the meaning of the Quechua evidentials from the hearer's perspective. I will leave this issue for future work.

possible to block their projection to an entire conditional sentence by making the
evidential meaning overt in the antecedent.

For example, the sentence *John will stop smoking* presupposes that John is smok-
ing now. But the conditional in (86) as a whole does not presuppose that.

(86) If John smokes, he will stop smoking when he reads this.

Making evidential meaning overt in the antecedent of a conditional, does not block
the meaning of the evidential in the consequent. This is shown in (87) for the Quechua
Reportative *-si*.

(87) Sichus ni-wa-rqa-n   Juan hamu-na-n-ta   chay-qa, Juan-qa
     if   say-1O-PST1-3 Juan come-NMLZ-3-ACC this-TOP, Juan-TOP
     hamu-nqa-**s**.
     come-3FUT-**si**

   p='If I was told that Juan will come, then Juan will come.'
   EV= speaker was told that Juan will come.

In as much as the statement in (87) makes any sense at all, it is clear that the
evidential meaning of *-si* in the consequent is not cancelled by expressing it explicitly
in the antecedent. I conclude that the evidential meaning of the three Quechua
evidential enclitics is not presupposed.

In this dissertation, I do not consider the possibility of the evidential meaning
of the Quechua enclitics being conventionally implicated, because the notion of a
conventional implicature is not very well understood in linguistic theory, and it some-
times appears to be used as a grab bag for types of meaning aspects that do not fit
in any of the better defined categories of meaning.

Thus, by elimination on (85), we are only left with analyzing evidential meaning
in Quechua as illocutionary. This is in fact the analysis I will defend in the following
chapters, providing more substantial arguments.

Since I mentioned at the beginning of this section that within this framework (and
Role and Reference Grammar) evidentials, as well as epistemic modals, are taken to
operate above the propositional level, let me briefly mention how Hengeveld (1990)
answers the question where elements that are not propositional, not presupposed,

and not implicated 'live'. In Functional Grammar, the meaning of sentences is represented as a multi-layered structure, the two top layers being the illocutionary and the propositional level, and different types of operators are taken to operate different levels. Illocutionary operators take illocutionary acts as their arguments, and propositional operators propositions. Now, Hengeveld (1990) analyzes both evidentials and epistemic modals as propositional operators. That is, they take a proposition as their argument and are within the scope of illocutionary force. Since they are not considered part of the propositional content, but only operating on it, propositional operators appear to constitute an intermediate layer, the status of which is not entirely clear.[24]

Since I will argue in the subsequent chapters that Quechua evidentials modify the sincerity conditions of the speech act they occur in, this analysis cannot be adopted for Quechua evidentials.

3.6   Summary

To summarize this last section, previous formal accounts of evidentials assume that they behave like epistemic modals with respect to what level of meaning they contribute to. Those accounts that take epistemic modals to contribute to the proposition expressed, usually also assume that evidentials contribute to the proposition expressed, and those that take epistemic modals to operate outside the propositional level, analyze evidentials in the same way. Whether or not this correlation holds in

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[24]To see this, consider first illocution operators exemplified by adverbs such as *frankly*. Clearly, those must be considered part of the illocutionary level, not outside it. Because, if they were outside the illocutionary level, what level would they belong to? There is no level higher than the illocutionary one. However, if illocutionary operators are considered to be operating on the illocutionary level, then propositional operators should be considered to be operating on the propositional level. But as the quote from Hengeveld given at the beginning of this section makes clear, he does not consider proposition operators to be part of the proposition. It appears then that both the illocutionary and the propositional layer have two sub-layers each: one occupied by the respective operators, and the other by the illocutionary frame and p. Note that the relationship between the two sub-layers is not the same as that between the two main layers, as the absence of parentheses around the illocutionary frame or around p indicates. What exactly the difference is, is unclear. Both seem to be operator/argument configurations.

general is an empirical question, and the answer might differ from language to language. But even if it holds, since it is still a matter of ongoing debate what level epistemic modals contribute to, we need tests to determine when an element is part of proposition expressed and when it is not. Such a test was presented in the last section. For English epistemic modals the test shows—contrary to some claims in the literature—that they contribute to the proposition expressed.

My task in the next two chapters is to determine what is encoded and what is implicated by the alleged evidentials of Cuzco Quechua, and in a next step to determine what level of meaning the encoded meaning contributes to. I will argue that the evidential meaning aspect is encoded by all three enclitics under investigation, and that this meaning is part of the illocutionary level.

This claim is corroborated by the fact that they cannot occur in non-illocutionary environments and that their evidential force does not interact with clear cases of propositional operators, such as negation, on the one hand, and that they do interact with illocutionary operators such as the question operator in content questions on the other hand. These issues will be discussed chapter 6.

Chapter 4

Best possible grounds

4.1 Introduction

In this chapter, I describe in detail the meaning of the so-called Direct evidential *-mi* of Cuzco Quechua in assertions, and of simple assertions without an evidential. I argue that both convey that the speaker has the best possible grounds for making the assertion, but that only *-mi* encodes this meaning; sentences without an evidential implicate it.

On the basis of the standard test discussed in section 3.5.3, I argue that *-mi* does not contribute its evidential meaning to the main proposition expressed. Furthermore, I argue that it should not be analyzed as an epistemic modal. Instead, I propose an analysis of this enclitic as an illocutionary modifier within standard speech act theory. This analysis will be further corroborated in chapter 6. The term *illocutionary modifier* is based on Vanderveken's (1990) analysis of certain speech act adverbs as modifying the primary illocutionary force indicator to derive a complex indicator "which expresses the illocutionary force obtained from the assertion by adding the condition they express" (Vanderveken 1990:128).

In the remainder of the introduction to this chapter I give an overview of the overall system of evidentials in Cuzco Quechua, as in the following discussion of *-mi* I will sometimes make reference to the other evidentials.

As discussed in chapter 1, Cuzco Quechua, has three evidential enclitics, Direct

-mi, Reportative *-si* and Conjectural -chá. The examples in (88a,b,c=2a,b,c) illustrate the basic use of the three evidential enclitics, (88d) is an example without any evidential, which note, has the same evidential meaning as the same sentence with *-mi*.

(88)   a. Para-sha-n-**mi**.
       rain-PROG-3-**mi**

       p='It is raining.'
       EV= speaker sees that p

   b. Para-sha-n-**si**.
       rain-PROG-3-**si**

       p='It is raining.'
       EV= speaker was told that p

   c. Para-sha-n-**chá**.
       rain-PROG-3-**chá**

       p='It is raining.'
       EV= speaker conjectures that p

   d. Para-sha-n.
       rain-PROG-3

       p='It is raining.'
       EV= speaker sees that p

Furthermore, the two past tense suffixes *-rqa* and *-sqa* have been claimed to differ in terms of evidentiality. According to Cerrón-Palomino (1994) and Cusihuaman (1976), *-rqa* is used for experienced past events, and *-sqa* for non-experienced past events.[1] This difference is illustrated in the following examples.

(89)   a. Para-sha-**rqa**-n.
       rain-PROG-**rqa**-3

       p='It was raining.'
       EV= speaker saw it raining

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[1]For most of the other Quechua dialects similar evidential claims have been made for the corresponding enclitics. However, evidential contrasts between the past tense suffixes have only been claimed for a few, for example by Howard-Malverde (1990) for Huánuco Quechua.

b. Para-sha-**sqa**
rain-PROG-**sqa**

p='It was raining.'
EV= speaker did not see it raining

In section 4.4, I will argue for all sentences without an evidential enclitic and the past tense suffix *-sqa* that they do not encode an evidential value, but implicate *Bpg*. The suffix *-sqa* was briefly discussed in section 1.2.8.

According to Anderson's (1986) criterion (3c) for classifying evidentials (see section 1.1.1), the primary meaning of an evidential is the indication of the speaker's justification for making a claim. However, in the majority of languages described and analyzed for evidentiality to date, the elements that encode evidentiality also encode other concepts, and it is often difficult to decide which is the primary meaning. Quechua is no exception in this respect, as the alleged evidential enclitics also appear to indicate the speaker's degree of certainty that the expressed proposition is true. Thus, (88a) as well as (88d) also express that the speaker is convinced that it is true that it rains, whereas (88b) expresses that the speaker believes it to be possible that it rains, that is, the speaker is not entirely certain that it rains.

This observation has led some researchers to analyze the enclitics in question not as evidentials, but as markers of certainty. For example, Adelaar (1977) analyzes the three Tarma Quechua enclitics *-mi, si* and *-chá* as *validationals*. In this dissertation, I do not require that an evidential's indication of source of information be its *primary* meaning, but I do require that it be *encoded* rather than implied or implicated. One goal of the discussion in the next two chapters therefore is to establish which meaning aspects associated with an alleged evidential are encoded and which ones are implicated.

My conclusions for the meaning of Direct *-mi* and sentences without an evidential, which will be argued for in the present chapter, are the following.

(90)   i. *-mi encodes* the evidential value that the speaker possesses the best possible source of information for the type of information conveyed by the utterance. The same evidential value is *implicated* by simple assertions.

  ii. The high degree of certainty associated with assertive utterances with or
      without *-mi* arises from the sincerity condition of the illocutionary force of
      assertion that the speaker believes the proposition expressed.

 iii. *-mi* is an illocutionary operator which modifies the sincerity conditions of
      simple speech acts by adding the condition that the speaker has the best
      possible grounds for making the speech act.

Since I will make reference to the two indirect evidentials already in this chapter, I
briefly present my conclusions regarding their meaning here. These will be substan-
tiated in chapter 5

  iv. *-chá* is both an evidential and an epistemic modal, encoding that a statement
      is the conclusion of an inference or conjecture, and that the speaker considers
      the embedded proposition a (more or less good) possibility.

   v. *-si* is an evidential, encoding that the speaker obtained the information con-
      veyed from someone else. It may implicate a reduced degree of certainty in
      assertions if the speaker could also have used *-mi* in the same context.

The discussion will concentrate on declarative clauses for the time being. All three
evidential enclitics can also occur in content and embedded questions, and their mean-
ing in these cases will be discussed in chapter 6. However, in support of some of the
arguments, I will present a few examples of content questions in the following sections.

4.2   Previous analyses of *-mi*

The discussions in the literature as to whether the three enclitics are validationals
or evidentials usually concentrate on *-mi*, identifying it as the most problematic ev-
idential. The difference in views stems from the fact that an example such as (91)
is usually interpreted to convey both that the speaker has direct evidence for the
proposition expressed, in this case that the speaker saw that *Inés won*, and that the
speaker is certain that the statement is in fact true.

(91)   Inés-**mi** llalli-rqa-n.
         Inés-**mi** win-PST1-3

         p='Inés won.'
         EV= speaker saw that *p*

Some further, naturally occurring examples for *-mi* are given in (92).

(92)   a. Subrina-y-wan-**mi** tiya-sha-n.
           niece-1-INSTR-**mi**   live-PROG-3

           'He lives with my niece.'

        b. Mana kan-chu kunan-qa. Chinka-pu-n-**mi**.
           not   be-NEG now-TOP   loose-BEN-3-**mi**

           'There is none now. It is lost.'

        c. Wilber-taq-mi   San Jeronimo-manta
           Wilbert-CONTR-**mi** San Jeronimo-ABL

           'And Wilbert is from San Jerónimo.'

        d. Aqchanta-qa karu-raq-**mi** Qapaqmarca-man-qa
           much   far-CONT-**mi** Qapaqmarca-ILLA-TOP

           'Via Aqcha it is still far to Qapaqmarca.'

Sentence (92a) was uttered in response to the question of whether a certain man lived with another woman, (92b) in response to the question what big holiday was celebrated in the speaker's village, (92c) by a friend of Wilbert who had just before introduced him to another friend. (92d) is a response to a previous claim that Qapaqmarca was very close to some other village. All these examples have the interpretation that the speaker witnessed the event described as well as that they are certain that it is true.

Previous proposals have attempted to derive the speaker's commitment to the truth of the embedded proposition from the evidential meaning of *-mi* (Weber 1986), to derive the evidential meaning from the claim that *-mi* is assertive (Nuckolls 1993), and to recognize both aspects as encoded by *-mi* (Floyd 1999). In sections 4.3 and 4.6, I argue that *-mi* only encodes an evidential value—which is however not direct in the simple sense—and that the speaker's commitment is a result of the fact that the speaker is making an assertion. In the following I review the proposals mentioned.

According to Weber (1986), *-mi*'s basic meaning is to indicate that the speaker's source of information is direct. One of his examples in support of this analysis is given in (93), which can only be uttered felicitously if the speaker has personally known his or her grandfather.[2]

(93)   Hatun tayta-y-pa   suti-n   Juan-**mi** ka-rqa-n.
          great   father-1-GEN name-3 Juan-**mi** be-PST1-3

          p='My grandfather's name was Juan.'
          EV= speaker knew grandfather

Weber also notes that sentences with *-mi* convey that the speaker is certain that the expressed proposition is true. In his account, this meaning aspect is not directly encoded by *-mi*, but is derived by means of an extra-linguistic, cultural axiom that states that one's own experience is reliable. Having a reliable source of information in turn leads speakers to believe the proposition expressed with a high degree of certainty. This principle can schematically be stated as (94), where $DirectEvidence(s, p)$ means that speaker s has direct evidence for the proposition p, and $Certain(s, p)$ that s is certain that p is true. The arrow $\longrightarrow$ symbolizes material implication.

(94)   Direct Evidence$(s, p) \longrightarrow$ Certain(s, p)

According to the axiom in (94), the hearer of a sentence containing *-mi* can infer that the speaker is certain because *-mi* encodes that the speaker has direct evidence.[3]

The principle in (94) seems intuitively correct. *Direct evidence* is usually taken to mean having witnessed the described event, and it is indeed the case that people normally believe with a high degree of certainty that what they witness is true. Having said this, there are some questions regarding the validity of (94) that arise if

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[2]In my own fieldwork, I could not confirm this claim for this particular example. Speakers most often do not use any evidential enclitic at all for giving people's names, and some of my consultants do accept *-mi* even when the speaker did not know the person in question personally. I will come back to this issue below.

[3]Conversely, knowing that the hearer will make this inference, a speaker who uses *-mi* would according to (94) be said to implicate that (s)he is certain that p is true. Below I argue that the speaker's certainty is the sincerity condition standardly associated with assertions $Bel(s, p)$. I take it that sincerity conditions are not implicatures, since they are not cancellable (see the discussion of Moore's paradox in section 4.6)

we think about cases of partial direct evidence or mistaken perception. I will come back to these more philosophical issues below, and concentrate here on the linguistic problems with Weber's account. The data in (95) show that it is not possible to say that *-mi* marks direct evidence and derive certainty by means of (94).

(95)   a. Paqarin Inés-qa Qusqu-ta-**n**   ri-nqa.
           tomorrow Inés-TOP Cuzco-ACC-**mi** go-3FUT

          p='Inés will go to Cuzco tomorrow.'
          EV= Inés told speaker that she will go to Cuzco tomorrow

    b. Inés-qa   llakiku-n-**mi**.
           Inés-TOP be.sad-3-**mi**

          p='Inés is sad.'
          EV= Inés told speaker that she is sad

It is clear that the speakers of (95) cannot have had direct evidence, if this is understood as witnessed or experienced. In (95a), the described event takes place in the future, in (95b) the internal state of another person is described.[4] Neither of these events can be witnessed, and the meaning of *-mi* can therefore not be equated with WITNESSED or EXPERIENCED.

Nuckolls (1993), who analyzes the Pastaza variety of Quechua (Ecuador), but who intends her analysis of *-mi* to apply to all Quechua varieties, takes a different view on the meaning of *-mi*. Following Jakobson (1971), she distinguishes between its *Gesamtbedeutung*, the most abstract meaning component present in all uses of an item, and its *Sonderbedeutungen*, its special meanings. According to Nuckolls (1993) *-mi*'s *Gesamtbedeutung* is assertiveness, personal conviction or belief, and it is only a *Sonderbedeutung* of *-mi* to distinguish the speaker's own assertion from that of somebody else. In Nuckolls' account, this meaning only arises in opposition to the Reportative *-si*: a speaker using *-si* reports someone else's assertion, but *-mi* marks an assertion as the speaker's own. Since it is often the case that an assertion offered as one's own is based on direct experience, sentences containing *-mi* are often

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[4]Note that internal states sometimes manifest themselves in external, that is, observable signs. This is however not a necessary condition for the use of *-mi* in these cases. That is in (95), Inés may outwardly not look sad.

interpreted as being based on direct experience. Since assertion requires the speaker to believe the embedded proposition, that is, to be certain that it is true, this analysis of *-mi*'s *Sonderbedeutung* may be represented as in (96).

(96)   Certain(s, p) $\dashrightarrow$ Direct Evidence(s, p)

The arrow $\dashrightarrow$ in (96) symbolizes a non-material inference. Material implication would clearly be false since there are many cases in which a person is certain about something without having direct evidence. The inference in (96) is perhaps best viewed as an abductive inference based on (94)—though Nuckolls herself does not talk about it in these terms.

Nuckolls' analysis is attractive because it accounts straightforwardly for examples such as (95): given that *-mi* is assertive, it is expected that it can be used to describe events that were not witnessed by the speaker. Moreover, the evidential interpretation associated with (91) is accounted for as an inference arising from the fact that often times a speaker makes an assertion based on direct evidence.

There are two problems with applying this account to Cuzco Quechua *-mi*. First, *-mi* is standardly used in content questions, as shown in (97).

(97)   Maypi-**mi** Pilar-qa.
            where-**mi** Pilar-TOP
            'Where is Pilar?'

The *Gesamtbedeutung* of *-mi* can therefore not be assertive.[5]

Second, since the evidential interpretation associated with (91) is analyzed as a generalization over the most frequent case, we would expect that it is still licensed for the less frequent case, that is, *-mi* should be possible even when the speaker does not have direct evidence for Inés' winning, for example in a case in which someone trustworthy witnessed the event and told the speaker about it. However, the evidential requirement for the use of *-mi* in (91) is not optional, the speaker must have witnessed it. Furthermore, the use of *-mi* is even evidentially restricted in the examples in (95).

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[5]What the meaning of an evidential in content questions is, will be discussed in chapter 6.

They are only felicitous if Inés herself told the speaker about her plans and emotions, and cannot be used if the speaker obtained this information from someone else.

In order to account for (91), Nuckolls' analysis might be modified so as to require that the evidential inference is not a generalization over the most frequent case but an obligatory meaning aspect of all sentences containing -mi in which this inference is possible (it is possible in (91), but not in (95)). However, this will not account for the evidential requirement in (95), and is furthermore bringing evidentiality back into the meaning of -mi through the back door.

Floyd (1999) develops a prototype theoretical account of -mi, as well as the other two evidential enclitics, in Wanka Quechua. In his analysis, the evidential enclitics constitute radial categories, the meanings of which are represented as semantic nets. Each has a schematic meaning which is the most abstract meaning of a category present in all uses. This schema has more or less direct instantiations which correspond to the various uses of the category. One of these instantiations is recognized as the prototype of the category. Both the schema and the prototype can be extended in motivated ways. For -mi, the schematic meaning is that a relation of certainty holds between a speech act participant and a circumstance in some mental space. The prototypical instantiation is that the relation of certainty holds between the speaker and a circumstance in the space of reality, where the speaker's certainty is corroborated by direct, visual experience. What is of interest to the discussion here is the fact that the schematic meaning of -mi is to indicate the speaker's certainty, and that only the prototype adds an evidential meaning component to the schema.

The use of -mi in the examples in (95) is not prototypical, since they are not based on direct evidence. Nevertheless -mi can be used in these cases, under the circumstances described above. Floyd also discusses such cases, but they are statistically much less common in his corpus than the other uses. For an example like (95b) he observes that it is implied that the subject told the speaker about her emotion, but this is not a formal requirement in his analysis. In his account, in such cases the speaker "imposes certainty on the scene in the absence of direct evidence", that is, these are uses that directly represent the schematic meaning.

Floyd's account is very similar to Nuckolls'. Floyd's schematic meaning corresponds to Nuckolls' *Gesamtbedeutung*, and the prototype to *Sonderbedeutung*. One difference is that Floyd does not appeal to the notion of assertion as part of the meaning of *-mi*. Floyd's account faces a similar problem as Nuckolls': there is nothing in his system that restricts the application of the non-evidential schema. That is. a speaker should be able to impose certainty on the scene even in a case like (91). But I have shown above that this is not possible. As with Nuckolls's account, one could perhaps add the requirement that the prototype has to be used whenever possible, but this would not account for the non-prototypical evidential requirement in (95).

In the following, I analyze *-mi* in statements as indicating that the speaker has the best possible grounds for making an assertion. What it means to have the best possible grounds depends on the type of information conveyed, for example, on whether or not the described event is observable. In section 4.5, I argue that the interpretation of statements containing *-mi* as conveying a high degree of certainty is not encoded by *-mi*, but follows from the general property of assertions that the speaker believes the proposition expressed to be true.

4.3   The indication of best possible grounds

does not do what she says (for whatever reason), and I

In the previous section, I pointed out a problem with both Nuckolls's (1993) and Floyd's (1999) accounts which is rooted in the fact that they allow any sentence containing *-mi* to have a purely epistemic modal interpretation. However, in order to use *-mi* in sentences like (91) and also those in (95), certain evidential requirements have to be met. Floyd's and Nuckolls' accounts could probably be modified to take into account these obligatory evidential licensing conditions for *-mi* by making the application of the prototype and the inference in (96) obligatory *whenever possible*. But what exactly does this mean? It means that if the described event admits direct evidence, that is, is observable, then the use of *-mi* is only felicitous when the speaker has direct evidence. Otherwise *-mi* is licensed by high certainty alone. In other words, the type of the event described determines the usage restrictions for *-mi*. This, I will

argue, is the key to understanding the meaning of *-mi*, which will not only account for the example in (91), but also for those in (95) and others.

Compare (91) with the examples in (95). It is possible *in principle* to have direct evidence for the first, but not for the latter, that is, *winning* is very much an observable event, but *being sad* or *going to Cuzco tomorrow* is not—at least not directly. What appears to license *-mi* in (95) is the fact that the speaker has the next best thing to direct evidence, namely the report of Inés herself. This is a more direct source of information than a report by some other person. Thus, a first approximation to describe the meaning of *-mi* is to say that *-mi* is licensed if the speaker has the most direct evidence possible for the described event.

Since an eating event is probably widely agreed to be fully observable, a speaker who asserts (98) with *-mi* indicates that (s)he saw Marya eat.

(98)   Marya-qa   lawa-ta-**n**   mikhu-rqa-n.
         Marya-TOP soup-ACC-**mi** eat-PST1-3

         p='Marya ate soup.'
         EV= speaker saw *p*

It is probably equally widely agreed that mental states and intentions of other people are not observable, or only to a very minimal extent. To use *-mi* in the statements in (95), the speaker has to have obtained the conveyed information in the most direct way possible, either by having observed the particular external signs of sadness, and/or by having been told by Inés herself.

Directness of source of information under this view is a gradable property of events. Let us assume for simplicity that there are only two gradations: *observable* and *not observable* (in principle). Only concrete events such as *eating, winning, being tall,* etc. in the present or past are directly observable. All other events are not, that is, all future events are not observable, neither are internal states or thoughts of other persons. One might then want to ask whether it is possible to further divide the non-observable events into types for which there are more or less direct sources of information possible in principle. Above, I suggested that the report of the actor of a future action is more direct than the report of some other person. However, this is not an inherent property of events. It is also not possible to distinguish events on the basis

of the property of being reportable or being inferable, since all events are reportable and inferable/conjecturable in principle. Thus, within the group of non-observable events what is the most direct source of evidence is not dependent on the kind of event, but rather on the more specific kind of source of information. Furthermore, as was discussed at length in section 2.4 on evidential scales, it is also not possible to identify reportative or conjectural information as the more direct of the two types. This is only possible within each of the two types, that is, within reportative information secondhand is more direct than thirdhand, and within conjectural information an inference on the basis of observable evidence is more direct than a conjecture without a strong basis. What counts as the next best thing to having direct evidence for non-observable events is therefore largely decided on a case to case basis. Thus, while it is not possible to say that reportative evidence is more direct than conjectural evidence, it is nevertheless the case that for the examples in (95) Inés' personal report is more direct than the speaker's conjecture.

For some events, the most direct source of information might not even be a source of information in the usual sense. For example, in questions of faith it is simply the speaker's belief. Thus, it is possible to use *-mi* to express one's belief that God exists as in (99).

(99)   Dius kan-**mi**.
            God be-**mi**

            p='God exists.'
            EV= speaker believes that God exists

In addition to the observability of the described event, a second parameter plays a role in determining what it means to have the best possible source for a given piece of information, which is not a property of the event itself, but which has to do with general expectations regarding the acquisition of information. This is discussed in the next section.

4.3.1 Personal vs. encyclopedic information

All the examples discussed so far convey what I will call *personal information*. By that I mean information about events in the speaker's private life. I contrast this with *encyclopedic information*, which includes knowledge that is taken for granted within a culture, and knowledge that is typically taught in school or found in encyclopedias. While there is no clear-cut categorical distinction between these two types of information, to make such a distinction is nevertheless useful in analyzing the meaning of *-mi*. Consider the examples in (100), repeated from (11).

(100)   a. Yunka-pi-**n**   k'usillu-kuna-qa ka-n.
            Rainforest-LOC-**mi** monkey-PL-TOP be-3

    p='In the rainforest, there are monkeys.'
    EV= speaker knows as part of Quechua culture that there are monkeys in the rainforest

    b. Africa-pi-**n**   elefante-kuna-qa ka-n.
        Africa-LOC-**mi** elephant-PL-TOP be-3

    p='In Africa, there are elephants.'
    EV= speaker learned in school that there are elephants in Africa

That there are monkeys in the rainforest can be considered a fact of Quechua culture, even for a Quechua from the highlands, and the fact that there are elephants in Africa is something a Quechua speaker might have learned in school or read in an encyclopedia. These examples therefore constitute encyclopedic knowledge in the sense used here. Historical facts like the one described in (101), taken from a part in Phuturi Suni (1997:102) in which he remembers certain events in Peru's history, also fall into this category.

(101)   Cáceres Gobierno-n-manta qati-mu-ra-n   Agusto Leguía, pay-**mi**
            Cáceres Government-3-ABL follow-CIS-PST1-3 Augusto Leguía, he-**mi**
            gobierno   ka-ra-n   chunqa huk-ni-yoq   wata […]
            government be-PST1-3 ten   one-EUPH-POSS year […]

    'Cáceres' Government was followed by Augusto Leguía, he was the government for eleven years.'
    EV= speaker learned from radio or other media that Leguía followed Cáceres
                                                    (Phuturi Suni 1997:102)

According to the current description of the meaning of *-mi*, the examples in (100) and (101) should only be felicitous if the speaker has seen monkeys in the rainforest and elephants in Africa, and met Leguía personally in his capacity as president, because that would constitute the most direct evidence for the described events. However, these examples can be uttered by any Quechua speaker who has learned this information either as part of their culture, in school or from other authoritative sources, without having witnessed the described facts. For (101), the argument might be made that media reports (or more likely the transmission of news by word of mouth) do in fact constitute direct evidence, as the speaker was part of the political situation at that time. However, (101) could also be uttered by someone who was not yet born at that time, and learned this fact in school. Thus, for encyclopedic information, the most direct evidence requirement for *-mi* appears to be suspended.

Recall from chapter 2 that Givón (1982) observes for other languages that cultural knowledge does not require evidential justification as it is a type of *apriori-synthetic knowledge*. This knowledge is "presupposed for all speech-transactions within the culture" (Givón 1982:42). Clearly, if something is commonly known, then there is no need for the speaker to indicate how they acquired it.

Note however that encyclopedic knowledge as I use the term here is not necessarily shared knowledge between speaker and hearer. The information conveyed in the examples in (100) could well be new information for the hearer, for example, if the hearer of (100a) is a child or someone from outside the culture. Example (100b) conveys encyclopedic knowledge from outside Quechua culture and might therefore constitute new information for anyone.

The relevant observation for the use of *-mi* is that "such knowledge is seldom given to the speaker via evidence. Rather it is given *by definition*" (Givón 1982:43). That is, people will not normally be expected to have acquired encyclopedic information through personal experience, but to have learned it.

It is therefore not surprising that in the languages Givón studied, sentences that convey this type of information are not marked evidentially at all. And this is also a possibility for Quechua (see section 4.4). Nevertheless, evidentials can occur in Quechua, and it is in particular surprising that *-mi* is felicitous even when the speaker

does not possess the most direct source of information—which, though neither expected nor required, is of course still a possibility.

In order to account for these uses of *-mi*, I propose widening its evidential meaning even further: *-mi* indicates that the speaker acquired the information from the best source out of all the sources a normal person is expected to have access to, for the kind of information conveyed. For personal information, the best possible source of information a person can be expected to have access to is the most direct one as discussed in the previous section. For encyclopedic information, a normal person is not expected to have direct access, but they can still have a more or less good source. The best source is a source of authority. Thus, a student who learned the information in (100b) from a respected and authoritative teacher is entitled to use (100b) with *-mi*.

In the following section, I discuss in more detail what role the notion of authority, as well as the related notions of assimilation and challengeability, play in the usage of *-mi*. Based on this discussion, I propose that the evidential meaning of *-mi* is the indication of *best possible grounds*.

4.3.2   Authority, assimilation and challengeability

The notion of authority manifests itself in my data in two ways with *-mi*. First, although the speaker is not required to have the most direct evidence possible to use *-mi* to convey encyclopedic information, they have to have obtained it from a source of authority. Second, speakers who use *-mi* for encyclopedic information consider themselves, and often are considered by others, to be an authority on the subject (with respect to the addressee). Expressed slightly differently, a speaker who uses *-mi* claims to have authority over the information conveyed. This second aspect of authority also extends to personal information: a person who witnessed an event has more authority over that piece of information than a person who did not.

Let me expand a bit more on what I mean by having authority with respect to encyclopedic information . This (at least) requires (i) having obtained the information from an authority, and (ii) being able to respond to challenges and to expand on

the topic if necessary. That is, one cannot claim authority over just one piece of information without being able to relate it to other relevant pieces. For example, the use of *-mi* in (100b) would be infelicitous if the speaker had learned this fact in school, that is, from an authority, but were not able to expand a bit on the issue. For example, (s)he should be able to answer questions such as *Where is Africa? Is Africa a country or a continent or what? What kind of animal is an elephant?* That is, in order to claim authority, it is not enough to have memorized something, it has to be *assimilated.*

The notion of assimilation was brought into the discussion of evidentiality by Aksu-Koç and Slobin (1986). They make the following comment regarding the two evidential past tense morphemes in Turkish.

> A general psychological or phenomenological stance towards experience
> seems to underlie the entire range of functions of the two past tense forms
> in Turkish, *-dI* and *-mIş.* The neutral expectation, encoded by *-dI*, is that
> experienced events can be assimilated to a network of existing assumptions
> and expectations (Aksu-Koç and Slobin 1986:163f).

Claiming authority over a piece of encyclopedic information requires that that piece be assimilated in the sense that is must be connectable to a network of related beliefs. Thus, Quechua *-mi* can only be used for encyclopedic information when it has been assimilated in this sense. Consider again (101). At the time Legía became president, this information would have been new, that is, it would not yet have entered the history books and been taught in school. However, with the passing of time, this fact becomes an assimilated, historical fact. Aksu-Koç and Slobin (1986) present the example of a Turkish premier unexpectedly resigning. Upon learning about this event through the media, people would talk about it using the past tense marker *-mIş*, but as time went on, this fact became familiar and could then be reported with *-dI*.[6] Phuturi, the speaker of (101), has obviously assimilated the fact of Legía's presidency, and he also has authority over this information, as he was alive during that time. The

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[6]Note that an assimilation account of the use of direct evidentials appears to assume that speakers are aware of what information they have assimilated—at least in as much the choice of one linguistic expression over another involves awareness of whether their usage conditions are met.

use of *-mi* is therefore justified. I do not know whether Phuturi would not have used
-mi to report this fact at the time it happened. However, in my recordings of a
radio show in Quechua (*Warmikuna rimanchis—We women talk*), news of the day is
generally announced using the Reportative *-si*. An example is given in (102).[7]

(102) (1) Chaymantapas willaymanchis qaynuchay p'unchaytaq-**sis** huk wayna, imay-
nan eh, armantin-**sis** kanman karan. (2) Hinaspa, maypi a ver, wañurachipusqa
enamoradanta. (3) Chayta ruwaruspataq-**sis** paypas kaq wañurachikullasqataq.
[...] (4) Chayqa normal-**sis** riki waynasipaskunapas sapanka estudionkupi
kashankuman karan. (5) Hinaspa qonqaychá riki khayna fuerte sonidokuna
kaqtin riki, wakin a ver turanchiskuna riki waynasipaskuna lloqsiramuranku.
(6) Hinaqa kay situacionwan tarikapunku riki.

'(1) Then, we're told (that) yesterday a young man, how is that, eh?, appears
to have had a gun. (2) Then, where, let's see, he killed his girlfriend. (3)
And having done this, he killed himself [...] (4) Then, the young people each
appear to have been doing their studies. (5) Then, there having been all of a
sudden, right, this loud noise, right, some of our young 'brothers', right, and
'sisters' went out. (5) Then they found this situation, right.'

Sentence (1) is the first sentence with respect to this piece of news. Note that it
starts with an explicit statement that the radio announcer and her colleagues were
told what follows. This is quite normal in this type of news reporting. The subsequent
sentences all contain the Reportative *-si*. This supports the claim that *-mi* cannot be
used to relate unassimilated information. Note however that one cannot conclude from
this that unassimilated information requires the use of the Reportative *-si*, because
sentences (5) and (6) do not contain *-si*. Thus, while news is usually introduced with
-si, it is possible to switch to not using an evidential at some point in the story. What
this switch is triggered by needs further investigation. It cannot only be assimilation.
This could be argued for sentence (6), since it has already been established what 'this

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[7]Two sentences in this passage contain the irrealis marker *-man*. Its first occurrence, I translated
as *appears to have had a gun*, its second as *appear to have been doing their studies*. This translation
gives the impression that *-man* is an evidential here. I do not want to claim that this is the right
analysis for *-man*. It may only appear to have this meaning here, because it is embedded under the
Reportative *-si* (which in this dialect takes the form *-sis*). I would also like to point out that the
-chá on *qonqaychá* in sentence (5) does not appear to be the Conjectural enclitic studied here.

situation' is, but not for sentence (5), which is the first mention of the other students leaving the building. My impression is that it has to do with a switch from the main story line to less central events, but to substantiate this as a claim would require in-depth study of narrative structure.

Thus, news is usually reported with the Reportative enclitic, or no enclitic, which supports the claim that before *-mi* can be used to convey information of this type, it has to be assimilated.

It should perhaps also be noted that not all information is equally assimilable by all speakers, as the following example shows. Suppose that someone knows that Germany was once divided and reunited some years ago, but they do not know exactly when. If I tell them that the reunification took place in October 1990, they can easily assimilate this new fact, and might report it to other people using *-mi*. However, if a person who did not know anything about Germany's division and later reunification learns the same fact, they would report it to other people using *-si*, since *-mi* would signify that (s)he has integrated this fact into his or her belief system.[8]

Though *-mi* can be used for assimilated encyclopedic facts, it is not obligatory. Even when a speaker has known a fact for a long time, they might still choose to report it with *-si*. For example, just one paragraph after (101), we find (103).

(103)   Chay-**si** Lima-pi   senador-ni-n   ka-sqa   Sánches Cerro senador
          this-**si**   Lima-LOC senator-EUPH-3 be-PST2 Sánchez Cerro senator
          ophicial-**chus hina** ka-sqa
          official-**chus hina**   be-PST2

          p='In Lima, his senator was Sánchez Cerro, he was, it seems, official senator.'
          EV= speaker was told that *p*   (Phuturi Suni 1997:102)

Both (101) and (103) describe historical facts, and were probably obtained in similar ways, either through word of mouth or perhaps over the radio. There is no reason to

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[8]We might expect that even the person who did not know anything about Germany's history will eventually assimilate the fact that its reunification took place in 1990, and start using *-mi* instead of *-si*. If (s)he does, then this probably means that (s)he has accommodated the presupposed information as well as the new information, and managed to connect it into his or her previously existing network of beliefs. A speaker who is completely unprepared might not assimilate this information, and simply forget it.

assume that one should be less assimilated than the other. Why then does Phuturi use *-mi* in (101) and *-si* in (103)? I can only speculate. One hypothesis is that he is more certain that (101) is true than (103). By using *-mi* in (103), he would assert that he is certain that Cerro was senator then. This is not the case for *-si* (see section 5.3). This hypothesis in this particular case is supported by the follow-up *It seems he was official senator*, with which he appears to express his doubts as to the exact position Cerro occupied in the government. However, the text contains other examples like this, without there being any indication of doubt.[9]

Assimilation also appears to be relevant for personal information. Suppose, for example, that my sister tells me on the phone that my brother was sent to Italy on assignment for a week, and I want to tell this news to someone shortly after getting off the phone. In this case, I would have to use (104a) with the Reportative *-si* (see also section 5.3). However, if someone were to ask me the next day about my brother I could answer with (104b) using *-mi*.

(104) (a) Tura-y-qa   Italia-pi-**s**   llank'a-sha-n kay semana-pi.
            brother-1-TOP Italy-LOC-**si** work-PROG-3 this week-LOC

      p='My brother is working in Italy this week.'
      EV= speaker was told that *p*

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[9]A second hypothesis takes into account the two past tense markers *-rqa* and *-sqa*. The combination of *-sqa* with *-si*, and *-rqa* with *-mi* are typical, whereas the combinations of *-sqa* with *-mi*, and *-rqa* with *-si* are less typical. Thus, if there is an independent reason for choosing *-sqa* over *-rqa* in (103), *-si* would tag along for free, so to speak. Such an independent reason could have to do with the structuring of discourse. As has been observed by various researchers (Levinsohn 1991, Howard-Malverde 1990), the principal opposition between *-rqa* and *-sqa* in folktales is not in terms of evidentiality, but in terms of discourse structure. In several Quechua dialects, *-rqa* in narratives is used for background information, and *-sqa* for the main events of the story line (Levinsohn 1991).

It is also interesting to observe that the information in (103), can be presupposed. A few sentences after (103) Phuturi Cipriano presupposes that Cerro was senator in the following example.

Sánches Cerro senador ka-spa   ankhayna much'uqara-n-manta Agosto   Leguía-ta
Sánches Cerro senator be-NMLZ like-this   neck-3-ABL   Augusto Leguía-ACC
aysarimu-sqa [...]
grab-PST2

'While Sanches Cerro was senator, he grabbed Augusto Leguía like this from his neck [...].'

(b) Tura-y-qa   Italia-pi-**n**   llank'a-sha-n kay semana-pi.
brother-1-TOP Italy-LOC-**mi** work-PROG-3 this week-LOC

p=‘My brother is working in Italy this week.’
EV= speaker has best possible grounds for p

The evidence is in both cases the same, but after the information has been assimilated, -*mi* can be used.[10]

Based on examples like this, one line of accounting for assimilation with respect to the meaning of -*mi* is to say that -*mi* can be used after a certain time has elapsed after acquiring the information from a reliable source (such as my sister) and no evidence to the contrary has emerged in that time. That is, -*mi* is licensed by the fact that the source is a reliable one, and the *absence* of evidence to the contrary.[11]

An alternative account of the permissibility of -*mi* in (104b) is in terms of *territory of information*. According to Kamio (1997), the use of certain Japanese evidentials is governed by whether the conveyed information falls within or outside the speaker's or the hearer's territory of information. A person's territory of information includes his or her internal thoughts, perceptions, emotions, as well as of persons they have close relations with, such as family members and life partners. Since (104b) is about my brother, this piece of information actually falls into my territory of information. Indeed, a first inquiry indicates that I could not use -*mi* if the sentence where about my sister's academic advisor, even if my source of information remains the same, namely my sister.

Thus, -*mi* does not only indicate that the speaker has the best possible source of information, but also that this information has been assimilated. Since assimilation is not a source of information, I characterize -*mi* as in (105).

(105)   **-mi**: indicates that the speaker has the best possible grounds (*Bpg*) for making his or her statement

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[10]It is perhaps worth pointing out that the time that passes from acquiring a piece of information and assimilating it does not find overt expression in tense or aspect markers. Thus, the tense in (104b) is still present tense, even though the speaker acquired the information before the time of speaking, and now claims to have the best possible grounds for asserting something about the present (thanks to Elizabeth Traugott for making me aware of this).

[11]This line of explanation of the permissability of -*mi* here is a suggestion from Cleo Condoravdi.

Having the best possible source of information and having assimilated that piece of information into a network of beliefs together constitute the best possible grounds a speaker can have for making a statement. This characterization is also suited to account for the meaning of *-mi* in content questions, for which it makes little sense to talk about the speaker's source of information (see section 6.3.2).

The general characterization of *-mi* in (105) will be made more precise in section 4.5. First, I make a few comments on the occurrence of *-mi* in certain types of texts.

Experts are by definition authorities in their area. Thus, we can expect that an expert who presents his or her knowledge to non-experts will use *-mi* more frequently as a demonstration of his or her authority. While Quechua is unfortunately not used on a regular basis in academic settings, I had the opportunity to attend a conference on Quechua in Cuzco, during which some speakers gave parts of their talks in Quechua. I furthermore have available to me some recordings of a conference at which some talks were entirely in Quechua. The extensive use of *-mi* is quite noticeable in these kinds of texts. Also, one of my consultants, who is a school teacher, confirmed that if she acquired a new piece of knowledge and had to teach it immediately to her students, she would use *-mi* even though she might not have fully assimilated it. Talking to her colleagues about it, however, she would use *-si* or no evidential enclitic.

The notion of authority also appears to play a role in other types of texts. For example, as already observed by both Weber (1986) and Floyd (1999), bible translations make frequent use of the Direct *-mi*. An example is given in (106).

(106) Qallariy-pi-**n**   Dios-qa   hanaq pacha-ta   kay
       beginning-LOC-**mi** God-TOP far   time.place-ACC this
       pacha-ta-wan   kama-rqa-n
       time.place-ACC-INSTR create-PST1-3

       'In the beginning God created the heavens and the earth.'
                                        Sociedad Bíblica Peruana (1988:1)

Even though strictly speaking the authors of the Bible have obtained their information secondhand, and even though folktales are told with *-si* almost throughout, the Direct *-mi* is used. Clearly, the Bible is not a folktale, but is considered to be the word of god,

the ultimate authority on everything. This justifies the use of *-mi* almost throughout the entire text.[12]

Also, in what I will call for now 'definitional' or 'constitutive' texts, *-mi* is used. By this I mean texts that lay down definitions, the rules of a game, etc. A case in point is the Quechua translation of the Peruvian Constitution (Chirinos Rivera 1999), in which almost every sentence contains *-mi*. For these kinds of texts it does not make much sense to speak of having direct or any other kind of evidence. However, these laws, etc. have to be laid down with authority and this is why *-mi* is licensed in these cases.

There are other kinds of texts in which it is meaningless to speak of having evidence, and which do not necessarily need an authoritative backing. Examples are what Weber (1986:141) calls non-events, so-called *how-to* texts (e.g., how to make a basket), and descriptions of static objects and cultural practices. According to Weber *-mi* is not used for these kinds in Huallaga Quechua. While this is also true for Cuzco Quechua, such texts *can* contain *-mi*, and again it appears that *-mi* adds authority.

Lastly, let me comment on the notion of challengeability. Recall that, according to Givón (1982), apriori-synthetic knowledge is not challengeable by the hearer. This is in line with his conception of apriori-synthetic knowledge as being presupposed in the speech situation. Presuppositions in general are indeed not challengeable. However, as mentioned above, not all statements about encyclopedic information, not even all statements about culture-specific knowledge, are necessarily presupposed. Often, such information will be new to the hearer, for example in a teacher/student situation. My notion of encyclopedic information therefore does not coincide with Givón's notion of apriori-synthetic knowledge. When it is not being presupposed, encyclopedic information is furthermore open to challenge from the hearer. Thus, it is perfectly acceptable to challenge the truth of a statement such as *There are elephants in Africa*. However, by using *-mi*, the speaker overtly appeals to his or her own authority on the subject, indicating that the (s)he is in a position to back up his

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[12]This is an interesting contrast with *Life of the Buddha* narrated by a Lama who uses almost exclusively the hearsay/indirect evidence suffix. My guess is that Life of the Buddha is not considered to be the word of god, but rather a description of Buddha's life by mortals, even though it is, according to Givón (1982), considered to be the truest of all stories by buddhists (see section 3).

or her claim, with the intention of warding off potential challenges.

To briefly summarize, I analyze *-mi* as encoding the evidential value *best possible grounds*, where it depends on the type of the information conveyed what counts as best possible grounds.

This characterization of the meaning of *-mi* is fairly abstract, and it is necessary to say something about how the particular interpretations discussed for the examples come about. Up to now, I simply said that it is the type of the embedded proposition that determines whether a token of *-mi* comes to mean for example 'observed' or 'learned from an authority'. But I have not yet said how these meanings are determined. It is not plausible to assume that the meaning of a particular token of *-mi* is determined compositionally. This would require that propositions are marked somehow whether and to what degree they are observable, and whether they are used to convey encyclopedic or personal information. While observability can be imagined as arising compositionally from the meaning of the verb and its arguments, such an analysis is clearly out of the question for the difference between personal and encyclopedic knowledge.

Instead, I propose that the particular meaning of a token of *-mi* arises pragmatically. From the speaker's perspective the calculation proceeds along the following lines. A speaker who wants to assert p has to decide whether to use an evidential at all, and if so which one. In order to decide that, (s)he has to consider his or her actual source of information and compare it to all other possible sources of information for that piece of information. Only if the speaker has the best possible source, can (s)he use *-mi* (or no evidential, see section 4.4). This assumes a partial ranking of all possible sources $s_1 \geq s_2 \cdots \geq s_3$ ($s_1 \geq s_2 : s_1$ is a source better than or equal to s_2). If p is considered to be personal information, and the event is observable, then s_1 is the observation of the event, and s_2 may be the report by someone else or the speaker's inference. If the event is not observable, then s_1 will be the next best thing to observability. Thus, for a non-observable event such as that described by *Inés is sad*, the best possible source s_1 is Inés' report, and s_2 might be a report by someone other than Inés. To use *-mi*, the speaker has to have the source s_1 from the ordering

appropriate for the described event.[13]

From the hearer's perspective, the calculation can be described as follows. Upon hearing an utterance with -*mi*, the hearer will first determine whether it is meant to convey encyclopedic or personal information. I assume that this is done partially on the basis of the content of the utterance, what the hearer knows about the speaker (expert vs. non-expert, student, world-traveller etc.), and the linguistic context (what the conversation is about). If the proposition is classified as encyclopedic information, the hearer can infer from the use of -*mi* that the speaker has an authoritative source. If the information conveyed is personal, the hearer can infer that the speaker has observed the described event in the case it is observable, and that the speaker's source is the next best thing to having observed it in the case that the event is not observable. If it is a statement about somebody else's intentions or inner states, the hearer can infer that that person has told the speaker about them.

The above is only a sketch for the problem of accounting for the relative nature of *Bpg*, and I will leave it to future work to make this proposal more precise.[14]

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[13]Note that this ordering is not meant to correspond to the universal scale proposed by de Haan (1998). Rather, for each sentence the ranking of sources is determined based on properties of the event described, the type of information conveyed, etc.

[14]Wierzbicka (1994) proposes an alternative analysis of -*mi*, paraphrasing it with "semantic primitives" as follows: I say this; not because someone else said it; I know it. While this paraphrase certainly captures the conveyed meaning of a sentence containing -*mi*, it is not obvious that *know* is part of the encoded meaning of -*mi*. As discussed in section 1.2.2, a speaker making an assertion presents as actual a state of affairs. In Garrett's (2001:9) words: "when a speaker says [asserts] something, she presents herself as knowing that thing." If Wierzbicka is right, then -*mi* would redundantly encode *I know*. As pointed out to me by Nick Enfield, this redundancy would then give rise to a number of conversational implicatures, since the speaker should have a reason for redundantly encoding something (see also section 4.4). I do not adopt this analysis for the following reasons. It is unclear what the status of the primitive *I know* is within other, more standard frameworks of meaning. If it is taken to be a modal (logic) operator, then it would be predicted that it interacts scopally with other operators. However, I will show in chapter 6 that -*mi* has always wide scope. The primitive *I know* can also not be taken to correspond to the main verb *know*, since -*mi* is not part of the proposition expressed. Moreover, as shown above, -*mi can* be used when somebody else said "it"—as long as this constitutes the best possible grounds. Lastly, the account proposed here already for -*mi* amounts to an interpretation in terms of *knowing*: the speaker believes p because (s)he has the best possible grounds for p. This is stronger than simply believing p.

4.4 No evidential

As mentioned, evidentials are not obligatory in Quechua, and sentences without evidentials are usually interpreted in the same way as the same sentences with *-mi*. In this section, I present examples to illustrate this claim, and discuss how the same evidential meaning arises in different ways for sentences with and without *-mi*.

Consider (107). Without further context, (107a) and (107b) have the same meaning.

(107)   a. Para-sha-(**rqa**)-n
             rain-PROG-(**rqa**)-3

             p='It is/was raining.'
             EV= speaker sees/saw that p

        b. Para-sha-(**rqa**)-n-**mi**
             rain-PROG-(**rqa**)-3-**mi**

             p='It is/was raining.'
             EV= speaker sees/saw that p

Some spontaneous examples for unqualified sentences are given in (108).

(108)   a. Julio-manta pacha unu-qa   mana kan-chu.
             July-ABL   time water-TOP not be-NEG

             'Since July there has been no water.'

        b. Kunan-qa estudia-sha-n computación-ta
             now-TOP   study-PROG-3 computation-ACC

             'She now studies computation.'

The observation that unqualified assertions are interpreted such that the speaker has best possible grounds, also holds for other types of information, not just for observable events or personal information in general. Thus, (109), which is example (100b) with *-mi* omitted, is still interpreted to mean that the speaker learned this fact in school or from another authority.[15]

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[15]For reasons of information structure, when *-mi* is omitted from the first constituent it is more coherent to also omit the topic marker on the second.

(109)   Africa-pi   elefante-kuna ka-n.
         Africa-LOC elephant-PL   be-3

         p='In Africa, there are elephants.'
         EV= speaker learned in school that there are elephants in Africa

Thus, sentences without an evidential have the same EV as sentences with *-mi*, that is, best possible grounds. Consultants perceive the difference between pairs such as (107a) and (107b) as one of emphasis such that a sentence with *-mi* is more emphatic than the same sentence without *-mi*. I argue below that this difference in emphasis is semantically the difference between implicated versus encoded meaning: the evidential value associated with (107b) is encoded, while that of (107a) is implicated.

First, I argue against a possible alternative analysis, which would be to say that the tense morpheme, or even a null evidential encodes the value *Bpg*. I reject the null evidential hypothesis because, as I will show below, it is possible to account for the EV of simple assertions with general pragmatic principles. The postulation of a null morpheme would only be justified if it would lead to some observable effects that cannot be explained otherwise, and I am not aware of such effects.

The hypothesis that the EV of (107a) is encoded by the tense morpheme is a reasonable hypothesis, given that it has been claimed that the two past morphemes encode an evidential contrast. If this were indeed the case, it would be very plausible to assume that evidentiality is encoded throughout the tense system. However, as I have briefly argued in chapter 1, the so-called inexperienced past tense suffix *-sqa* may not be an evidential. I will argue here that the so-called experienced past suffix *-rqa* does also not encode an evidential value.

There are two arguments against the hypothesis that the tense morphemes encode the same value as the Direct enclitic *-mi*. The first is the observation that the *Bpg* interpretation of simple present tense and past tense sentences with *-rqa* can be overridden by context, and the second the fact that the Reportative *-si* and the Conjectural *-chá* can be added to (107a) without giving rise to a meaning conflict. Consider the examples in (110).[16]

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[16]The second sentence in example (110a) does not contain a main verb. It is a deontic construction, involving a nominalized form of the main verb using the suffix *-na* and a nominal person suffix, in

(110)   a. Imayna-**n** willaku-n mama Reiche hina-qa, ka-n-**si** huk Pisqu. [...]
          how-**mi**   tell-3   mama Reiche like-TOP, be-3-**si** one Bird. [...]
          Chay allin riku-na-pah-qa,   allin qhawa-na-pah-qa awiyun-pi-yá
          this   good see-NMLZ-DAT-TOP, good see-NMLZ-DAT-TOP plane-LOC-EMO
          phawari-na-yki hanahpachan-ta.
          run-NMLZ-2   sky-ACC

          'As Ms. Reiche tells us, there is a Bird. [...] In order to see it well, in
          order to get a good view of it, you have to go up into the sky in a plane.'
                                                                   (Nasca y sus líneas)

       b. Chay-qa recupera-pu-n ichaqa mana suwa-man-qa   aypa-n-chu,
          this-TOP reover-BEN-3 but   not   thief-ILLA-TOP catch.up-3-NEG
          ichaqa triciclo-n-ta-qa   tari-ra-ka-pu-n.
          but   tricycle-3-ACC-TOP find-HORT-REFL-BEN-3

          'Then they recover(ed) (it) but they don't (didn't) catch (up with) the
          thief, but they find (found) his tricycle.'   (spontaneous)

       c. [...] kuti vuelta-cha riki   astaru-**ra**-n
                  time return-DIM right carry-**rqa**-3

          'back and forth (s)he carried (it), right.   (Phuturi Suni 1997:302)

Example (110a) in present tense is taken from a text on the internet describing the
Naska Lines, large figures of animals and geometric figures etched into the ground of
a desert area. The paragraph starts out by explicitly indicating that what follows is
a indirect quote (*as Ms. Reiche tells us*), a German researcher who investigated these
lines for over 40 years. This is marked with the Direct evidential *-mi*. In the second
part of this sentence, the author uses *-si* to indicate the fact that (s)he is now quoting
Ms. Reiche. Two more sentences follow (in place of ' ... ') that describe the extension
of the figure called The Bird, all marked with *-si*. The last sentence of the quote (after
' ... '), however, does not contain *-si*. It is nevertheless clear from the context (and
from the accompanying Spanish version of the text, which contains a direct quote of
this entire passage marked with quotation marks) that the last sentence is part of

this case *-yki*. This construction may, but does not have to co-occur with a conjugated form of
auxiliary *kay*. In the current example, it is clear from the context that the omitted or non-overt
auxiliary must be in the present tense. Example (110b) is formally present tense, but its reference
is clearly past. The use of present tense to refer to past events is quite normal in Quechua.

the quote of Ms. Reiche, that is, the evidential force of (110a) is reportative as in the preceding paragraph.[17]

(110b) is taken from a conversation among friends during which one woman tells the story of a co-worker whose tricycle had been stolen. The narrator herself was not present during the event, but was told everything by the co-worker. Almost all sentences are marked with *-si* and the past tense suffix *-sqa*, with the exception of the final one, (110b), which does not contain an evidential enclitic. Note also that this sentence is grammatically present tense, but is here used to narrate a past event.[18] It is clear however that this sentence is also based on reportative evidence. (110c), repeated from (27a), chapter 1, is taken from a story told by Ciprian Phuturi Suni, who talks about how sacks of seed were stolen from him during one night. He clearly did not see the action of the thief described in (110c)—this is clear from the context of the story.[19]

Furthermore, Floyd (1994:160) observes for Wanka Quechua that in normal conversation *-si* is often omitted, but the resulting sentences without an evidential enclitic

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[17]I hypothesize that the writer omitted *-si* in this sentence, because (s)he wanted to use the emotive focus enclitic *-yá*. Since *-si* is also a focus enclitic, and a sentence (or at least this sentence) can only contain one focus, it is not possible to use both. One may want to argue that this sentence in fact conveys *Bpg*, because the writer has the information from *the* authority on the Naska Lines, Ms. Reiche. This example would then not show that *Bpg* associated with unqualified assertions can be overridden by the context (I thank Nick Enfield for pointing this out). However, since the author uses the Reportative *-si* in the surrounding text, which was acquired from the same source, I take this example to still illustrate my point. One question then is of course, why the writer would use *-si* at all, given that (s)he acquired the information from the most authorative source. I hypothesize that this is so, because (s)he does not want to convey that (s)he has authority over the information her- or himself.

[18]This might be a case of historical present, but present tense (that is unmarked) forms are very frequently used in daily conversation for past events also, not just in personal narratives. Also important is perhaps that this is the last sentence of this personal narrative, and constitutes something like a summary of the whole story. This might be the reason for why *-si* is omitted here; the described events are already in the common ground.

[19]While the evidential meaning of simple assertions can be overridden by the surrounding context, it is very hard if not infelicitous to cancel it overtly. Thus, (i) is highly marked.

   i. Para-sha-n,   ichaqa mana-**n** riku-ni-chu.
      rain-PROG-3, but   not-**mi** see-1-NEG

   'It is raining, but I do not see it (rain).'

In this regard, the implicature is atypical.

are nevertheless understood to be reportative.

The second argument in favor of an implicature analysis of the EV of (107a) and other unqualified sentences is the observation that the Reportative *-si* and Conjectural *-chá* can be added without leading to a conflict in meaning. If the present tense and *-rqa* past tense encoded the same value as the enclitic *-mi* we would expect that only it, and not *-si* or *-chá*, could combine with them. However, as shown in (111), this is not the case; both *-si* and *-chá* can freely combine with present tense and *-rqa*.

(111)   a. Para-sha-(**rqa**)-n-**si**.
             rain-PROG-(**rqa**)-3-**si**

         p='It is raining.'
         EV= speaker was told that p

      b. Para-sha-(**rqa**)-n-**chá**.
          rain-PROG-(**rqa**)-3-**chá**

          p= 'It is raining.'
          EV= speaker conjectures that p

Since the combination of the Reportative and the Conjectural with present tense and *-rqa* has the evidential value of the enclitic, it cannot be the case that the tenses encode *Bpg*. I conclude that this together with the fact that in the right context simple assertions can receive a reportative interpretation shows that their usual interpretation as *Bpg* is an implicature.[20]

How does this implicature arise? In section 2.4.2, I proposed an evidential version of Grice's second Maxim of Quality to take into account that evidence is gradable in terms of strength: 'Base what you say on the strongest evidence available to you.' This derived version of the second Maxim of Quality straightforwardly accounts for the *Bpg* implicature associated with simple present tense and *-rqa* past tense sentences also: the hearer can reason that unless indicated otherwise, the speaker will base his or her statement on the strongest evidence.[21]

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[20]I have the impression that the implicature associated with *-rqa* is stronger than that associated with present tense, that is, less easy to cancel. I attribute this to the fact that it is in direct opposition with the past tense marker *-sqa*, which though perhaps not a real evidential, has uses that are clearly evidential.

[21]The original version of the second Maxim of Quality could not account directly for this implicature, since it only requires the speaker to have adequate evidence. Both reportative and inferential

Given that unqualified assertions already implicate the evidential value *Bpg*, we have to ask what the use of *-mi* conveys beyond that implicature. As mentioned above, consultants perceive the difference of pairs like (107) to be one of emphasis, and I have argued that *-mi* encodes *Bpg* whereas its absence only implicates it. How does this semantic analysis translate into the perceived emphasis?

Note that there are two factors that are orthogonal to the expression of evidentiality that condition the use of *-mi*. First, in written texts, evidentials, including *-mi* occur almost in every sentence. It is primarily in spoken language that evidentials can be omitted. Thus, the perceived emphasis might be one of style. Second, recall that *-mi* (and the other two evidential enclitics) are also focus markers. The existence of sentences without focus enclitics as presented above suggests that these markers are not necessary for marking focus, and I hypothesize that word order and intonation also contribute to information structure. However, it is to be expected that there are information structure configurations that require the presence of a focus enclitic,[22] and if the speaker happens to have direct information, (s)he will use *-mi* to mark focus, even though (s)he might not have used *-mi* if the information structure had been different. Thus, *-mi* often occurs in answers to questions. In these cases, the perceived emphasis may be one of information structuring.

In addition to these independent reasons for using *-mi* over no enclitic there are also evidential reasons. If the speaker makes the extra effort of using an overt marker to encode the same thing that an unqualified assertion already implicates, then there must be a reason for this. One reason is that the speaker might have been challenged

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evidence are also adequate types of evidence, but not necessarily the strongest.

[22]An example of such a configuration are sentences that contain the topic marker *-qa*. For example, the sentence in (i) is less acceptable than the one in (ii), which contains the evidential focus enclitic *-mi*.

   i. Lawa-ta   pay-**qa**   mikhu-rqa-n.
       soup-ACC (s)he-**qa** eat-PST1-3

       'S(he) ate soup.'

   ii. Lawa-ta-**n**   pay-**qa**   mikhu-rqa-n.
       soup-ACC-**mi** (s)he-**qa** eat-PST1-3

       'S(he) ate soup.'

or anticipate a challenge. By using *-mi*, (s)he strongly indicates that (s)he has the best evidence to back up her claims and that therefore any challenges will be fruitless. This was already briefly mentioned in the discussion of authority and challengeability in section 4.3.2. Indeed, I found in my own fieldwork that the use of *-mi* increases in situations of real or anticipated argument, and when the speaker wants to make a particularly strong point. In all these situations it can be important to make it clear to the audience that one can back up one's claims. A good example that illustrates this is the following. A consultant of mine was talking about a condor in the city of Cuzco itself, using no evidential enclitics, to which I replied, surprised, that I thought there were no condors in the city. She insisted with *kashan-**mi** - There is*, indicating that she had good evidence and that it would be fruitless for me to question her. It turned out that she was talking about a statue of a condor.

Note also that, while it is true that evidentials are not obligatory, the fact that the absence of an evidential enclitic implicates the evidential meaning of *-mi* makes the use of the other two evidentials quasi-obligatory, that is, when the speaker has a source of information that is not direct, they will usually use one of the other evidentials.

4.5 Direct *-mi* is not an epistemic modal

In the previous sections, I argued for a fairly broad conception of the evidential meaning of *-mi* as indicating that the speaker has the best possible grounds on which to base his or her statement. I now turn to the question of whether it also encodes the epistemic modal value that the speaker is convinced that the embedded proposition p is true.

I begin with some observations that at first glance appear to support the view that *-mi* encodes such a value. First, the high certainty interpretation associated with sentences containing *-mi* cannot be derived via an axiom like Weber's discussed above, and second, *-mi* cannot be used in statements if the speaker is uncertain that p is true for various reasons, even if they have the best possible source of information for p. I then argue that it would be wrong to conclude from these observations that

-mi encodes a high degree of certainty, because it is assumed in standard speech act theory that all assertions express such a value. A speaker who doubts that p is true cannot assert p.[23]

With the revised analysis of *-mi* as encoding Bpg developed in the previous sections, one has to reconsider Weber's proposal to derive the high certainty interpretation associated with statements containing *-mi* by a general axiom of the form in (112), since the main arguments against his approach were that *-mi* does not encode the value DIRECT in the narrow sense.

(112) $\text{BestPossibleGrounds}(s, p) \longrightarrow \text{Certain}(s, p)$

However, (112), like (94), is not a valid inference, if this is taken to be material implication.[24] Recall that for personal information concerning non-observable events (see the examples in (95)), the speaker's best possible grounds are the report of the subject. However, it is easy to imagine a case in which the speaker has this type of source of information for a proposition p, but is nevertheless not convinced that p is true. For example, Pilar might tell me that she will go to Cuzco tomorrow, but I know from experience that she is likely to change her plans. I will then not be certain that the proposition *Pilar will go to Cuzco tomorrow* is true, even though Pilar's report constitutes the most direct source possible in this case.

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[23]A speaker who is not sure that p is true but nevertheless believes p to be a possibility can make a *weak* assertion, but would have to indicate that linguistically, for example by using a modal, or an adverb expressing a lower degree of certainty such as *perhaps* or *probably.* Thus, assertions with *-mi* can be analyzed in the same way as any other kind of assertion in this respect.

[24]As pointed out to me by Cleo Condoravdi, the inference in (i) is better than (112).

   i. $Bel(s, \text{BestPossibleGrounds}(s, p)) \longrightarrow \text{Certain}(s, p)$

That is, if the speaker *believes* that (s)he has the best possible grounds for making a statement, then (s)he will also be certain. Thus, in the example given below, the speaker knowing Pilar will in fact not take Pilar's report to constitute the best possible grounds. This suggests that we have to add a subjective dimension to the determination of best possible grounds on top of the objective characterization in terms of observability, etc. proposed above. Again, as briefly mentioned in footnote 3, the speaker would according to (112), as well as the revised version in (i), be said to implicate that (s)he is certain, because (s)he will have to assume that the hearer infers from the use of *-mi* that the speaker has (believes to have) best possible grounds. It remains to be seen whether the intuition that (112) is not valid and that (i) is can be accounted for within a logical system. One logic that might have something to say in this regard is the Logic of Vision developed by van der Does and van Lambalgen (2000), who discuss evidentiality to some extent.

Not only is the inference in (112) invalid, the speaker could not use (95a) with *-mi* in the described situation. Instead (s)he would use the same sentence with the Reportative *-si*.

For further illustration, consider cases of partial evidence and mistaken perception. As I mentioned briefly before, there are potential problems with (112) even if *-mi* could only be used in statements about directly observable events. These problems concern cases in which the speaker has direct evidence, but in which this evidence is partial or mistaken. As an example of partial evidence consider a case in which one sees a person approaching in the fog, or one's view of a building is partially obstructed. Examples for mistaken perception are magic tricks and optical illusions. In all these cases, the speaker has direct evidence, but any statement a speaker makes on the basis of this evidence has the potential of being mistaken. In fact, in the case of magic tricks and optical illusions, the speaker knows that a statement that describes what they (appear to) see will be mistaken.[25]

What these examples show is that the relationship between evidence and certainty/belief is not a simple one and that any attempt to capture it in simple axioms such as (94) or (112) must fail in the end. Consider, for example, an optical illusion in which two circles appear to be of different size, but in fact are the same size. A person who has never seen this kind of illusion might well be entirely convinced that the two circles are of different size. However, once they have been shown that they are in fact the same size, they will react differently to similar illusions, that is, they will at least be uncertain that what they see is what is the case. Such a demonstration is not always necessary to make one realize that perception is fallible. Take the standard magic trick during which a person in a box is sawn into half. Of course, one reason to doubt that this is indeed happening at the moment is that one has seen this trick before. But even someone who sees this or any magic trick for the first time will probably doubt that what (s)he sees is true. First, for social/moral reasons: it simply cannot be the case that a magician kills a person in front of an audience in this way, and that the audience watches in awe. Second, for "folk science" reasons: a

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[25]The issue of partial evidence raises the question of whether we ever have full evidence for anything, and therefore of whether we can ever know anything about factual reality. This problem, known as Hume's problem, is philosophical, not linguistic, and shall therefore not concern us here.

person cut in half does not go on smiling, and wiggling his or her toes.

While optical illusions and magic tricks are arguably marginal cases, they bring out more easily than more mundane cases the following observation. A person's certainty that some state of affair holds is not only a product of the evidence to be evaluated at any given moment, but of this evidence in conjunction with that person's whole body of previous experiences and beliefs. Thus, attempts to relate speaker certainty to just the evidence available at some salient point in time are too simplistic. How exactly the available evidence interacts with existing beliefs to form new beliefs or revise old ones is a question for psychologists and philosophers.

The linguistic question of interest here is whether or not *-mi* can be used in such situations of partial or mistaken perception. The answer is that *-mi* can only be used in those cases in which the speaker believes that what they perceive is in fact the case. Thus, in the case of a person approaching in the fog, *-mi* can only be used to assert, for example, *Inés is coming* if the speaker is certain that it is indeed Inés, despite having only partial direct evidence. In the case of optical illusions, a speaker can only use *-mi* to assert what (s)he perceives, but which is not a fact of the world, if (s)he is not aware of his or her perceptual mistake. As soon as (s)he has reason to doubt that what (s)he perceives does not correspond to reality, (s)he can no longer use *-mi*.[26]

Thus, it appears to be a reasonable conclusion that *-mi* encodes the modal value that the speaker is certain that the embedded proposition p is true, and this is the conclusion drawn in Faller (to appear)a.

However, I will now argue that this is the wrong conclusion. A first argument against analyzing *-mi* as an epistemic modal is that it regularly occurs in content questions (see (97), as well as the discussion in section 1). In these cases, it does not make much sense to say that the speaker believes the embedded proposition to be true or that *-mi* expresses a high degree of certainty.[27] An analysis according to which

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[26]Neither could *-si* or *-chá* be used. Instead, we find the enclitic particle combination *-chu hina* in such cases. This combination and why the conjectural *-chá* is inappropriate will be discussed in the section on *-chá*.

[27]It does make more sense to say that the speaker bases a question on best possible grounds than on high certainty: having best possible grounds means having the best possible reasons for asking.

the high certainty interpretation of statements is introduced by *-mi* would therefore have to claim that *-mi* is ambiguous between an assertion and a question use.

The second argument is that *-mi* behaves quite differently from typical epistemic modals: (i) it does not make reference to the notions of necessity and possibility, and (ii) assertions containing it are stronger than assertions without it. Consider first (113).[28]

(113)   Para-sha-n-**mi**.
        rain-PROG-3-**mi**

        p='It is raining.'
        # 'It is necessarily/possibly the case that it is raining.'

The speaker of (113) simply states a fact, namely that it is raining. This is not presented as necessarily or possibly true based on what else the speaker knows, but as independently true. This accords with Lyons' (1995) claims in the following quote.

> Straightforward statements of fact (i.e. categorical assertions) may be described as epistemically non-modal. The speaker, in uttering an unqualified assertion is committing himself to the truth of what he asserts by virtue of the felicity-conditions which govern the illocutionary act of assertion, but he is not explicitly laying claim to knowledge in the utterance itself: he is not asserting the epistemically modalized proposition "I know that *p*"; he is saying, without qualification of either the I-say-so component or the it-is-so component of his utterance, that (it is the case that) *p* is true (of the world he is describing) (Lyons 1995:797).

That modal assertions are weaker than non-modal assertions is well-known.[29] Thus, Karttunen (1972:13) states: "Intuitively, [(114a)] makes a weaker claim than [(114b)]. In general, one would use [...] the epistemic *must* only in circumstances where it is not yet an established fact that John has left. In stating [(114a)], the speaker indicates that he has no first-hand evidence about John's departure, and neither has it been reported to him by trustworthy sources. [...] A man who has actually seen

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[28] Also see discussion in 3.2.4, example (69).

[29] Also see discussion of Papafragou's (1998) example (70) in section 3.2.4.

John leave or has read about it in the newspaper would not ordinarily assert [(114a)], since he is in a position to make the stronger claim in [(114b)]."[30]

(114)   a. John must have left.
         b. John has left.   (Karttunen 1972:13)

In contrast, sentences with -*mi* are intuitively stronger than assertions without it. For example, (113) is a stronger assertion than (115).

(115)   Para-sha-n.
             rain-PROG-3

             p='It is raining.'

It needs to be clarified, of course, in which way an assertion with -*mi* is stronger than one without. Consultants usually are vague and say that (113) is more emphatic than (115). In section 4.6.3, I discuss how (113) can be said to be stronger formally.

In summary, -*mi* is quite different from epistemic modals, and should therefore not be analyzed as one. In the next section, I argue for an illocutionary analysis of -*mi* by showing that it does not contribute to the proposition expressed *p*. In this respect, it also differs from epistemic modals (at least in English), which arguably are part of *p* (see section 3.5).

4.6   A speech act account of best possible grounds in assertions

In the preceding sections, I argued that Direct -*mi* encodes the evidential value *Bpg*, and that it does not encode an epistemic modal value. In this section, I develop an

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[30]This quote is furthermore interesting from the point of view of negation implicatures discussed in chapter 2. Karttunen seems to say that indicating that one is making a inference implicates that one does not have reportative evidence (from trustworthy) sources. This might be taken as an argument for ordering reportative above inferential evidence on the evidential hierarchy. However, I maintain that this should not be done, for (i) only reportative evidence from trustworthy sources could be positioned that way, not reportative in general, and (ii) I do not agree that making an inference implicates that one does not have the information from trustworthy sources.

account of *-mi* within speech act theory. As a first step, I show that *-mi* does not contribute its meaning to the main proposition expressed. Since I have already argued that *-mi* does not implicate *Bpg* and that it is not presupposed either, this only leaves the possibility that *-mi* is an illocutionary operator. This analysis also captures the intuitive difference in strength between assertions with and those without *-mi*, and accounts for its occurrence in content questions without postulating ambiguity (see chapter 6).

4.6.1 Direct *-mi* is not a propositional-level operator

In section 3.5.3, I presented the challengeability test and applied it to epistemic modals. It's applicability is of course wider than that, and it can be used to determine for any type of meaning whether or not is is part of the main proposition expressed. For the evidential meaning of *-mi*, this test shows that it is not part of p. Consider the sentence in (116).

(116)   Ines-qa   qaynunchay ñaña-n-ta-**n**   watuku-rqa-n.
         Inés-TOP yesterday   sister-3-ACC-**mi** visit-PST1-3

         p='Inés visited her sister yesterday.'
         EV= speaker saw that p

In order to determine whether the proposition in EV should be considered part of p, the challengeability test involves checking whether it is affected by an overt challenge or agreement. The speakers of the sentences in (117) (dis)agree with (116).

(117)   a. Chiqaq-chu.
         true-QUEST

         'Is that true?'

     b. Mana-**n** chiqaq-chu.
         not-**mi**   true-NEG

         'That's not true.'

     c. Chiqaq-**mi**
         true-**mi**

         'True.'

Consultants all agree that a speaker of any of (117a–c) questions or (dis)agrees with the proposition *Inés visited her sister yesterday*, and not the way in which the speaker of (116) acquired that information.[31]

Attempts to explicitly challenge the evidential force of (116) fail, witness (118).[32]

(118)   Mana-**n** chiqaq-chu. # Mana-**n** chay-ta riku-rqa-nki-chu.
           not-**mi** true-NEG   not-**mi** this-ACC see-PST1-2-NEG
           'That's not true. You didn't see this.'

In contrast, it is possible to make explicit that it is the embedded proposition that is disagreed with, (119).

(119)   Mana-**n** chiqaq-chu. Manta-n-ta-lla-**n**   watuku-rqa-n.
           not-**mi** true-NEG   mother-3-ACC-LIM-**mi** visit-PST1-3
           'That's not true. She only visited her mother.'

The response in (119) successfully denies the truth of (116). Thus, according to this test, the evidential meaning of *-mi* does not contribute to the proposition expressed. This claim will be strengthened with more observations in chapter 6. At this point, I just mention one fact in support of this conclusion, namely that *-mi* —just like any other evidential (see chapter 2)—cannot fall into the scope of sentence negation.

The type of meaning the Direct *-mi* conveys is non-propositional, non-presupposed, and non-implicated. Speech act theory deals with meanings of this kind, and is therefore the framework of my choice for analyzing Quechua Direct *-mi*.

To my knowledge, nobody has proposed a formal analysis of direct evidentials as epistemic modals in a framework such as possible world semantics, but let me briefly state explicitly why the Quechua Direct *-mi* cannot be analyzed within this framework. First, it is clear that *-mi* cannot be analyzed along the lines proposed by Izvorski (1997) for indirect evidentials or any analysis that takes evidentials to be epistemic modals, because *-mi* is not an epistemic modal. Moreover, *-mi* does not

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[31]Note that the repsonses in (117b,c) themselves contain the Direct *-mi*, that is, their speakers claim to have the best possible grounds for (dis)agreeing with the speaker of (116).

[32]Recall from section 3.5 that it is possible to overtly challenge the epistemic modal force, see examples (83) and (84).

contribute to the proposition expressed, and does therefore not fall within the scope of semantics (narrowly conceived) at all.[33]

However, the concept of possible worlds will still have to play an important role within speech act theory, since possible world semantics has proven a successful tool for analyzing belief reports and other attitudes. Recall that the sincerity conditions of an assertion contain full-fledged propositions of the form $Bel(s, p)$, which also need to be interpreted, and possible world semantics is an obvious theory to use for that task. We would then have a possible worlds *pragmatics*.[34]

In the following, I therefore give an account of *-mi* as an illocutionary modifier, concentrating for the time being on assertive sentences. The basic idea is that *-mi* adds a sincerity condition to the ones associated with assertions in general which requires that the speaker have the best possible grounds for believing the asserted proposition. I therefore begin by analyzing simple Quechua assertions. The basic notions of speech act theory introduced in chapter 1 will be assumed.

4.6.2 Assertions without evidentials

It is widely accepted in speech act theory that in order to make an assertion the speaker has to believe that the asserted proposition is true. This requirement is usually taken to be a sincerity condition. Thus, Vanderveken (1990:117–8) says that "all assertive illocutionary forces have the sincerity condition that the speaker believes the propositional content. Indeed, it is not possible for a speaker to represent a state of affairs as actual without *eo ipso* expressing his belief in the existence of that state of affairs." In performing a speech act, the speaker simultaneously expresses that the sincerity conditions are met. This gives rise to *Moore's paradox*. "It is paradoxical to try to perform an illocutionary act and to deny simultaneously one of its sincerity conditions. Thus, for example, one cannot say 'It is raining and I do not believe it.'

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[33]I assume here that semantics is only concerned with propositional meaning (and possibly presuppositions).

[34] This term was coined by David Beaver (p.c.), who also points out that Gazdar (1979) gives such an account. Also, as mentioned at various places before, Relevance Theory might also be an appropriate framework for analyzing evidentials. However, I am not aware of any existing relevance theoretic analyses of direct evidentials. Not being a relevance theorist myself, I will not attempt to analyze *-mi* within that framework.

[. . .] Such sentences are linguistically odd, because their utterances are analytically unsuccessful" (Vanderveken 1990:118).

Thus, assertions in general convey that the speaker believes that the asserted proposition is true. This sincerity condition is related to, though stronger than, Grice's first Maxim of Quality *Do not say what you believe to be false* (Grice 1989:27). It is furthermore widely accepted that simple declarative sentences across languages are "conventionally used to say how things are" (Vanderveken 1990:14), that is, they are used to make assertions when used literally.[35] This is also true for Quechua. Thus, the speaker of (120a) asserts that it is raining, and (120b) is as odd in Quechua as it is in English.

(120)   a. Para-sha-n.
              rain-PROG-3

            p ='It is raining.'
            EV = speaker sees that p

         b. # Para-sha-n, ichaqa mana crei-ni-chu.
              rain-PROG-3 but   not   believe-1-NEG

            # 'It is raining, but I don't believe it.'

It can be shown that the condition that the speaker believe the proposition p is associated with the declarative sentence form by adding the irrealis suffix *-man*, which causes Moore's paradox to evaporate.

(121)   a. Para-sha-n-**man**.
              rain-PROG-3-**man**

            'It may be raining.'

         b. Para-sha-n-**man**, ichaqa mana crei-ni-chu.
              rain-PROG-3-**man** but   not   believe-1-NEG

            'It may be raining, but I don't believe it.'

Sentence (121a) is not asserting that it is raining, and (121b) is a pragmatically perfectly acceptable sentence.

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[35]This is not to say that declarative sentences cannot be used to express other illocutionary points. If they do, they are used non-literally.

The conventional association of an assertive point with simple indicative sentences can be stated as in (122a). Following Vanderveken (1990), I assume that the sincerity conditions associated with a speech act are a set SINC of mental states or propositional attitudes of the form $m(s, p)$ (speaker s has the mental attitude m towards proposition p). The set SINC for assertion is given in (122b), where Bel is the belief predicate.

(122)   a. If a sentence with the propositional content p is in the indicative mood, and does not contain any modal markers or (certain) evidentials, the utterance of that sentence by speaker s is an assertion of p: ASSERT$_s(p)$.

          b. SINC $= \{Bel(s, p)\}$

It follows from (122) that, if a speaker s sincerely asserts p, s believes p $(Bel(s, p))$. This is schematically represented in (123).

(123)   ASSERT$_s(p) \wedge Sincere(s) \rightarrow Bel(s, p)$

This accounts for the observation that a speaker who makes an unqualified assertion is certain that the embedded proposition is true.

As discussed in the previous section, in Quechua, simple assertions implicate that the speaker has the best possible grounds, provided the speaker is sincere. This implicature is stated in (124).[36]

(124)   ASSERT$_s(p) \wedge Sincere(s) +> Bpg(s, Bel(s, p))$

As shown in (124), I analyze Bpg as a higher order predicate on propositional attitudes. This analysis follows a proposal by Kamp (1990:46) given in the following quote.

> Given that a certain attitude is part of your attitudinal state you can make it the subject of further predications. Thus when you remember of a certain belief of yours that you got it when you read yesterday's Times, you genuinely attribute to that belief a certain property.

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[36] Following Levinson (2000), I use $+>$ as a symbol for implicature.

Note that Searle and Vanderveken analyze Grice's second Maxim of Quality, from which (124) is derived, as a preparatory condition. They state: "All assertive illocutionary forces have the preparatory condition that the speaker has reasons (or grounds or evidence) that count in favor of or support the truth of the propositional content" (Searle and Vanderveken 1985:54). Thus, one might want to analyze (124) as a preparatory condition. I will not do this here, as I have so far argued that the evidential meaning of unqualified assertions is implicated, but preparatory conditions are in their account presupposed. Instead I analyze EV as one of the sincerity conditions. Thus, the set of sincerity conditions associated with an assertion contains the condition that the speaker believes p and the condition that the speaker has the best possible grounds for believing p.

The meaning of an utterance can now be represented as broken down into these various components. Thus, (120) has the meaning components indicated in (125). I only represent those illocutionary meaning components that are relevant to the discussion. Note that the evidential sincerity condition is preceded by EV. This is not part of the sincerity condition, but is only a notational device to distinguish the evidential condition from the ones usually associated with assertions.[37]

(125)   Para-sha-n.
           rain-PROG-3

           p='It is raining.'
           ILL=ASSERT$_s(p)$
           SINC=$\{Bel(s,p),\ [\text{EV}=See(s,e_p)]\ \}$
           STRENGTH=0

The propositional content is p=*It is raining*, the illocutionary act ILL is an assertion of p by (122a). Assuming that the speaker is sincere, it follows that the speaker believes p by (123). Furthermore, by (124) the evidential value EV that the speaker has the

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[37]As pointed out in footnote 34, the sincerity conditions are propositions which have to be interpreted. That is, their truth conditions need to be specified just as they need to be specified for the main proposition expressed. I assume that $Bel(s,p)$ will receive the standard truth conditions developed within possible world semantics. The question, then, is what truth conditions $Bpg(s,Bel(s,p))$ has. Intuitively, it is true if and only if the speaker s has the best possible grounds for believing p. The formalization of this intuitive account is left for future research. As discussed in section 4.3, I assume that what counts as best possible grounds in any given context is determined pragmatically.

best possible evidence for p is implicated (symbolized by the square brackets in (125)), which, given the nature of p, means that the speaker sees the event described by p, e_p. Following Vanderveken (1990:120), I assume that the degree of STRENGTH associated with simple assertions is neutral, which by convention is represented as 0.

4.6.3 Assertions with *-mi*

Adding *-mi* to (120), as in (126), does not change the basic picture regarding the properties of assertion.

(126)   a. Para-sha-n-**mi**.
          rain-PROG-3-**mi**

    p='It is raining.'
    EV= speaker sees that p

    b. # Para-sha-n-**mi**, ichaqa mana crei-ni-chu.
          rain-PROG-3-**mi** but   not   believe-1-NEG

    '# It is raining, but I don't believe it.'

The speaker of (126a) asserts that it is raining, and (126b) gives rise to Moore's paradox. Like a simple assertion, (126a) has the sincerity condition that the speaker believes the proposition that it is raining to be true. This sincerity condition accounts for the observation that the speakers of assertions marked by *-mi* are committed to the truth of the embedded proposition—just as in the case of simple assertions. It is therefore not necessary to add this as part of the encoded meaning of *-mi*.

The difference between (126a) and (120a) lies with the requirement regarding the speaker's evidence. I argued that a simple assertion in Quechua implicates that the speaker has the best possible evidence, (124). However, (126a) not only implicates, but encodes that the speaker has the best possible evidence. Furthermore, the added emphasis perceived by consultants for sentences containing *-mi* can be captured as an increased degree of strength, symbolized as +1.

The meaning of (126a) can therefore be represented as in (127).

(127)   Para-sha-n-**mi**.
           rain-PROG-3-**mi**

           p='It is raining.'
           ILL=ASSERT$_s(p)$
           SINC=$\{Bel(s,p),$ EV= $See(s,e_p)\}$
           STRENGTH= +1

The meaning components of (127) p and ILL are determined in the same way as in
(125). The sincerity conditions of (127) are stronger, however, in that the condition
that the speaker has the best possible grounds for believing p is not implicated but
contributed as part of the lexical meaning of -*mi*. Given this condition and the
meaning of p, it follows that the speaker sees (or has seen) it rain. Thus, the difference
between an assertion without and with -*mi* is that in the first case, the speaker is
required to have best possible grounds by the evidential version of Grice's second
Maxim of Quality, in the second it is part of the encoded meaning.

   This analysis accounts for the fact that, as shown in section 4.4, the context can
override the evidential value of simple assertions. It also predicts that the EV of
assertions with -*mi* cannot be overridden by context. This appears to be the case.
I have found no naturally occurring examples like the ones in (110) which contain
-*mi* but nevertheless convey that the speaker has reportative evidence (for personal,
observable information). Furthermore, consultants do not accept modified versions
of texts such as (110) in the same context.

(128)   Chay-qa recupera-pu-n-**mi** ichaqa mana-**mi** suwa-man-qa
           this-TOP reover-BEN-3-**mi** but   not-**mi**   thief-ILLA-TOP
           aypa-n-chu,   ichaqa triciclo-n-ta-qa   tari-ra-ka-pu-n-**mi**.
           catch.up-3-NEG but   tricycle-3-ACC-TOP find-HORT-REFL-BEN-3-**mi**

           'Then they recover(ed) (it) but they don't (didn't) catch (up with) the
           thief, but they find (found) his tricycle.'

Thus, adding -*mi* as indicated in (128) to any or all of the possible constituents in
(110b) results in the interpretation that the speaker witnessed these events. In the
wider, actual context of this story, in which the speaker clearly indicates that she was
not present at any of the related events, the passage in (128) would be distinctly odd.

Note that the analysis of *Bpg* as a sincerity condition predicts that sentences with *-mi* give rise to an evidential version of Moore's paradox. This is indeed the case as shown by the example in (129).

(129)   # Para-sha-n-**mi**,   ichaqa mana-**n** riku-ni-chu.
           rain-PROG-3-**mi**, but   not-**mi** see-1-NEG
       'It is raining, but I do not see it (rain).'

We are now also in a position to discuss more precisely the difference in strength between sentences with and without *-mi*, and the notion of the strength of a speech act in general. First, I propose deriving the indicated increase in strength from the implicature vs. encoding difference. In section 4.4, I already made the point that a speaker must have a reason for making the extra effort of using *-mi*, when (s)he could just as well have left it to the addressee to calculate the evidential value as an implicature. This reason may be that the speaker might already have been challenged or anticipates to be challenged. Using *-mi* to explicitly indicate that the speaker has the best possible grounds adds weight to the speaker's assertion. It preempts a potential challenge by saying that such a challenge will lead nowhere, because the speaker is in a position to back up his or her claim with convincing evidence. Conveying *Bpg* by encoding it rather than just implicating it, therefore, increases the strength of the assertion.

Formally, this increase in strength can be taken to correspond to illocutionary entailment. Recall from chapter 1 that a sentence has another sentence as an illocutionary entailment if "it expresses in every possible context of use a speech act that the speaker cannot perform without also performing the illocutionary act expressed by the other sentence in the same context" (Vanderveken 1990:2). It is clear that an assertion with *-mi* cannot be performed without also performing the illocutionary act expressed by the same sentence without an evidential enclitic (but not vice versa, because having best possible grounds is only implicated in an assertion without an enclitic).

However, Searle and Vanderveken (1985) postulate STRENGTH as a separate component of a speech act, not just as another way of capturing illocutionary entailment.

Recall that in their account degree of strength of an illocutionary act is equivalent to the degree of strength of the mental attitudes a sincere speaker expresses in performing that act. The question then is whether a speaker using *-mi* holds a stronger belief that p than if (s)he had not used it. It seems to me that the answer is no. Above I gave the example of one of my consultants using *-mi* to assert that there is a condor in Cuzco only after I had doubted her first assertion of the same proposition without an evidential. Clearly, she does not hold a stronger belief in making her second assertion than in her first assertion. The increase in strength of the assertion in this case does not correlate with a stronger mental attitude of the speaker, but is directed towards the hearer. Thus, I am not being faithful to Searle and Vanderveken's (1985) account in using STRENGTH to capture the increased strength of assertions with *-mi*. But using mere illocutionary entailment also does not do justice to the hearer-oriented aspect, and I therefore continue to use the illocutionary component STRENGTH to represent this.

I am not the first to observe that Searle and Vanderveken's (1985) conception of STRENGTH is too limiting in that it only allows to talk about degrees of strength with respect to the speaker's mental attitudes, but not about an increase of the effect the act has on the hearer. For example, Sbisà (2001) analyzes mitigation and reinforcement phenomena, which are clearly interactional in nature, in terms of illocutionary strength. She observes that "[...] mitigation and reinforcement in language use are tied to matters such as the adjustment of the relationship between the interlocutors, the achievement of goals, the avoidance of undesirable consequences [...]" (Sbisà 2001:1793). In order to account for these interactional aspects of illocutionary force, she revises the standard speech act theory by going back to Austin's (1962:116–117) original conception of illocutionary effect as having three components: (i) the securing of uptake, (ii) the production of a conventional effect, and (iii) the inviting of a response or sequel. Standard Searlian speech act theory identifies the illocutionary effect with (i), which is satisfied by the hearer recognizing the speaker's intention, that is, standard theory does not give us a handle on the effects produced in the hearer. The inclusion of conventional effects on the hearer in the conception of illocutionary effect allows for degrees of strength of the kind needed to account for

mitigation and reinforcement phenomena (Sbisà 2001). It seems fairly clear that this is the same concept of degree of strength that is needed here to account for the increase in strength brought about by the Quechua Direct *-mi*. Ultimately, we might want to have different strength components as part of the illocutionary force, but I will for now just continue to use one STRENGTH.

The task now is to give the meaning of *-mi*. I propose analyzing it as a function (symbolized by $\longmapsto$) from speech acts to speech acts such that it adds the condition *Bpg* to the set of sincerity conditions SINC. At this point, I only give the meaning for *-mi* as it applies to assertions. In chapter 6, this meaning will be generalized to also account for its occurrence in content questions.

$$(130) \quad \textbf{-mi}: \quad \begin{array}{c} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\} \end{array} \quad \longmapsto \quad \begin{array}{c} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p),\ Bpg(s,Bel(s,p))\} \end{array}$$

Note that the function that I propose as the meaning of *-mi* does not make reference to the STRENGTH component. This is not necessary, because the increase in strength comes about indirectly, as an effect of explicitly encoding *Bpg*.[38]

The proposal that an element operates on the sincerity or other conditions associated with a speech act is not new. Thus, Vanderveken (1990) recognizes operators in English that add preparatory, sincerity, or propositional content conditions to the set of the respective conditions of the embedded speech act. For example, adding *alas* to the assertion *He was killed*, adds the sincerity conditions dissatisfaction and sadness (Vanderveken 1990:150).

The proposed analysis also accounts for the fact that *-mi* cannot be used in cases of partial evidence or mistaken perception if the speaker is aware that the available evidence is less than perfect. Consider again the case of a woman approaching in the fog. If the speaker's perception is fuzzy, and (s)he can only make a good guess that it is Pilar, (s)he will in fact not *assert* that it is Pilar, despite the fact that they have direct evidence. That is, the requirement that the speaker be certain that the proposition expressed is true in order to make an assertion with *-mi* is not a requirement of *-mi*, but of assertion. Thus, the speaker could also not use the simple assertion that Pilar is coming without *-mi*.

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[38]I would like to thank Peter Sells for pointing this out.

It is of course possible that a speaker is insincere. That is, an utterance of a sentence with *-mi* may be used by someone who does not in fact have the best possible evidence for his or her claim. In a case like this, the embedded proposition might still be true. This supports the claim that *-mi* does not contribute to the truth conditions of the proposition expressed, but that the sincerity condition it gives rise to can nevertheless be false in its own right.

4.7   Summary

In this chapter, I described and analyzed the meaning of the Direct evidential enclitic *-mi*. It encodes that the speaker has the best possible or strongest evidence in relation to the type of information conveyed. The main division in types of information is between personal and encyclopedic information, for which the expectations regarding acquisition differ. For personal information, speakers are expected to have direct access to the described events in order to use *-mi*. For encyclopedic information, speakers are only expected to have obtained the information from a source of authority. This is so, because the normal mode of acquisition for encyclopedic information is to have learned it, not to have acquired it directly.

Contrary to claims in the literature, I claim that *-mi* does not encode a high degree of certainty. Rather, the high degree of certainty associated with assertions containing *-mi* is a property of assertions in general, including those that contain no evidential. I argued that *-mi* does not contribute to the main proposition expressed. I propose that *-mi* is a function from speech acts to speech acts such that the illocutionary force of the output speech act is the same as that of the input speech act. The contribution of *-mi* is to add the sincerity condition that the speaker has the best possible evidence to the set of sincerity conditions of simple assertions.

Assertions without *-mi* are in the normal case also understood to mean that the speaker has the best possible evidence. However, this is only an implicature derived from Grice's second Maxim of Quality and the fact that Quechua possesses overt markers for indirect sources of information.

Given that *-mi* is analyzed as an illocutionary modifier, it is a reasonable hypothesis that the enclitics *-chá* and *-si* are also illocutionary modifiers, provided it can be shown that they, too, are true evidentials. That this is indeed the case will be argued in the next chapter.

Chapter 5

Indirect evidentiality

5.1 Introduction

In this chapter, the meanings of the Conjectural -*chá* and the Reportative -*si* will be
described and analyzed. In the preceding chapter, I analyzed the Direct evidential
enclitic -*mi* as an illocutionary modifier, more precisely, as a function from speech
acts to speech acts which adds a sincerity condition to the set of sincerity conditions
associated with simple assertions. As is illustrated in (131), repeated from (88) in
chapter 4, the three enclitics under investigation form a paradigm.

(131)   a. Para-sha-n-**mi**.
            rain-PROG-3-**mi**

            p='It is raining.'
            EV= speaker sees that p

        b. Para-sha-n-**si**.
            rain-PROG-3-**si**

            p='It is raining.'
            EV= speaker was told that p

        c. Para-sha-n-**chá**.
            rain-PROG-3-**chá**

            p='It is raining.'
            EV= speaker conjectures that p

A similar paradigm will be presented for content questions in chapter 6. Given this paradigmatic contrast between the three enclitics, and the fact that they all encode an evidential value, as well as behave in the same ways in other respects (this will be shown for the Conjectural and the Reportative below), it is a reasonable hypothesis that each of these enclitics is the same kind of operator. Assuming that my analysis of *-mi* as a function from speech acts to speech acts is correct, we can hypothesize that *-chá* and *-si* denote the same type of function. I will show in the following that it is indeed possible to analyze *-chá* and *-si* as being of the same type as *-mi*, but that this is not unproblematic.

It turns out that the operations carried out by these two enclitics are quite different in nature than those carried out by *-mi*. While *-mi* only adds a sincerity condition, *-chá* also appears to contribute to the propositional content of the utterance, and *-si* replaces the original sincerity condition of assertion with a new one.

The fact that *-chá* also contributes an epistemic modal meaning suggests an alternative analysis along the same lines developed for epistemic modals in other languages, and I will discuss an alternative account of this enclitic within possible world semantics. Though such an analysis appears to be viable for *-chá*, I will adopt the illocutionary account for this enclitic also to maintain the parallelism with the other two evidential enclitics.

5.2 The Conjectural enclitic *-chá*

5.2.1 Meaning

The enclitic *-chá* is called the conjectural or prognostic (Cerrón-Palomino 1994, Cusihuaman 1976, Floyd 1999). It is used to indicate that the speaker does not know for a fact that the embedded proposition is true, but considers it to be a possibility based on his or her own reasoning. As Floyd (1999:100) observes for Wanka Quechua, *-chá* is used for "hypotheses that are advanced about some unexperienced or uncorroborated state of affairs." It can be used when the speaker is merely guessing or speculating, as well as when (s)he is making an inference from well-established

premises. Consider (132a=88c) and (132b).

(132)   a. Para-sha-n-**chá**.
              rain-PROG-3-**chá**

              p='It is raining.'
              EV= speaker conjectures that p

         b. Mana-**n** para kan-chu. Kunan wata-qa mana-**chá** allin-chu kuhichu
              not-**mi** rain be-NEG   now   year-TOP not-**chá**   good-NEG harvest
              ka-nqa!
              be-3FUT

              'There is no rain. I guess/suppose/Surely, the harvest this year will be
              bad!'   (Cusihuaman 1976:245)

The speaker of (132a) may be merely speculating that it is raining, perhaps (s)he
intends to advise the addressee to take an umbrella just in case. Or, the speaker may
have some observable evidence that it is raining, perhaps (s)he saw somebody come
into the building with a wet raincoat.

   If the speaker of (132b) has experienced in the past that lack of rain caused a bad
harvest, then (132b) constitutes a plausible inference. If the speaker on the other
hand has no such experiences, (132b) just constitutes a reasonable speculation.

   Another example that illustrates the use of *-chá* is given in (133).

(133)   Suqta chunka wata-yuq ka-sha-n-**chá**
         six   ten   year-POSS be-PROG-3-**chá**

         'He must be sixty years (old).'   (spontaneous)

As discussed in section 3.2, epistemic necessity pertains to the overlap of epistemic
modality and evidentiality. There, I also argued that *-chá* should be considered to
be in the overlap of Quechua expressions of epistemic modality and evidentiality,
because—as I will argue below—it encodes both an evidential and an epistemic modal
value.

   This is also captured by Floyd's prototype account. In his analysis, the schematic
meaning of *-chá* is *attenuation*, and the prototype is attenuation of the speaker's
responsibility for the veracity of the proposition. That is, prototypically, a speaker

who uses *-chá* is not committed to the truth of the embedded proposition. This non-commitment is based in the fact that (s)he is making an inference.

In non-prototypical uses, *-chá* has attenuating effects in other areas. For example, it can be used to attenuate directives and hortatives. I will leave these uses aside, and concentrate on its prototypical meaning as a marker for conjecture. Its use in questions will be discussed in chapter 6, section 6.3.2. In the following two sections, I will provide evidence in support of the claim that *-chá* is both an evidential and an epistemic modal.

5.2.2   *-chá* as an evidential

That *-chá* encodes an evidential value can best be seen when contrasting *-chá* with other modal/evidential markers, in particular with the enclitic+particle combination *-chu(s) hina* or *-chu sina*.[1] The enclitic *-chu* occupies the same morphological slot as the three evidential enclitics (see chapter 1, section 1.2.8), and, in combination with the particle *mana*, is used for sentence negation. By itself *-chu* turns assertions into yes/no questions. The particle *hina* used by itself roughly means "so, like".[2]

The combination *-chu sina* probably derives from *-chus hina*; *-sina* is not used independently. According to Cusihuaman, *-chu hina* indicates that the speaker conveys approximate information, which has to be confirmed at a later point by the speaker or someone else. Cusihuaman's Spanish translation equivalents can be rendered in English as *I suppose, I think/believe that, it appears that*. Thus, it is similar in meaning to *-chá*, and, indeed, the two can often be used in the same circumstances. However,

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[1]According to Cusihuaman (1976:246), *sina* is in free variation with *suna*, the latter of which can occur with or without preceding *-chu*. He does not discuss the combination of *-chu(s)* with *hina*, although this is the combination most frequently used by my consultants.

[2]The form *-chus* probably derives from combining *-chu* with the reportative *-si*, which here does not have reportative force. The morpheme *-chus* is also used for either-or questions as in the following example:

   i. kafi-ta-**chus**   mati-ta-**chus** muna-nki.
     coffee-ACC-**chus** tea-ACC-**chus** want-2

     'Do you want coffee or tea?'

there are differences which are clearly evidential in nature. Take for example a situation in which Marya is asked where the house keys are. Among other alternatives, Marya might respond with any of (134a,b,c).

(134)   a. Muchila-y-pi-**n**.
              backpack-LOC-**mi**

         p='In my backpack.'
         EV= speaker sees/saw her keys in her backpack.

         b. Muchila-y-pi-**chu hina**.
            backpack-LOC-**chu hina**

         p= 'In my backpack.'
         EV= speaker remembers vaguely that she saw her keys in her backpack.

         c. Muchila-y-pi-**chá**.
            backpack-LOC-**chá**

         p='In my backpack.'
         EV= speaker conjectures that p

Marya would use (134a) if she put the keys in her backpack, and remembers clearly that she did so. (134b) would be appropriate if she put the keys in her backpack, but only vaguely remembers that. In contrast, she would use (134c) when she in fact cannot remember where she put them, but she usually puts them in her backpack, so she can reasonably assume that this is where they probably are. An example that shows the difference between *-chu hina* and *-chá* perhaps even more clearly is the following. Imagine that two people are standing on a hill from which they can see their village. One of them has a pair of binoculars, and uses them to scan the village. The other person might ask *Imatan rikushanki? - What do you see?* The examples in (135) are all possible responses.

(135)   a. Mario-qa   wasi-n-ta-**n**   llinphi-sha-n.
              Mario-TOP house-3P-ACC-**mi** paint-PROG-3P

         p='Mario is painting his house.'
         EV= speaker sees that p

  b. Mario-qa wasi-n-ta-**chu hina**   llinphi-sha-n.
     Mario-TOP house-3P-ACC-**chu hina** paint-PROG-3P

  p='Mario is painting his house.'
  EV= speaker sees something and it looks to the speaker like Mario is painting his house

  c. Mario-qa wasi-n-ta-**chá**   llinphi-sha-n.
     Mario-TOP house-3P-ACC-**chá** paint-PROG-3P

  p='Mario must/may be painting his house.'
  EV= speaker conjectures that p

The speaker would use (135a) when (s)he has an entirely clear view of Mario, his house, and what he is doing. However, if (s)he is too far away to get a clear view even with binoculars, the speaker would use (135b) in order to indicate that (s)he has direct, but unclear evidence. In this situation, the speaker is not making a conjecture, but simply reporting what (s)he sees. If the view is unclear enough for the speaker to have some doubts as to who or what (s)he is seeing, *-mi* can longer be used (cf. chapter 4). (135c) cannot be used in this situation, because the speaker is not really reasoning from his or her evidence to a conclusion.

Example (135c), but not (135b), could be used in a situation in which the speaker knows that Mario was planning to paint his house today, and is asked what Mario is doing (but not while looking at Mario through binoculars).

A further illustration of the difference between *-chus hina* and *-chá* is the following. Let us say the doorbell rings, and I take a guess as to who it might be.

(136)   a. Chay-qa Marya-**chu hina**
          this-TOP Marya-**chu hina**

  p='This appears to be Marya.'
  EV= speaker has unclear direct evidence for p

  b. Chay-qa Marya-**chá**
     this-TOP Marya-**chá**

  p='This is probably/must be Marya.'
  EV= speaker conjectures that p

I would use (136a) in a situation in which I recognize Marya's step on the stairs, or have some other direct evidence that makes me think that it is her (whether or not

I had expected her). In contrast, I would use (136b) in a situation in which I was expecting Marya for about that time, which would allow me to reason that it must be her at the door.

All these examples show that -*chá* is inappropriate when the speaker bases a statement solely on partial direct evidence. The evidential requirement for -*chá* in all these cases is that the speaker arrived at a conclusion after a substantial amount of reasoning involving other propositions/premises than just the currently available direct evidence. However, as mentioned above (example (132)), -*chá* can also be used when the speaker is simply speculating, and not reasoning from a set of premises to a conclusion. The common evidential meaning of -*chá* across all its uses can therefore be described as indicating that the speaker bases his or her statement on a mental process—which does not exclude the possibility that this process is triggered by external evidence. I will call this mental process *reasoning*, which I intend to include reasoning from a set of premises as well as speculation.[3] The evidential value of -*chá* can therefore descriptively be stated as in (137).

(137)   **-chá**: EV= speaker bases a statement on his or her own reasoning

The preceding comparison of -*chu hina* with -*chá* and -*mi* also suggests that -*chu hina* is an evidential, which has to my knowledge not been claimed in the literature. I will also not claim that it is, although I consider it to be a reasonable hypothesis. More research is needed to (dis)confirm this hypothesis and determine its exact meaning. It is clear already that it is not enough to say that -*chu hina* is like -*mi* with a lower degree of certainty, because it can also be used when the speaker obtained his or her information from a reportative source. It appears that -*chu hina* is comparable to *apparently*, which can also be used when the speaker has reportative information which (s)he does not want to commit to.

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[3]The sentences containing -*chu hina* do of course also involve reasoning. However, the difference is one of focus: -*chá* focuses on the mental process, whereas *chu hina* focuses on the evidence that triggers that mental process, cf. section 7.4.

5.2.3   -chá as an epistemic modal

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 that the proposition expressed is true. If it were a pure evidential, we would expect it to be felicitous in a situation in which the speaker makes a deduction, and has no reason to doubt his or her conclusion. For example, I might have bought a certain kind of potatoes for 50 cents a kilo last week, and now they cost 1 Sol. In this situation, I can deduce that the price of this kind of potato has doubled beyond doubt, but I could not use -chá to convey this deduction without also indicating that I do have doubts that I calculated right. One can imagine that a child in school would give an answer to a math problem using -chá.[4]

Note however that -chá does not necessarily mean a low degree of certainty, it only means less than 100% certain. Thus, in (134c) Marya might be very certain that the keys are in her backpack, because she always puts them there, but she cannot be entirely certain because there is a tiny chance that this time she did not.

Note furthermore that -chá cannot be used when the speaker is 0% certain, or rather 100% certain that the proposition expressed is not true. In other words the speaker has to believe that the embedded proposition p is a possibility. As with assertions containing direct -mi, attempts to deny that the speaker believes p to be a possibility embedded under -chá lead to Moore's paradox. This is shown in (138), in which the speaker first states a possibility and then denies that possibility by claiming that the negation of p is a fact.

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[4]Thus, -chá cannot be used when the speaker believes (s)he has come to *know* something through his or her own reasoning. This is also the case for epistemic *must*. If the speaker believes that (s)he knows that his or her deduction is true, *must* cannot be used. Thus, an English speaker could not say *The price of the potatoes must have doubled* if (s)he has come to know this by deducing it in the described situation. This example is perhaps too simple to make the point, because speakers do not feel that they are making a deduction at all in cases like this. However, consider a logician who has worked hard to deduce a conclusion p from a set of premises and logical rules. Then, (s)he would probably not use *must p*, but *I know that p (because it is entailed by the premises)* or simply *p*, if indeed (s)he is convinced that she made no mistake in the deduction.

(138)   # Llave-qa muchila-y-pi-**chá**   ka-sha-n, ichaqa mana-**n**
              key-TOP backpack-1-LOC-**chá** be-PROG-3 but   not-**mi**
           aqhay-pi-chu.
           there-LOC-NEG

           'The keys may be/are possibly/probably in my backpack, but they are not
           there.'

In this respect, *-chá* behaves like English possibility modals. As has been observed
by Karttunen (1972:3) for example, the following English sentence is pragmatically
incoherent:

(139)   # It is possible that God is alive, but he is dead.

Further support for the claim that *-chá* is an epistemic modal comes from the general-
ization presented in chapter 4 that sentences containing epistemic modals are weaker
than the same sentences without the modal. Consider again (132), repeated here as
(140a), and compare it with (140b).

(140)   a. Para-sha-n-**chá**.
             rain-PROG-3-**chá**

            p='It is raining.'
            EV= speaker conjectures that p

         b. Para-sha-n.
            rain-PROG-3

            p='It is raining.'
            EV= speaker sees that p

As discussed in chapter 4, the speaker of (140b) asserts, that is, presents as true,
the proposition that it is raining. In (140a), the speaker only asserts that they have
reason to believe that it is raining, without claiming that this is a fact. Clearly, (140a)
is weaker than (140b).

   To summarize, the Conjectural *-chá* encodes in addition to the evidential value
reasoning, the modal value *possibility*. Thus, I claim that, descriptively, the meaning
of *-chá* is (141).

(141)   **-chá**:   EV= reasoning
                MV: possibility

Given that *-chá* encodes both an evidential and a modal meaning we are faced with the question of whether to analyze it as an illocutionary operator like *-mi*, which would allow us to analyze its evidential meaning as a sincerity condition, and thus preserve the parallelism with *-mi* and *-si* (see section 5.3), but this makes it somewhat difficult to account formally for its modal meaning (see section 5.2.6), or to analyze it as an epistemic modal, which raises the question of how its evidential meaning can be accounted for. In the previous section, I have already pointed out some features of *-chá* that it shares with other epistemic modals in addition to encoding a degree of certainty, namely that the speaker has to believe the embedded proposition to be at least possible and that sentences containing it are weaker than sentences without it. In order to decide what type of analysis is adequate for *-chá*, it is furthermore necessary to determine whether it contributes to the proposition expressed. This will be discussed in the next section.

5.2.4   *-chá* and levels of meaning

Analyzing *-chá* as an illocutionary operator amounts to claiming that its meaning does not contribute the proposition expressed, and an analysis as an epistemic modal—at least within possible world semantics—claims that its modal meaning contributes to the proposition expressed, whereas the status of its evidential meaning aspect is somewhat unclear. It is therefore important to determine on what level of meaning these aspects reside, and I therefore apply the challengeability test discussed section 3.5.3 to *-chá*. Consider (142a) and its responses in (142b,c,d).

(142)   a. Ines-qa   qaynunchay ñaña-n-ta-**chá**   watuku-rqa-n.
              Inés-TOP yesterday   sister-3-ACC-**chá** visit-PST1-3

          p='Inés visited her sister yesterday.'
          EV= speaker conjectures that *p*

       b. Chiqaq-chu.
          true-QUEST

          'Is that true?'

    c. Mana-**n** chiqaq-chu.
       not-**mi**   true-NEG

       'That's not true.'

    d. Chiqaq-**mi**
       true-**mi**

       'True.'

As was the case with the test applied to *-mi*, what is being questioned or (dis)agreed with is the proposition *Inés visited her sister yesterday*, and not the claim that the speaker conjectured that Inés might have visited her sister. It is possible to make explicit that the embedded proposition is denied as shown in (143).[5]

(143)   Mana-**n** chiqaq-chu. Manta-n-ta-lla-**n**   watuku-rqa-n.
           not-**mi** true-NEG   mother-3-ACC-LIM-**mi** visit-PST1-3

           'That's not true. She only visited her mother.'

We can conclude from these results that the evidential meaning does not contribute to the proposition expressed. What about the modal meaning? Are the speakers of (142b–d) challenging or agreeing with the claim that it is a possibility that Inés visited her sister, or that the Inés visited her sister? As shown in (143), it is possible to challenge the truth of p directly, namely then when the speaker knows for a fact that p is not true. However, we cannot conclude from this that the modal meaning does not contribute to the proposition expressed, since denying the truth of p also denies the truth of *possibly p*. As with the English case discussed in section 3.5.3, example (84), we need a situation which makes clear that the challenger does not know for a fact whether or not the embedded proposition is true (see footnote 18 in that section) to bring out that what is being challenged is the modal force. Such a case is given in (144).

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[5]The responses in (142c,d) contain the Direct evidential *-mi*. This makes for a stronger (dis)agreement than if the responses contained the Conjectural. One might ask whether having *-chá* instead of *-mi* in the responses would result in affecting the claim that the speaker is making a conjecture, and not just the proposition that Inés visited her sister. I cannot answer this question definitively, since I have not been able to check this with my consultants, but I believe that it would not have that effect.

(144)   a.   Juan-**chá** vaca-ta-qa   suwa-rqa-n.
            Juan-**chá** cow-ACC-TOP steal-PST1-3

           p='Juan stole the cow.'
           MV: speaker considers it possible that p
           EV: speaker conjectures that p

     b.   Mana-**n** pay-chu kan-man ka-rqa-n.   Pay-qa mana-**n** suwa-chu.
           not-**mi**   he-NEG   be-3-IRR   be-PST1-3 he-TOP not-**mi**   thief-NEG

           'It couldn't have been him. He's not a thief.'

     c.   Arí. Pay-qa kan-man ka-rqa-n.   Ichaqa mana-**n** crei-ni-chu.
           yes   he-TOP be-IRR   be-PST1-3 but   not-**mi**   believe-1-NEG

           'Yes, he might have been the one. But I don't believe it.'

Example (144a) asserts that it was possibly Juan who stole the cow, and (144b) denies that this is a possibility, because Juan is not a thief. The speaker of (144b) does not know whether or not Juan stole this cow, but according to what (s)he knows about Juan, this is not a possibility. The speaker of (144c) agrees with the speaker of (144a) that there is a possibility that Juan stole the cow, but at the same time does not believe it, without however giving reasons for this opinion. Thus, (144b) and (144c) deny or agree with the possibility of Juan being the thief, without denying or asserting the truth of the proposition *Juan stole the cow*. These examples therefore support the claim that the modal meaning of *-chá* contributes to the proposition expressed.

According to the challengeability test then, *-chá* operates both on the propositional and the non-propositional level, which makes it difficult to decide between an illocutionary analysis and a possible worlds analysis of *-chá* as an epistemic modal. In the next two sections I explore both options.

5.2.5   A possible worlds account of *-chá*

Given that I have argued above that *-chá* encodes epistemic possibility, and that this meaning aspect is part of the proposition expressed and not part of the pre-conditions of an illocutionary act, we have to consider an analysis of *-chá* as a pure epistemic modal. If *-chá* is a pure possibility modal (represented as usual by ◊), our standard sentence would be decomposable into the components in (145).

(145)   Para-sha-n-**chá**.
             rain-PROG-3-**chá**

             q='It is raining.'
             $p= \Diamond q$
             ILL=ASSERT$_s(p)$
             SINC=$\{Bel(s,p)\}$
             STRENGTH=-1

As indicated in (145), the strength of a sentence containing *-chá* is less than that of an unmodalized assertion, because what is being asserted is $\Diamond p$, not p. One problem with this analysis is that we cannot maintain the hypothesis stated at the beginning that the three evidential enclitics have the same semantic type. Furthermore, it does not account for the evidential meaning aspect of *-chá*. That is, it would predict that *-chá* can be used to express solely a low degree of certainty without reference to the speaker's reasoning process. That this the wrong prediction was argued in section 5.2.2.

There are two ways to account for the evidential meaning aspect of *-chá*. The first is to follow Izvorski (1997) and to assume that *-chá* presupposes that the speaker's modal base is generated by indirect evidence. Since I have argued that presupposition is not the right meaning category for the evidential meaning of the three Quechua enclitics (section 3.5.3), a slightly different way to look at this proposal is to say that *-chá* restricts the type of modal base it can apply to.

A second way to account for the evidential meaning of *-chá* under the epistemic modal analysis, is to argue that this meaning is already implicit in the possible worlds analysis: the speaker of a sentence containing a possibility modal claims that the embedded proposition p is true in at least one world in his or her modal base. We can now claim that the only way a speaker can arrive at the conclusion that p is true in at least one compatible world is by reasoning. To make this more explicit: By general felicity conditions, a speaker is required to intend to refer with all referring expressions in the sentence (unicorns and similar creatures perhaps excluded). An epistemic modal is a referring expression: it refers to a modal base f and an ordering source g. Thus, in asserting a modal sentence, the speaker refers to g and f and claims that the logical relation of necessity or possibility holds between them and p. It thus

follows that it is the speaker—and not just the logical apparatus—who is deriving the conclusion from the premises. And this is the evidential meaning component of -*chá* we want to account for.[6]

The problem with this argument is that it would predict that any element that is analyzed as making reference to a modal base is an evidential with the value REASONING. In particular, modals like *may* would be evidentials in the same way as -*chá* (cf. section 3.2). Unless this is a desired result, the consequence of the account just sketched would be that possible world semantics cannot be used to account for non-evidential modals, including adverbs like *perhaps*. I am at this point not in a position to adopt this consequence as a valid one, and will therefore also not adopt this account of the evidential meaning of -*chá* wholeheartedly.

In summary, an epistemic modal analysis of -*chá* is certainly viable, and if -*chá* were the only enclitic of its kind in Quechua, this analysis might be preferable over the illocutionary analysis developed in the next section. However, the fact that -*chá* always has wide scope with respect to propositional operators, that it can only occur in illocutionary force bearing environments (see section 6.3), and that it is in a set with two other evidential enclitics, for which the illocutionary analysis clearly is more adequate, leads me to adopt the illocutionary analysis for -*chá* as well.

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[6]Recent accounts of epistemic modals within the AI literature make this evidential requirement explicit in the semantic representation. For example, Stone (1994) analyzes epistemic *must* as coming with an explicit index to an "argument" (in the rhetoric sense, not in the functor-argument sense), where "an argument consists of some minimal collection of applications of defeasible rules which can consistently be added to K to obtain some conclusion", where K is a set of established propositions consisting of so-called ground formulas, logical rules, and defeasible rules (Stone 1994:6). A sentence of the form **must** $S(A)$ (where S is the embedded proposition, and A a particular argument) is true in a given context, which consists of the set K, if and only if the argument entails (the logical form of) S in that context. Again, in and of itself this account does not make reference to the speaker, and the logical apparatus derives a valid conclusion all by itself. However, when felicitously asserting a sentence containing *must*, a speaker intends to refer to this argument in the same way as a speaker intends to refer to the referent of any referring expression. One could imagine an analysis of -*chá* also along these lines: it could be analyzed as a possibility modal, with an additional index pointing to the argument that the speaker claims to support the conclusion that $\Diamond p$, where p is the embedded proposition. Since it is not clear to me what the status of this index is (if it is part of the proposition expressed, then, according to the challengeability test, it should be affected by a challenge), and since I do not want to complicate things even further, I will not discuss this approach in more detail.

5.2.6   A speech act analysis of *-chá*

Up to now, I have given the meaning of sentences containing *-chá* roughly as *I con-jecture that p*. Conjecturing involves two components: (i) the speaker arrived at the presented conclusion through reasoning, and (ii) this conclusion is not presented as necessarily following from a set of premisses, but only possibly. As mentioned at the beginning of this chapter, the fact that the three evidential enclitics occupy the same morphological slot, encode an evidential value, and have the same distributional properties, leads me to hypothesize that they are also the same kind of operator se-mantically. In this section, I therefore propose an analysis of *-chá* along the same lines as *-mi*, that is, as an illocutionary modifier.

   Under the speech act approach, I propose again to analyze the evidential meaning of *-chá* as a sincerity condition along the same lines as the evidential meaning of *-mi*, namely as a higher order predicate on mental predicates. For *-chá*, I use the predicate *Rea*, meaning 'based on reasoning'. Since in current semantic theories, epistemic modality is considered to be part of the proposition expressed p (see section 3.5.1), the possibility meaning of *-chá* should also be analyzed as part of p. On this picture, a sentence such as *Parashanchá* has the meaning components indicated in (146=18), where q is the proposition expressed without the modal force, and p is the proposition expressed with the modal force.

(146)   Para-sha-n-**chá**.
           rain-PROG-3-**chá**

           q='It is raining.'
           $p=\Diamond q$
           ILL=ASSERT$_s(\Diamond q)$
           SINC=$\{Bel(s, \Diamond q),\ Rea(s,Bel(s, \Diamond q))\}$
           STRENGTH= -1

The set of sincerity conditions of an assertion with *-chá* contains the requirement that the speaker believes that p is an epistemic possibility and that this belief is based on his or her own reasoning. Since p is modalized, I take the strength of the assertion to be weaker than that of unqualified assertions, and I represent this as -1. Based on

this representation, one can try to represent the meaning of *-chá* as in (147).[7]

(147) **-chá**:
$$\begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\} \end{array} \longmapsto \begin{array}{l} \text{ASSERT}(\lozenge p) \\ \text{SINC}=\{Bel(s,\lozenge p), Rea(s, Bel(s,\lozenge p))\} \end{array}$$

This analysis is problematic. First, there might be a logical problem with the proposal that that *-chá* applies to an illocutionary act $F(p)$ and modifies its argument p (in addition to adding a sincerity conditions). Such an operation is only legitimate in standard logics if $F(p)$ is considered a structured object such that p is recoverable from it. To use a metaphor, the function proposed for *-chá* in (147) has to be able to see p. It is not clear to me whether the logic developed by Vanderveken (1991) allows for this possibility.[8] Structured meaning accounts have a tradition in the analysis of questions (see for example Krifka (2001)a), but have to my knowledge not been explored for speech acts. This proposal requires careful study with respect to its consequences for speech act theory in general, since it might lead to undesirable consequences in other areas. A detailed discussion of this issue would go beyond the scope of this dissertation, however, and I will therefore assume that an illocutionary act is a structured object in the sense that p is visible to illocutionary modifiers.

But even if our logic of speech acts allows for a function such as (147), it might be considered problematic from the point of view of linguistic theory. To my knowledge, illocutionary operators are usually analyzed as only operating on the illocutionary level, and propositional operators as only operating on the propositional level. There are exceptions such that some propositional operators may have uses as illocutionary operators (see, for example, Krifka's (2001)b proposal for the conjunction *and* (section 6.3.3)), but I do not know of any proposal in which a single element operates on the two levels simultaneously. To postulate the existence of such functions would only be warranted if they can be claimed to be relevant in the analysis of more than a single element in one language.

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[7]Like the function denoted by *-mi*, (147) does not explicitly change the degree of STRENGTH. This is not necessary, because the decrease in strength comes about indirectly, through the assertion of a modalized proposition (cf. the quote from Karttunen (1972) in section 4.5).

[8]Thanks to David Beaver for pointing this out. The proposed structured character of an illocutionary act can perhaps be brought out better by representing it as an ordered pair of the form $< F, p >$. An illocutionary modifier would then take this pair as its argument and thus have equal access to both F and p.

As discussed in chapter 2, evidentials in many languages are tense and/or aspect markers. If it turns out that evidentiality should be analyzed as an illocutionary phenomena cross-linguistically, then, assuming that tense and aspect are propositional phenomena, this type of evidential would also be operating both on the propositional and the illocutionary level. However, if no other linguistic elements can be claimed to denote such functions, then this would suggest that the proposed analysis for -*chá* may also not be appropriate.[9]

To avoid this potential problem with the proposal in (147), we can either give up the assumption that -*chá* is an illocutionary operator, or that epistemic modality is always part of the proposition expressed. The former alternative was discussed in section 5.2.5, and I consider the latter in the remainder of this section.

As an alternative analysis to (147), we can consider the possibility that epistemic modality is not part of p—if not in general, so at least in the case of some elements, such as -*chá*. Vanderveken (1990) analyzes the English verbs *guess* and *conjecture* as performatives, and without adding a modal operator to the embedded proposition. Since assertions with -*chá* may be translated using *guess* or *conjecture*, we can attempt to analyze -*chá* along those lines.

Vanderveken (1990) makes a distinction between simple and complex speech act verbs, and claims that the meaning of the complex one is derived from that of the simple verbs. The verb *assert* is a simple speech act verb, and *testify*, *guess* and *conjecture*, for example, are complex verbs, whose meaning is derived by applying a number of operations on the meaning of *assert*. According to Vanderveken (1991:153) to "make a guess is to assert a proposition weakly with the preparatory condition that it is probable". The meaning of *guess* is therefore derived by adding the preparatory condition that the speaker considers the embedded proposition to be probable and by decreasing the degree of strength.

Thus, we might consider -*chá* to be an operator that adds the preparatory condition that the speaker judges the embedded proposition to be a possibility and reduces the degree of strength of the assertion. A first problem with this account is that

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[9]Another possible solution to the problem of -*chá* is to say that -*chá* gives rise to two operators on some intermediate level between the morphosyntactic and purely semantic representation level such as LF.

-chá does not presuppose that the speaker takes p to be a possibility, but expresses it (see section 3.5.3). But this can easily be remedied by making this a sincerity, rather than a preparatory condition. This would also account better for the reduction of the degree of strength, which, recall, measures the degree of strength of the speaker's mental attitudes. The meaning of *Parashanchá* would then be decomposed as follows.

(148)   Para-sha-n-**chá**.
           rain-PROG-3-**chá**

           $p=$'It is raining.'
           ILL=ASSERT$_s(p)$
           SINC=$\{Bel(s, \Diamond p),\ Rea(s,p)\}$
           STRENGTH=-1

While this analysis avoids the problem of how *chá* can add the possibility operator $\Diamond$ to p, which is embedded within the assertion operator, it raises some other questions. First, *-chá* would still have to access p inside the predicate *Bel* in the sincerity conditions in order to add $\Diamond$ in front of it and so to derive the proposition that the speaker holds a weaker belief.[10] Second, even though taking all the components together the result is that of a weak assertion, the claim is still that the speaker asserts p. It is not clear to me how it is possible (within standard speech act theory) to assert p while only believing $\Diamond p$. Note also that the sequence in (149) is not contradictory, even if the two women participated in the same race, and only one can be the winner.

(149)   Inés-**chá** llali-rqa-n. Pilar-taq-**chá**   llalli-rqa-n.
           Inés-**chá** win-PST1-3 Pilar-CONTR-**chá**

           'Possibly Inés won. And possibly Pilar won.'

It seems to me that if p is weakly asserted, it should not be possible to also weakly assert its negation, but this is what is done in (149). However, if we assume that the speaker asserts $\Diamond p$, then (149) is not a problem.

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[10] In the sincerity conditions in (148) the proposition that s believes p weakly is represented as $Bel(s, \Diamond p)$. This is my interpretation of what it means to believe something weakly, not Vanderveken's. As mentioned, he assumes that the possibility operator is part of the preparatory conditions, and that this is a brand new condition. Thus, the problem does not arise for him. However, as pointed out, the degree of strength is supposed to reflect the degree of the speaker's mental attitudes, and the question remains how to represent that the speaker believes something weakly. To avoid the problem described here, one could postulate different belief predicates which differ in degrees of strength. However, this would be a rather inelegant solution.

Furthermore, according to Vanderveken (1990:105), the illocutionary point of any assertion—weak or strong, including those based on *guess*—"consists in representing as actual a state of affairs." However, a speaker of (146) does not represent as actual that it is raining. What (s)he represents as actual is the possibility that it is raining.[11] Moving the possibility operator into the sincerity conditions, as this analysis proposes, would therefore force us to give up the idea—which I understand to be fundamental to Vanderveken's account[12]—that all assertions share the same illocutionary point. I conclude from this discussion that an analysis of *-chá* along the lines of Vanderveken's proposal for the English verb *guess* is not viable, and adopt in the following the analysis in (147).

5.2.7   Summary on *-chá*

I have argued that the Conjectural enclitic *-chá* is both an evidential, indicating that the speaker bases a statement on his or her own reasoning, and an epistemic modal, indicating that the speaker considers the embedded proposition to be a more or less strong possibility. I have proposed an analysis of *-chá* as a function from speech acts to speech acts which, in the case of assertions, adds its evidential meaning to the sincerity conditions of simple assertions, and its epistemic meaning to the propositional content. I observed that this analysis is problematic in that it is unclear whether an illocutionary operator can access and modify the embedded proposition. I also discussed an alternative analysis of *-chá* as an epistemic modal within possible world semantics, which avoids the problem of the speech act account. In order to maintain the parallelism with the other two evidential enclitics, and in order to be able to account straightforwardly for its distributional properties and its non-scoping nature, I adopt the illocutionary analysis in the following.

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[11]Though it might be argued for the English sentence *I guess it is raining* that the speaker presents it as actual that it is raining.

[12]This understanding is based on the observation that Vanderveken (1990) recognizes the existence of operators on all components of illocutionary force *except* illocutionary point. These operators serve both to derive the meaning of complex speech act verbs from that of simple ones, as well as to give the meaning of certain words in English, for example *frankly*.

In the discussion of this enclitic a number of questions were raised that are relevant for current theories, which I briefly repeat here: (i) what does it mean to assert something weakly, and what is the difference between asserting $\Diamond p$ and weakly asserting p? (ii) Is epistemic modality really a propositional phenomenon, or is it a speech act phenomenon, or something else altogether? (iii) is the distinction between propositional and illocutionary meaning really as clearcut as generally assumed?

5.3 The Reportative enclitic *-si*

5.3.1 Meaning

The meaning of the Reportative *-si* is very easily described. It is used when the speaker is reporting information that (s)he has obtained from someone else. This includes all of the subtypes of reportative information discussed in chapter 2, that is, secondhand, thirdhand, and hearsay. It is also typically used in folktalkes, together with the past tense suffix *-sqa*.[13] These uses are illustrated in (150) ((150a=13a,150b=13c).

(150) a. Marya-qa   yachay wasi-pi-**s**   ka-sha-n.
           Marya-TOP know   house-LOC-**si** be-PROG-3

    p='Marya is in school.'
    EV= speaker was told that *p*   (elicited)

    b. Huk kutin-**si** huk forastero Pinchimuro ayllu-manta ch'in
        one time-**si** one *forastero* Pinchimuro village-ABL quiet
        pajonal-kuna-pi puri-sha-sqa.
        pajonal-PL-LOC walk-PROG-PST2

    p='One time a *forastero* from Pinchimuro was walking through quiet *pajonales*.'
    EV= It is said that *p*   (Condori Mamani 1996:39)

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[13]Note that 'stories' from the speaker's life are told with the Direct evidential *-mi*. It is conceivable though that a speaker would want to tell a story from his or her own life from an outsider's perspective, in which case they could use *-si*, but would also have to speak of themselves in the third person.

   c. Mana-**s** phaway-ta ati-n-chu, ichaqa qucha-man-**si** apa-n-ku urqu
      not-**si** fly-ACC   can-3-NEG but   lake-ILLA-**si**   take-3-PL mountain
      pata-cha-man.
      top-DIM-ILLA

      p='It cannot fly, but they take it to the lake, to the top of the mountain.'
      EV=speaker was told that *p*   (spontaneous)

Example (150a) is a typical response to the question *Where is Marya?* when the
speaker learned about Marya's whereabouts from someone else, and (150b) is taken
from a story told in Condori Mamani (1996). Note that the Reportative *-si* is not
only used in folktales because they are passed down from person to person, but it
appears that it has become an almost obligatory stylistic feature of this genre. Thus,
even if a narrator him- or herself invents a tale, (s)he will tell it using the Reportative.
In the strict sense (s)he does not have reported evidence, but (s)he presents the tale
as if it was passed on to him or her in the traditional way. (150c) is a description of
the tradition of bull fights that used to involve tying condors to their backs to make
them wilder. The condors were given wine, and could therefore not fly afterwards.

   Given that speakers usually know information that concerns themselves firsthand,
the use of *-si* with first person subjects is less common. However, there are cases in
which it makes sense to indicate that a piece of information about oneself was acquired
second- or thirdhand. Consultants and grammar books like to offer examples that
describe events during which the speaker was for some reason unconscious, for exam-
ple, because (s)he was drunk. However, there are other ways of being "unconscious",
as the example in (151) illustrates.

(151)   Ñoqa musquy-ni-y-pi-**s**   rima-rqa-ni.
           I   sleep-EUPH-1-LOC-**si** speak-PST1-1

           p='I spoke in my sleep.'
           EV= speaker was told that *p*

Also, events that took place in the speakers infancy, but which (s)he cannot remember,
can be related using *-si*.

   A second case in which it makes sense for speakers to repeat what other people
have said about themselves, but which I have not seen discussed anywhere in the

literature, is when the conveyed information is false, and the speaker wants to rectify it. An example is given in (152).

(152)   Pay-kuna-**s** ñoqa-man-qa qulqi-ta   muntu-ntin-pi saqiy-wa-n,
         (s)he-PL-**si** I-ILLA-TOP   money-ACC lot-INCL-LOC   leave-1O-3
         mana-má riki   riku-sqa-yki ni   un sol-ta   centavo-ta-pis
         not-SURP right see-PP-2   not one Sol-ACC cent-ACC-ADD
         saqi-sha-wa-n-chu
         leave-PROG-1O-3-NEG

         'They left me a lot of money, but, as you have seen, they didn't leave me
         one *sol*, not one cent.'
         EV: It is said/They said that they left me a lot of money.
                                                              (spontaneous)

Here, the speaker refers to a claim made by "them", namely that they had left her a lot of money, but she claims that this is not true, and that they did not leave her any money at all.

The person from whom the current speaker has her or his information is not referred to by any feature of *-si* itself, although there might be clues in the context as to who the speaker's source is. There is one restriction, however, and that is that the source cannot be the current addressee. This is even so when there is a temporal distance between the two speech events. For example, Pilar might promise me to bring potatoes the next day, and then fail to do so. In this situation I cannot complain to her with (153a). When talking to Pilar, (153a) can only mean that someone other than her had told me that Pilar would bring potatoes, that is, it can only have the evidential value indicated in (ii), not that in (i). If I wanted to express (i), I would have to use a construction with an explicit verb of saying and a direct quote as in (153b).

(153)   a. Papa-ta-**s**   apa-mu-wa-na-yki ka-rqa-n.
            potato-ACC-**si** take-CIS-1O-NMLZ-2 be-PST1-3

            p='You were going to bring me potatoes.'
            EV= (i) # You told me that p
            (ii) It is said that p

    b. Papa-ta   apa-mu-sa-yki ni-spa   ni-wa-rqa-nki.
       potato-ACC take-CIS-FUT-2 say-NMLZ say-1O-PST1-2

       $p =$'You said "I will bring you potatoes."'

Dreams are generally told in Cuzco Quechua using the Reportative and the past tense formed with *-sqa*, that is, the same combination used for folktales, although *-mi* together with present tense or *-rqa* past tense can also be used. In this respect Cuzco Quechua differs from Wanka, where, according to Floyd (1999), dreams are told with *-mi*.[14]

In Floyd's account, the schematic meaning of Wanka Quechua *-si* is revelation, and its prototype is secondhand information. The other, non-prototypical uses of this enclitic in Wanka Quechua are as miratives, and in riddles and challenges. I will not consider these uses here as I have no data for riddles and challenges in Cuzco Quechua. I have also not encountered any mirative uses of Cuzco Quechua *-si*.

As the examples given above show, the speaker of a sentence with *-si* indicates that his or her information was obtained from another person. It is therefore clearly an evidential. Thus, we can state the meaning of *-si* as in (154).

(154)   **-si**: EV= speaker bases his or her statement on reportative evidence

5.3.2   Reportative *-si* is not an epistemic modal

We also have to ask whether *-si* is an epistemic modal in addition to being an evidential like the Conjectural *-chá*. As I discussed in chapter 2, Reportatives cross-linguistically do not generally encode a modal value. However, for some languages it has been claimed that Reportatives are epistemic modals (for example Izvorski (1997) for Bulgarian and Turkish PE, and Ehrich (2001) for German *sollen*). Here, I argue that the Quechua Reportative is not an epistemic modal. The arguments are similar to those presented in chapter 4 against analyzing *-mi* as an epistemic modal. First,

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[14]It would be interesting to compare the telling of Cuzco Quechua dreams with that of Turkish, which has two evidentially distinct past tense forms. As reported in Aksu-Koç and Slobin (1986), the form used for non-experienced, unexpected events, *-mIş*, is used in dreams for those events that the speaker considers far removed from his or her reality. The other form, *-dI*, is used for those events that appear more realistic.

the Reportative can occur in content questions, and it has one reading in which the speaker asks the question in the name of someone else (see section 6.3.2). It is unclear what epistemic modality in this case would mean.

Second, a speaker of a sentence containing -*si* does not convey that the embedded proposition p is possibly or necessarily true with respect to what (s)he knows or with respect to what (s)he has been told. This is shown by example (155), which is a shortened version of (152), where the speaker claims that p is not true.

(155)   Pay-kuna-**s** ñoqa-man-qa qulqi-ta   saqiy-wa-n, mana-má ni   un
         (s)he-PL-**si** I-ILLA-TOP   money-ACC leave-1O-3   not-SURP not one
         sol-ta   saqi-sha-wa-n-chu
         Sol-ACC leave-PROG-1O-3-NEG

         'They left me money, but they didn't leave me one *sol*.'
         EV: It is said/They said that they left me money.

In contrast, a speaker using English epistemic *may* or *must* cannot know for a fact that the embedded proposition is not true:

(156)   a. # It may be raining, but it is not (raining).

         b. # It must be raining, but it is not (raining).

Thus, a sentence containing -*si* does not convey that p is necessarily or possibly true. A speaker using -*si* does also not convey that (s)he believes p to be false. This was already observed by Weber (1986) and Floyd (1997)a, Floyd (1994). There are many cases in which the speaker is completely convinced of the truth of a report, but nevertheless has to use -*si*, because they only have reportative evidence. Thus, in uttering (157=150a) for example, the speaker does not necessarily want to convey that (s)he does not believe that Mary is in school.

(157)   Marya-qa   yachay wasi-pi-**s**   ka-sha-n.
         Marya-TOP know   house-LOC-**si** be-PROG-3

         p='Marya is in school.'
         EV= speaker was told that p

Likewise, the speaker does not convey that p is true, which is shown by the fact that Moore's paradox does not arise, as shown by (158).

(158)   Para-sha-n-**si**, ichaqa mana crei-ni-chu.
           rain-PROG-3-**si** but   not   believe-1-NEG

           p='It is raining, but I don't believe it.'
           EV= speaker is/was told that it is raining

I conclude that a speaker of Quechua does not convey a truth value for any of p, $\Box p$ or $\Diamond p$ by uttering p-*si*.

One might attempt to rescue an analysis of *-si* as an epistemic modal by saying that the hypothesized epistemic force is not attributed to the current speaker but to the source. However, in many cases the original utterance will be a simple assertion, without a modal. Thus, I might have been told by Marya *Chayamurqanña—(S)he arrived already*, and I might report this to someone else using the Reportative. Of course, it wouldn't be wrong to say that I attribute to my source the modal force of possibility, that is, I would certainly not deny that (s)he believes it possible that this person arrived. However, if this were part of the encoded meaning of my sentence, I would implicate that my source does not know for a fact that (s)he arrived, and in this case, I would not want to implicate that.

While *-si* does not encode a low degree of certainty, it is the case that when comparing a sentence containing *-si* with the same sentence containing *-mi*, a lower degree of certainty might be implicated by the first. Consider Weber's (1986) example in (159).

(159)   Hatun tayta-y-pa suti-n   Juan-**si** ka-sqa.
           great   father-GEN name-3 Juan-**si** be-PST2

           'My grandfather's name was Juan.'

According to Weber, a speaker who has not known his or her grandfather personally has to use the Reportative in (159), even in the case where (s)he is entirely convinced that *Juan* was indeed his name. This example, however, turned out to be somewhat problematic in my own fieldwork: it is a paradigm case of apparently free variation

between the use of *-si*, *-mi*, or no evidential enclitic at all. Given the meaning proposed above for *-mi* as being licensed evidentially if the speaker has the most direct evidence possible for the described event, it is clear why *-mi* can be used here also: the most direct evidence for someone's name is having them been introduced to you, hearing them being addressed or being talked about by his or her name. In those cases where the most direct evidence is identical to reportative evidence, the choice between *-si* and *-mi* is guided by either the speaker's degree of certainty that the proposition expressed is true or by his or her willingness to assume responsibility for his or her statement.

As a further illustration, consider again the example in which Pilar tells the speaker that she will go to Cuzco the next day, and the speaker assumes that the addressee knows that (s)he talked with Pilar directly. Then, by using *-si* in uttering *Pilar will go to Cuzco tomorrow*—even though (s)he could have used *-mi*—the speaker implicates that (s)he does not really believe Pilar.

The conclusion for the meaning of the Reportative *-si* is that it is a pure evidential, that is, it does not encode an epistemic modal value. However, *-si* can implicate a low degree of certainty in situations in which the speaker's evidence would also allow the use of *-mi* (and the speaker assumes that the addressee knows that).

In the next section, I will develop an account of *-si* within speech act theory.

5.3.3   A speech act account of *-si*

As with the other two evidential enclitics, a speech act account of *-si* assumes that it does not operate on the propositional level. I will show that this is the case for *-si* by applying the challengeability test presented in section 3.5.3. (160a) can be challenged with any of (160b,c,d).

(160)   a. Ines-qa   qaynunchay ñaña-n-ta-**s**   watuku-sqa.
          Inés-TOP yesterday   sister-3-ACC-**si** visit-PST2

          p='Inés visited her sister yesterday.'
          EV= Speaker was told that *p*

    b. Chiqaq-chu.
       true-QUEST
       'Is that true?'

    c. Mana-**n** chiqaq-chu.
       not-**mi**   true-NEG
       'That's not true.'

    d. Chiqaq-**mi**
       true-**mi**
       'True.'

The challenges in (160b,c,d) only affect the proposition that Inés visited her sister yesterday.[15] As with -*mi*, attempts to explicitly challenge the evidential force in (160) fail:

(161)   Mana-**n** chiqaq-chu. # Mana-**n** chay-ta   willa-rqa-sunki-chu.
           not-**mi**   true-NEG   not-**mi**   this-ACC tell-PST1-3s2O-NEG
           'That's not true. You were not told this.'

And again, it is quite possible and normal to make explicit that the embedded proposition is denied as shown in (162).

(162)   Mana-**n** chiqaq-chu. Manta-n-ta-lla-**n**   watuku-rqa-n.
           not-**mi**   true-NEG   mother-3-ACC-LIM-**mi** visit-PST1-3
           'That's not true. She only visited her mother.'

Thus, according to the test, the reportative meaning of -*si* does not contribute to the proposition expressed, and I now discuss how -*si* can be analyzed within speech act theory. I first present and discard two proposals that come to mind immediately, leading up to the proposal that I will defend.

    I have characterized the meaning of a sentence containing -*si* as conveying that the speaker obtained the conveyed information from someone else. In more speech

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[15]Again, the responses in (160c,d) contain the Direct -*mi* rather than the Reportative -*si* (or the Conjectural -*chá*). By using -*mi* the speaker claims to have the best possible grounds for saying that *p* is true or false. Changing -*mi* to -*si* would not result in challenging the first speaker's claim that (s)he obtained his or her information secondhand, but only in making the claim that this is true or false secondhand information as well.

act theoretic terms, we can say that an assertion containing -si indicates that the assertion is not the current speaker's, but the assertion of a third person (cf. Nuckolls (1993)).

A first attempt at an analysis is therefore to say that -si conveys that there exits some speaker who asserts p, and we might represent this as in (163).

(163)   Para-sha-n-**si**.
           rain-PROG-3-**si**

           $q=$'It is raining.'
           $p=\exists s_2[Assert(s_2,q)\wedge s_2 \notin \{h,s\}]$
           ILL$=$ASSERT(p)

This representation contains two assertive predicates: ASSERT(p) indicates the illocutionary force of the assertion of the current speaker, $Assert(s_2,q)$ is a semantic predicate describing the assertion of a second speaker s_2 (which cannot be the current speaker s or the hearer h). This representation captures the observation that it is not the speaker, but someone else, who asserts q. However, it makes the wrong claim that the evidential meaning of -si is part of the proposition expressed. Recall from chapter 2 that it is a defining feature of evidentials that their meaning cannot be the main predication of the sentence, and that I have shown above that -si does not contribute its meaning to the proposition expressed.

As a second attempt at a representation of a sentence containing -si consider (164), which is parallel to the analysis proposed for -mi and -chá in that the meaning of -si is analyzed as a sincerity condition.

(164)   Para-sha-n-**si**.
           rain-PROG-3-**si**

           $p=$'It is raining.'
           ILL$=$ASSERT(p)
           SINC$=\{Bel(s,p),$ EV$=\exists s_2[Assert(s_2,p) \wedge s_2 \notin \{h,s\}]\}$

This representation has the problem that it claims that the speaker believes p, which I have shown above not to be a necessary condition—not even that (s)he believes p weakly. The only necessary condition is the evidential one. However, if one eliminates

the *Bel* condition from SINC, the illocutionary force can no longer be ASSERT, since all assertions have the point of representing as actual a state of affairs, and the sincerity condition that the speaker believes p. But if a sentence with *-si* is not an assertion, what type of illocutionary act is performed by its utterance? A brief look at the five basic illocutionary points assumed by Searle and Vanderveken (1985) presented in section 1.2.2 shows that none captures the point made by a reportative sentence. But what point does the speaker of such a sentence make?

It appears that in some cases, a speaker who uses *-si* just offers him- or herself as a channel for the original speaker, without wanting to make his or her own illocutionary point. For example, in an idealized view of folktales, the current narrator does not have an agenda of his or her own except to tell the story. One can also imagine scenarios in daily life in which a speaker only acts as a channel. For example, I might have agreed to come to a party, but cannot attend for some reason. I might then ask a friend to tell the host that I will not come. This friend would then say to the host in Quechua *Martinaqa mana-**s** hamunqachu - Martina won't-**si** come.* Arguably, it is my illocutionary intention to excuse myself, not my friend's, and it is my perlocutionary intention to get the host to excuse me, not my friend's. She might not care at all whether or not I am excused.

However, it is not always the case that the current speaker has no illocutionary intentions of his or her own. For example, I might have a windowless office, but was told that it is raining outside. If my office mate then says that she is going for a walk, I might say to her *Parashan-**si** - It is raining-**si***. Here, it is my intention to warn my office mate of the rain, and maybe advise her to take adequate measures. Another example is that I might want to make an argument, and need to refer to a piece of information that I acquired from someone else. In that case I would want to assert myself that the proposition is true, even if I mark it with *-si*. Lastly, consider again (152). There, it is the intention of the speaker to bring up the proposition that she was given money in order to later deny that this is true.

Thus, it appears that whether the current speaker of a sentence containing *-si* is making an illocutionary point at all, and if so what point, is highly context dependent. What all examples have in common is that the speaker brings the embedded

proposition into the conversation for consideration. That is the current speaker's speech act is one of *presentation* of another speaker's assertion. The context will then specify what illocutionary point the speaker intends to make beyond presentation, that is, this illocutionary point would be made indirectly.

Under this view, the meaning of the sentence *It is raining* with *-si* can now be represented as in (165=19).[16]

(165)   Para-sha-n-**si**.
             rain-PROG-3-**si**

             p='It is raining.'
             ILL=PRESENT(p)
             SINC=$\{\exists s_2[Assert(s_2, p) \wedge s_2 \notin \{h, s\}]\}$

The sincerity condition associated with *-si* states that there is some speaker s_2 who asserted p, and that this speaker is neither the hearer nor the current speaker. There is no condition that the speaker believes p, and the illocutionary act is that of PRESENT.[17]

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[16] The members of my dissertation committee point out that the use of an existential quantifier to quantify over the original speaker of p is not unproblematic. Among other things, it runs into problems with consecutive sentences of the form *p-si, q-si*. The usual interpretation of such sequences is that the source is the same for both p and q. If the two sentences were acquired from different sources, this would usually be indicated somehow. The existential quantifier, however, freely allows for the source to be different in each sentence (see also example (212), section 6.3.2. It therefore seems to be more appropriate to use an open variable instead which will be subject to global existential closure. I am aware of this problem, but will continue to use the quantifier, because it is simpler, and the use of open variables comes with its own set of problems.

[17]Steve Levinson (p.c.) points out as a problem for this analysis that it proliferates speech act types, which is undesirable. This might open the door for postulating even more speech acts. I accept this criticism as valid, but can at this point not offer an alternative. What one perhaps needs is a type of assertion that does not strictly require that the speaker believes p, but allows under certain circumstances this requirement to be relaxed. Such an approach has been proposed within Relevance Theory: "Within the framework of Relevance Theory, the fact that in assertions speakers rarely intend to convey exactly the proposition strictly and literally expressed has been seen as evidence against any maxim of truthfulness or sincerity. [...] The fact that in assertions *taha* [an evidential of Modern Greek, see below, M.F.] is compatible with the speaker's not believing the proposition explicitly expressed follows naturally from the claim made in Relevance Theory that literal truth is a limiting case rather than the norm" (Ifantidou 2001:172,173). The notion of sincerity conditions is central to standard speech act theory, and it is not clear what it could be replaced with without giving up speech act theory in its current form entirely. I cannot make this perhaps necessary, but drastic move in this dissertation, and will therefore continue to use the speech act type PRESENT.

As with Direct *-mi*, the analysis of *-si* as contributing to the sincerity conditions predicts that we get an evidential version of Moore's paradox. That this is the case is shown in (166).

(166)   # Para-sha-n-**si**, ichaqa mana-**n** willa-wa-rqa-n-chu.
          rain-PROG-3-**si**, but   not-**mi** tell-1O-PST1-3-NEG

         'It is raining, but I was not told this.'
         EV= speaker was told that it is raining.

Assuming that (165) is the right representation, what is the meaning of *-si*? In parallel to *-mi* and *-chá*, we can analyze *-si* as a function from speech acts to speech acts, as in (167).[18]

(167)   **-si**: $\begin{array}{l}\text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\}\end{array}$ $\longmapsto$ $\begin{array}{l}\text{PRESENT}(p) \\ \text{SINC}=\{\exists s_2[Assert(s_2,p) \wedge s_2 \notin \{h,s\}]\}\end{array}$

What this function does descriptively is the following: it applies to a speech act, in this case assertion, and changes its force to that of PRESENT. Furthermore, it introduces the evidential sincerity condition that there exists some other speaker who asserts/-ed that p. Note that this sincerity is not added to the set of sincerity conditions associated with the first argument of *-si*, the assertion. Rather, a new set of sincerity conditions is created. Thus, the function denoted by *-si* is more "destructive" than those denoted by *-mi* and *-chá*, which both leave the illocutionary force and its sincerity conditions intact. This analysis accounts for the empirical facts described above, but it also has a number of problems. These will be discussed in the following section, in which I will also consider (but not adopt) two more alternatives.

5.3.4   Discussion of the proposed analysis for *-si*

Having sincerity conditions deleted by an illocutionary modifier, as I proposed above for *-si*, is a drastic move, and is not endorsed by standard speech act theory. Vanderveken (1990) recognizes exactly six types of operations on illocutionary forces,

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[18]Note that the function proposed as the denotation of *-si* in (167) must be able to access p to 'put' it into the second argument position of *Assert*. If we assume that illocutionary acts are structured objects, as discussed in section 5.2.6, then, this is unproblematic.

which consist in restricting the mode of achievement, increasing or decreasing the degree of strength and *adding* propositional, preparatory or sincerity conditions (Vanderveken 1990:127-128). But this is not the first proposal of this kind. For example, Waltereit (2001) analyzes modal particles in German and French as operating on the preparatory conditions of the speech act. In his account, the German modal particle *ja* cancels the preparatory condition of assertions that "it is not obvious to both S and H that H knows (does not need to be reminded of, etc.) p" (Searle (1969:66), as cited in Waltereit (2001:1398)). *Ja* implies that p is obvious to both the speaker and the addressee.

Even more relevant to the present proposal, is the fact that the Modern Greek particle *taha*, which appears to be an indirect evidential with reportative interpretations, has been analyzed as cancelling the sincerity condition of the speech act it occurs in. Thus, Ifantidou (2001) discusses an article by Pavlidou: "In particular, she claims that for assertive speech acts, the addition of *taha* cancels the sincerity condition that the speaker believes the proposition expressed [...] Similarly, in directive speech acts, the addition of *taha* cancels the sincerity condition that the speaker wants the hearer to perform the act described in the proposition expressed" (Ifantidou 2001:172).[19]

Ifantidou criticizes Pavlidou's account of *taha* on two different grounds. For one, it does not appear to get the empirical facts right. The criticism that is relevant for my account of Quechua *-si* is that "the pragmatic functions of *taha* would have to be explained in terms of a deviation from the norm, because it overrules a condition of truthfulness or sincerity that should otherwise be adhered to. However, contrary to what such an account suggests, *taha* is very common in conversational speech [...] The claim that sincerity conditions on speech acts are generally overruled is a rather

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[19]As mentioned above, I have only recently had access to Ifantidou (2001) and was not aware of Pavlidou's study at all until reading her book. I do not have access to Pavlidou's article at this point in time, neither physically nor linguistically, as it is written in Greek. The reference is:

> Pavlidou, Theodosia. 1988. Ta distahtika epirimata. *Studies in Greek Linguistics* (Proceedings of the 9th Annual Meeting of the Department of Linguistics, Faculty of Philosophy, Aristotle University of Thessaloniki), 527–546.

The particle *taha* seems to be quite different from the Quechua Reportative, since in assertions it appears to signal that the speaker believes the opposite, that is, $\neg p$, which is not the case for *-si*.

inelegant way of handling a naturally occurring particle" (Ifantidou 2001:172). In its stead, Ifantidou analyzes *taha* within Relevance Theory as a marker of interpretive use.

This criticism applies directly to the account proposed here for the Quechua Reportative, and I agree that it is a rather inelegant solution. However, let me point out that the first part of the criticism does not apply to my proposal, since the deleted condition is replaced with a new sincerity condition. That is, the new illocutionary act also comes with a condition of truthfulness and sincerity, and sentences containing *-si* are therefore not predicted to be a deviation from the norm. Furthermore, one could argue that the original sincerity conditions are not deleted entirely. They simply disappear from SINC because we have a switch in speakers, but they are still implicitly present in the truth conditions of the predicate $Assert(s_2,p)$, which is true iff the speaker s_2 was sincerely asserting p, that is, iff $Bel(s_2,p)$ is true.

Nevertheless, it is true that this analysis of *-si* is not very elegant. Taking this together with the observation that the output of the proposed function is very different from its input, in particular with respect to the change in illocutionary force, and that calling *-si* an illocutionary modifier is therefore perhaps a bit of a stretch, a better analysis would certainly be welcome. One that comes to mind first is to analyze *-si* as an independent illocutionary force marker, that is, as directly marking the speech act as PRESENT. The merits of such an analysis are clear: there will be no almost complete recreation of the original speech act, and no deleting of sincerity conditions, since the representation of (165) is constructed directly, without going via the representation of a simple assertion.

The drawbacks of this analysis are as follows. First, we would have to give up the assumption I have been making that the three evidential enclitics are of the same semantic type. Second, the sincerity condition of the final speech act contains a predicate that describes the original speech act. One cannot set this predicate to *Assert*, since *-si* can also occur in content questions, and for one of the readings, this predicate has to be *Quest* (see chapter 6). That is, we would have to assume that *-si* is ambiguous between an assertion and a question use.

Having mentioned Relevance Theory at various points, one might hope to find a viable analysis therein, especially in Ifantidou's work. However, she primarily discusses evidential adverbials in English, and grammatical evidentials that have a reportative interpretation only as one of their interpretations. She only briefly discusses "genuine hearsay markers" such as the Japanese particle *tte*. She analyzes *tte* as procedural (as opposed to conceptual): "it would trigger the construction of a conceptual representation along the lines of 'X said that ... ', 'X expressed the view that ... ', 'X uttered the words that ... ' etc. " (Ifantidou 2001:193). The meaning of procedural operators is to encode "information about *computations*, rather than representations: that is about how utterances containing these expressions should be processed" (Ifantidou 2001:87). This is an attractive view, and perhaps right from the hearer's perspective, but it does not have anything to say about what speech act the speaker is making, which is what I am interested in here.

As a last alternative—at least last in this dissertation—I consider the possibility that a sentence with *-si* gives rise to a complex speech act as in (168), where the subscripts a and p refer to the speech acts of assertion and presentation, respectively.

(168)   Para-sha-n-**si**.
          rain-PROG-3-**si**

p='It is raining.'
ILL=PRESENT$_s$(ASSERT$_{s2}$(p))
SINC$_a$=$\{Bel(s_2, p)\}$
SINC$_p$=$\{\exists s_2[Assert(s_2, p) \wedge s_2 \notin \{h, s\}]\}$

The meaning of *-si* to derive (168) can be given as in (169).

(169)   **-si**: $\begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}_a=\{Bel(s_2, p)\} \end{array}$ $\longmapsto$ $\begin{array}{l} \text{PRESENT}_s(\text{ASSERT}_{s2}(p)) \\ \text{SINC}_a=\{Bel(s_2, p)\} \\ \text{SINC}_p=\{\exists s_2[Assert(s_2, p) \wedge s_2 \notin \{h, s\}]\} \end{array}$

This analysis achieves the same as (165)/(167), and has the advantage of being less destructive: the sincerity conditions of the original assertion are not removed but maintained. It claims that an utterance of a sentence with *-si* performs two speech acts simultaneously, only one of which is the current speakers. It is at this point

not clear to me whether this is a reasonable way to look at sentences with *-si*, and what evidence one would need to accept or reject it. Also, the speech act of PRESENT would be different from other types of speech acts in that it takes a speech act as its argument, not a proposition. Standard speech act theory does not provide for this type of act. Having considered a number of alternatives, and pointed out that none is without problems, I will in the following use the one presented in (165) and (167).

5.3.5   Summary on *-si*

In the previous sections, I described the meaning of the Reportative enclitic *-si*. I showed that it is a true evidential, indicating the speaker's source of information, and that it does not encode an epistemic modal value. Such a value may be implicated, however, in cases in which the speaker had a choice between *-si* and *-mi*. I also showed that *-si* does not contribute to the proposition expressed.

I proposed an analysis of *-si* as a function from speech acts to speech acts. The output of this function is a new type of speech act, namely PRESENT, the sincerity condition of which is that there is some other speaker who made the original speech act. Problems with this analysis were discussed, and alternatives considered. However, none is available that solves all problems without creating new ones. I will therefore continue to use the proposal for the meaning of *-si* in (167).

As was the case in the discussion of the Conjectural *-chá*, the preceding discussion raises a number of questions for current speech act theory, which I summarize here: (i) Should a new speech act type PRESENT be recognized, and if so, how can the proliferation of new acts be prevented? In other words what motivates the recognition of PRESENT over the recognition of some other type other than that the current theory can not deal with *-si* in a straightforward way? (ii) Should we have a notion of complex speech act? (iii) Can one speaker *perform* the speech act of another or only *describe* it?

Chapter 6

Further implications of the speech act account

6.1 Introduction

In the previous chapters, I analyzed the three evidential enclitics as illocutionary modifiers: they take a speech act as argument, and output another speech act that has added or modified sincerity conditions. The Conjectural *-chá* in addition adds meaning to the embedded propositional content, and the Reportative *-si* changes the illocutionary force. This analysis is in part based on the outcome of the challengeability test, which shows that the three evidential enclitics are not part of the proposition expressed. But note that this result would also be compatible with an analysis of them as *performatives*, that is, as elements that are constitutive of the illocutionary act performed by the sentence they occur in. This is in fact the analysis proposed by Garrett (2000) for the Tibetan Indirect, which he analyzes roughly as the equivalent of a performative verb such as *infer*. This allows him to account straightforwardly for the restriction that the Tibetan Indirect can only occur in illocutionary force bearing environments.

That the analysis of the Quechua evidentials as performatives is not possible was briefly argued for the Reportative *-si* in section 5.3.4, and is indirectly rejected for the other two enclitics by adopting the illocutionary modifier analysis. In section

6.2 of this chapter, I argue in more detail for adopting the modifier analysis over the performative analysis of Quechua evidentials with the goal of bringing out the differences between the two kinds of elements, and thus contributing to a taxonomy of elements that in some or all their uses are anchored to the speech event.

In order to develop such a taxonomy, Nuyts' (2000) distinction between descriptive and m-performative uses of certain elements is relevant. Elements that are used m-peformatively have to be anchored to the speech event but are not necessarily performative as the term is used in speech act theory, that is, they do not necessarily determine the illocutionary force. Examples for elements that can be used m-preformatively are epistemic modals such as English *must*, which are clearly not performatives in the speech act sense.

I argue that Quechua evidentials can only be used m-peformatively, but never descriptively. In this, they differ from epistemic modals such as *must*, which have both m-performative and descriptive uses, and from performative verbs such as *assert*, which have performative and descriptive uses.

I first present arguments against analyzing the Quechua evidentials as performatives, and then introduce the notion of m-performativity. I will show that two types of embedding tests that have been used in the previous literature to show that, for example, epistemic modals do not contribute to the proposition expressed, do in fact not show that, but help to determine whether they have only m-performative, or also so-called descriptive uses. On the basis of these tests, I argue that the Quechua evidentials can only be used m-performatively, which accounts for their occurrence restrictions. I then propose a first taxonomy of elements in terms of their possible uses.

In section 6.3, I discuss the analysis developed in the previous chapters with respect to the following phenomena: the occurrence of evidential enclitics in content questions, their failure to fall under the scope of propositional operators, their co-occurrence with epistemic modals, as well as *de re* and *de dicto* readings that arise with the Reportative.

6.2   Evidential enclitics and performativity

In the previous chapters, I analyzed the evidential enclitics as illocutionary modifiers which apply to an illocutionary force and add to or modify its sincerity conditions. An alternative analysis which still takes the evidential enclitics to be illocutionary operators is to say that they determine the illocutionary act performed by an utterance of the sentence they occur in, and not just modify it. Nuckolls' (1993) analysis of Quechua *-mi* as an *assertive* might be interpreted in this way, and Garrett (2000) analyzes the Tibetan indirect evidentials as performatives, that is, along the same lines as English performative verbs such as *I infer*. Garrett's (2000) main reason for this approach is to account for the distributional restriction of evidentials to illocutionary force bearing environments. In the following two sections, I argue that an analysis of Quechua evidentials as performatives in this sense is too strong, and that a different, in a way weaker, kind of performativity is responsible for the same occurrence restriction of Quechua evidentials.

6.2.1   Speech act performativity

As mentioned in section 5.2, Garrett (2000) adopts Izvorski's (1997) account for Tibetan indirect evidentials, analyzing them essentially as epistemic modals. This allows him to capture the observation that Tibetan indirect evidentials are used to convey information "based on reasoning from a network of facts" (Garrett 2000:48). In addition to this epistemic component, Tibetan indirect evidentials have a "performative component"; according to Garrett (2000:29), who adopts a truth-functional view of performativity,[1] they are "performative epistemic modals". An utterance containing

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[1] Garrett (2000) adopts this view because, according to him, it has empirical advantages. The utterance of a performative sentence does on this view not in and of itself constitute an act. A performative sentence conveys its propositional content, just as any non-performative sentence. It's illocutionary force is inferred indirectly (Garrett (2000:148) cites Bach and Harnish (1992)). One empirical advantage therefore is that "there is less urgency to come up with a strict algorithm that determines the performative force, if any, for any given sentence. A second advantage "is that the truth-functional view deals better with hedged and embedded performatives, for example *I regret to inform you ...* (Bach & Harnish 1992)." One might disagree with this view, but whether or not the truth-functional view of performatives is correct is not relevant for the point I make below for Quechua evidentials. I will therefore simply go along with Garrett's view.

a performative epistemic modal has two properties: (i) it denotes an epistemic rela-
tion of possibility or necessity, and (ii) it has the property of "truth by say-so", i.e.
it plays a causal role "in promoting its own truth". The second property is what
distinguishes performatives from non-performatives. Garrett (2000) presents a way
of connecting these two properties in the semantics of the Tibetan indirect eviden-
tials, but the technical details of this do not interest us here.[2] What is relevant here
is Garrett's motivation for analyzing Tibetan indirect evidentials as performatives,
since his arguments may be taken as arguments for analyzing the Quechua evidential
enclitics as performatives, too. As illustrated by the following two quotes, he makes
this move in order to account for the empirical fact that Tibetan indirect evidentials
are restricted to illocutionary force bearing environments.

> Because of the similarities between epistemic modality and indirect evi-
> dentiality highlighted by Izvorski's work, I have suggested that Tibetan
> indirect is a kind of epistemic modality. However, the real empirical payoff
> comes from adding the performative dimension. Indirect evidentiality is
> severely restricted in Tibetan. It can only occur in core assertive environ-
> ments (matrix clauses, embedded assertions, [...] and questions [...]).
> However, it cannot occur in conditional protases, nor can it occur in other
> non-assertive embeddings (Garrett 2000:49-50).

> As Palmer noted, the protases of conditionals may not be performative.
> Performatives are dependent on assertion (assertive speech acts), for with-
> out an assertion one cannot have truth by say-so. If Tibetan indirect is
> obligatorily performative, then the above facts follow immediately, for the
> same reason that *If I promise to finish my dissertation on time ...*   no
> longer has a performative reading.

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[2]Garrett (2000:29ff) proposes that "the conversational background W [associated with the indi-
rect evidential, M.F.] is chosen in such a way that the speaker's claim is automatically true at each
world in W." This is achieved "by ensuring that only evidence that the speaker takes as constituting
evidence for his claim be considered." It is not clear to me how this will result in the statement being
automatically true, since the sentence can still be false if the speaker uses bad logic, that is, makes
a mistake in reasoning from the evidence to the conclusion. As Garrett himself observes, reasoning
with bad logic is one of the ways in which an epistemic modal statement can be false .

In contrast, if indirect were a non-performative epistemic modal, then the above facts would be mysterious, since—as far as I'm aware—there exist no independent grounds for excluding epistemic modality from conditional protases (Garrett 2000:51).

All three Quechua evidential enclitics can only occur in assertions or content questions, that is, they can also not occur in the antecedents of conditionals. If they were performatives, then, as Garrett observes, these distributional facts would be explained.[3]

However, Quechua evidentials are not performatives, in particular not the Reportative and the Direct, as I will show momentarily. The fact that their occurrence is restricted to assertions and content questions will therefore have to be accounted for in a different way, and I will present a proposal in section 6.2.2.

As mentioned above, on the truth-functional view of performatives the utterance of a performative sentence makes it true. For example, a sentence like *I promise to finish my dissertation on time* is true simply by virtue of it having been uttered sincerely. In fact, uttering it is the *only* way of making it true.

If (indirect) evidentials are performatives in this sense, then uttering a sentence containing an evidential should be the only way to make it true. For the Tibetan Inferential, this might indeed be the case as, according to Garrett, the indirect evidential in Tibetan in its inferential reading corresponds to *I infer that*, rather than to the epistemic modal *must*,[4] and *infer* is considered to be a performative verb by Garrett.[5]

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[3]Note, however, that while it is indeed the case that analyzing indirect evidentials as performatives immediately explains the empirical facts, we cannot conclude from the empirical facts that they are performatives in the truth-by-say-so sense. This would only be a valid conclusion if performatives were the only elements that can exhibit this kind of behavior (see also Lang and Steinitz (1978)).

[4]What the difference is exactly between *I infer that* and *must* is not entirely clear to me, but definitely interesting. Potentially it has to do with what the speaker thinks the hearer would conclude on the basis of the same evidence. With *must*, the speaker seems to be saying: If you had the same evidence that I do, you'd come to the same conclusion. With *I infer that* no such claim is made, so it seems to be weaker.

[5]One can debate the claim that *infer* is a performative verb on the same grounds as I argue that Quechua evidential enclitics are performatives: for the sentence *I infer that p* to be true it is clearly not necessary that the person making the inference utter it. That is, while uttering it may be considered to be a way for making it true (and even that is doubtful), it is not the only way. Making an act of inference does not require the utterance of any sentence.

It is not clear to me how this analysis carries over to the Reportative interpretation of the Tibetan indirect.[6]

The Quechua evidential enclitics are clearly not like performative verbs. First, none of the three enclitics is the main predication of the sentence; they can therefore not be said to correspond to a performative verb such as *infer*. Second, a sentence containing an evidential enclitic is not automatically true simply by having been uttered. This is a direct consequence of the evidentials not being part of the proposition expressed. It is also not the case that the proposition that I analyze as a sincerity condition introduced by the evidentials is automatically true—at least not for the Direct *-mi* and the Reportative *-si*. That is, uttering *Parashan-**mi/-si*** (*It is raining-**mi/-si***) does not make it true that the speaker sees or was told that it is raining.[7]

One could object that the relevant question is not whether or not the utterance of a sentence containing an evidential enclitic makes the evidential claim true, but whether or not uttering such a sentence is the only way of asserting it. This is certainly the case. In order to assert any sentence, it has to be uttered. However, we cannot conclude from that that the evidential enclitics are marking the speech act as an assertion for two reasons: (i) sentences without an evidential enclitic can be assertions (see section 4.4),[8] and (ii) they can occur in content questions. That is, the evidential enclitics are not constitutive of the speech act performed by the utterance of a sentence they occur in.

Having established that Quechua evidential enclitics are not like performative verbs, I now return to the observation that they cannot occur in environments that do not carry illocutionary force such as the antecedents of conditionals. Since I cannot

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[6]In the previous chapter, section 5.3, I hypothesized that—if the analysis of the Tibetan indirect as an epistemic modal is correct—the reportative interpretation of the indirect arises from the context rather than being encoded by the indirect morpheme. If that turned out to be right, then the performativity of this morpheme would not carry over to the reportative meaning aspect, but only to the epistemic meaning.

[7]For the Conjectural *-chá* the case is not so clear. If one accepts that according to standard analysis uttering *I infer (that) p* constitutes a speech act of inferring, then an utterance of *p-**chá*** might be argued to constitute an act of conjecturing (but see footnote 5).

[8]By itself this is a very weak argument, since the use of performative verbs is also not necessary for performing a speech act. For example, in uttering *I went swimming* I assert that I went swimming without using the performative verb *assert*. Nevertheless, *assert* is a performative verb.

use Garrett's explanation for this restriction in Tibetan, I must provide a different account. In the following section I argue that the distributional restrictions on the evidentials follows from a different, but closely related kind of performativity.

6.2.2 M-performativity

Nuyts (2000:39) uses the terms *descriptive* and *performative* to describe different uses of modal expressions, and he defines them as follows. "Expressions which report on an epistemic qualification of a state of affairs without involving speaker commitment to it at the moment of speaking, [...], will be called 'descriptive'. Epistemic forms which express the speaker's current attitude towards the state of affairs, [...], will be called 'performative'." This distinction "can also be found at least in the domains of deontic modality, evidentiality, and emotional attitude" (Nuyts 2000:40). In other words 'performative' forms are anchored to the speech event.[9] Nuyts is careful to distinguish this use of the term performative from that used in speech act theory as discussed in the previous section:

> The present notion of performativity should also not be confused with that in speech act theory. There is a clear correspondence between the two: both involve a phenomenon in which something is performed here and now and this performance is expressed by means of some lexical element. But there is a clear difference in what is performed: a verbal act toward the listener, versus a mental act of evaluation of a state of affairs. The former only exists by virtue of the utterance: it is through the utterance that the speech act is performed. The latter, however, can exist without the verbal expression: the verbal act only expresses the mental act, without being constitutive of it. One can perform the act of (conceptually) evaluating something without expressing it (Nuyts 2000:40-1).

In order to distinguish Nuyts' notion of performative from the standard speech act theoretic notion, I will call it *m-performative* based on his characterization of it being

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[9] I say that they are anchored to the speech event, and not simply to a speech act participant, because they express the speaker's (or the hearer's) *current* attitude, not a past or future one (see examples in (170) below).

a mental act of evaluation.[10] Nuyts (2000:39) gives the examples in (170) to illustrate the difference between performative and descriptive uses of modal expressions.

(170)   a. I think they have run out of fuel.

         b. John thinks they have run out of fuel.

         c. I thought they had run out of fuel.

In (170a) the speaker is making an epistemic evaluation him- or herself, to which (s)he is fully committed at the time of speaking, that is, *I think* is used m-performatively. In (170b,c), however, the evaluation is not the speaker's at the time of speaking. In (170b), it is John's evaluation, and in (170c) it is the speaker's at a time in the past, and (s)he might not agree with that evaluation anymore at the time of speaking. Thus, *thinks* and *thought* are used descriptively in (170b,c).

A similar contrast can be observed for epistemic adjectives, as shown in (171).

(171)   a. It is probable that they had run out of fuel.

         b. It was probable that they had run out of fuel.

         c. He considers it probable that the journal will be discontinued.

Example (171a) expresses the speaker's evaluation of the described event as being probable, and *probable* is therefore used m-performatively, but (171b) not necessarily, because the speaker might have thought it probable that they ran out of fuel at the time of the event, but might not think so anymore.[11] The case in (171c) is perhaps more clearly descriptive, because the evaluation that the journal will be discontinued as probable is clearly not the speaker's but that of the person referred to by the subject pronoun.[12]

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[10]Papafragou (2000:119) makes a similar observation with respect to epistemic modals: "modal verbs like *must, may, should,* and so on, on their epistemic interpretations, involve the evaluation of a proposition with respect to the current belief-set of the speaker in the here-and-now of the talk-exchange." This property, she claims, is responsible for the unacceptability of sentences like (172).

[11]Elizabeth Traugott points out that the past tense in (171) strongly favors a counterfactual reading. The point remains—and is even strengthened by this observation—that the speaker thought it probable at one time, but does not think so anymore.

[12]Epistemic adverbs are claimed to only have m-performative uses (Nuyts 2000:72). Thus, of the following examples, only (i) should be felicitous. However, examples (ii) and (iii) seem to be fine

I will argue below that the distributional restrictions of Quechua evidentials to illocutionary force bearing environments can be accounted for by assuming that they can only be used m-performatively, but never descriptively. The underlying assumption is that m-performative elements can only occur in illocutionary force bearing environments. Before showing this for the Quechua evidentials I discuss this notion in some more detail for English epistemic modals and sentential adverbs, in the hope of shedding some light on the interpretation of two embedding tests that purportedly show that epistemic modals and certain sentential adverbs do not contribute to the main proposition expressed (thus linking up with the discussion in section 3.5.3).

This will be relevant for interpreting these tests applied to Quechua evidentials, and is in line with the general approach taken here of comparing the behavior of Quechua evidentials with that of the better understood English epistemic modals.

The tests confirm the results from the challengeability test discussed in chapters 4 and 5 for the Quechua evidentials, namely that they do not contribute to the proposition expressed. But in addition, these two tests can be used to distinguish between descriptively and m-performatively used elements.

The first test involves the embedding of the element under investigation under a (factive) attitude verb or verb of saying. If the embedding is felicitous, the element contributes to the main proposition expressed p, otherwise, it does not. The relevant examples are given in (172) (these are repeated from footnote 15, section 3.5.3). According to this test, epistemic *must* is not part of p.

(172)   a. ?It is surprising that Alfred must be secretly seeing Barbara.
      b. ?Mary told us that Alfred must be secretly seeing Barbara.

However, as shown in (173), epistemic *may* is felicitous in the same examples.

(173)   a. It is surprising that Alfred may be secretly seeing Barbara.

also.

  i. They have probably run out of fuel.
  ii. I thought that they had probably run out of fuel.
  iii. John thinks that they have probably run out of fuel.

b. Mary told us that Alfred may be secretly seeing Barbara.

Note that *may* is used descriptively here, since the evaluation of the proposition *Alfred is secretely seeing Barbara* is not the speaker's, but somebody else's in (173a),[13] and Mary's in (173b).

Furthermore, contrary to the above claim, epistemic *must* can also occur in the complement of *surprise* and other factive verbs, as shown by the naturally occurring examples in (174), which were found by searching the internet with the Google search engine following a suggestion by David Beaver.

(174)   a. I am not really surprised that there must be a lot of resistance towards the acceptance of my claim that Sumerian is Archaic Tamil.

b. After the discovery of the electron, it was realized that there must be positive charge centers within the atom ...

The examples in (175) show that *must* can occur in the complement of a non-factive attitude verb.

(175)   a. I thought they must have run out of fuel

b. John thinks they must have run out of fuel.

Note that in those cases in which the subject of the attitude verb is not the current speaker, *must* is clearly used descriptively, that is, it expresses somebody else's evaluation of the embedded proposition as necessarily true. (175) is also a descriptive use of *must*, since the speaker does not necessarily believe anymore at the time of speaking that John must have run out of fuel. The only cases, in which one can argue that the embedded *must* is used m-performatively are those in which the subject of the attitude verb is the speaker and the verb is in the present tense, such as (174a), but even in this case, it can be argued that *must* is used descriptively in the sense that the speaker describes his or her current conclusion that the embedded proposition is

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[13]Most likely (173a) is a response to a previous claim that it might be the case that *p*, and in this case, it is the addressee who evaluates *p* as a possibility. However, this is not necessarily the case. For example, the addressee could also have reported somebody else's hypothesis that *p* (*I talked to Peter. Alfred may be secretly seeing Barbara*).

necessarily true rather than draws that conclusion at the time of speaking, since (s)he then goes on to describe the conclusion as not surprising.

I conclude from this that the complements of attitude verbs and verbs of saying force the descriptive interpretation of elements that can be used either m-performatively or descriptively. It is clear that when used descriptively, these epistemic modals do contribute to the truth conditions of p. But the test says nothing about whether or not they contribute to the truth conditions of p when used m-performatively.

I now argue that antecedents of conditionals are also an environment that force descriptive uses, and that the test based on the possibility of embedding an element in the scope of *if*, likewise does not tell us anything about whether m-performatively used elements contribute to p or not.[14]

This test supposedly works as follows: a sentence containing the element in question is embedded into an *if* conditional. If it falls under the scope of *if*, it is part of the proposition expressed, otherwise it is not. A standard example for which this test gives the expected results is the contrastive meaning associated with the English conjunction *but*. Consider (176a), and its embedding under *if* in (176b) (examples from Ifantidou-Trouki (1993)).

(176)   a. Mary is here, but Sue isn't.
         b. If Mary is here, but Sue isn't, we can't vote.

To determine whether the contrastive meaning falls under the scope of *if*, we ask whether all of the following three conditions have to be met for (176b) to be true, or only (i) and (ii): (i) Mary is here, (ii) Sue is not here, (iii) there is a contrast between (i) and (ii). It is clear that for the truth of (176b) it is irrelevant that there is a contrast between Mary's presence and Sue's absence. Therefore, this aspect of the meaning of *but* does not contribute to the truth conditions of the sentence.

Consider now the English evidential adverbials *reportedly* and *obviously* embedded under *if* as in (177a) and (177b) (examples from Ifantidou-Trouki (1993)).[15]

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[14]This, by the way, is the reason for discussing these tests here, and not in section 3.5.

[15]It is clear that the adverbials *reportedly* and *obviously* are not evidentials according to Anderson's (1986) definition discussed in chapter 1, because they are open-class lexical items, that is, they are

(177)   a. If the ball was reportedly over the line, the matter should be investigated
            further.

         b. If the cook obviously won't poison the soup, we can eat the meal without
            worrying.

For (177a), the question is whether the speaker is saying that the matter should be
investigated further if (i) the ball was over the line, or if (ii) it is reported that (i)
holds. It is clear that the speaker makes (ii) the condition for further investigation.
Similarly, it is clear for (177b) that the speaker says that we can eat without worrying
if it is obvious that the cook won't poison the soup. Since *reportedly* and *obviously*
are in the scope of *if* in these examples, Ifantidou-Trouki (1993) concludes that they
are part of the proposition expressed, and should therefore not be analyzed as speech
act modifiers as proposed elsewhere.

   In this respect, evidential sentential adverbials contrast with two other types of
sentential adverbials, namely illocutionary adverbials such as *frankly*, *honestly*, and
attitudinal adverbials such as *unfortunately*, *sadly*, which Ifantidou shows to not
contribute to the truth conditions of the sentence by applying the same test. Consider
the examples in (178).

(178)   a. If Paul's car was, sadly, stolen, he will start using the underground.

         b. If John's book has frankly sold very little, you shouldn't be surprised.

The speaker of (178a) is saying that Paul will start using the underground if it is
true that Paul's car was stolen. (S)he is not saying that Paul will start using the
underground if it is true that it is sad that Paul's car was stolen. Similarly, the
speaker of (178b) is saying that the addressee should not be surprised if it is true that
(i) John's book has sold very little, but not if it is true that (ii) I tell you frankly
that (i). Thus, *sadly* and *frankly* do, according to the test, not contribute to the
proposition expressed.

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not grammaticalized. However, it is of secondary concern to the present discussion whether or not
these adverbials are evidentials according to this morphosyntactic criterion. What is of interest here,
is the behavior of their evidential meaning component with respect to this test.

This test has also been used to separate root and epistemic uses of modals. The examples in (179) show that only root modals (179c,d) can occur in the antecedents of *if*-clauses (examples from Papafragou (2000:108)).[16]

(179)   a. ?If John must have a high IQ, then his teachers should treat him carefully.
         b. ?If that blonde may be Jack's wife, we should keep quiet about the secretary.
         c. If John must leave, then I will leave too.
         d. If money may rule, then there's no justice.

The test purportedly shows that, since root modals can occur under the scope of *if*, they contribute to the truth conditions of the proposition expressed p, and since epistemic modals cannot, they do not contribute to the truth conditions of p.

However, there are cases in which epistemic modals can occur in *if*-clauses. Consider (180) (examples from David Beaver (p.c.)).

(180)   a. If it might be heads or it might be tails, then you should not place a bet.
         b. If the gardener could be the thief, then we should watch her carefully.

Thus, the test does not give unequivocal results for epistemic modals: for (179) the result is that epistemic modals are not part of the proposition expressed, for (180) that they are. The results of this test regarding sentential adverbs and epistemic modals can be explained by appealing to Nuyts' notion of descriptive and m-performative uses of certain expressions.

Consider again the examples in (177). The question of interest is whether *reportedly* and *obviously* maintain their evidential meaning when embedded. If the answer is yes, we can conclude that they are being used m-performatively, if not, they are being used descriptively.

By definition, evidentiality in assertions is the indication of the type of source of information the *speaker* has. However, the evidential adverbials, when embedded under *if*, do not necessarily indicate the speaker's type of evidence. For example, in (177b), it is possible that it may not be obvious to the speaker that the cook won't

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[16] Peter Sells points out that (179b) is in fact not so bad.

poison the soup, but to someone else.[17] Thus, these adverbials are used descriptively in (177), not m-performatively.

Next, consider the examples in (180) again. The acceptability of these examples can also be shown to be due to the fact that the modals are used descriptively, not m-performatively. It is not necessarily the speaker's evaluation that the described events are possible. Suppose that I am convinced that it will be tails (because I had a revelation), but someone says *Don't be silly, according to simple laws of probability, it might be heads or it might be tails.* I could then advise you with (180a) to be on the safe side, even though I myself am convinced that it will be tails. A similar case can be made for (180b). Suppose that I am convinced that the gardener is not the thief, because I have known her from childhood and think that she is the sweetest person in the world. Nevertheless the detective considers her a prime suspect because she has a motive, and no alibi. Then, I might well say (180b) to the detective, without giving up my conviction that she is innocent.[18]

We can therefore conclude that embedding an element that can be used either descriptively or m-performatively in the antecedent of an *if*-clause has the effect of eliminating the m-performative use. Clearly, a descriptively used epistemic modal or sentential adverb contributes to the truth conditios of the proposition expressed p. But as with the test discussed above, it does not tell us anything about whether or not an m-performatively used element contributes to p.

Recall that both tests have two parts: (i) if the element in question can occur in the scope of *if* or an attitude verb or a verb of saying, it is part of p, and (ii) otherwise, it is not part of p. As pointed out already, (i) is a valid conclusion: those elements that can be embedded are used descriptively and do contribute to the truth conditions of p. However, (ii) is not a valid conclusion. For the tests to give this result it has to be the case that all meanings that contribute to the truth conditions of p should be able to fall under the scope of *if* or an attitude verb or verb of saying

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[17]The case is not so clear for *reportedly*, since if the speaker knows that someone else has reportative evidence, they will know so through a report.

[18]The antecedents of these conditionals are used *echoically*, that is, they echo a previous claim that it might be heads or tails, and that the gardener could be the thief (thanks to Elizabeth Traugott for pointing this out). This observation does however not take away from the argument made here, namely that the embedding test does not show that epistemic modals cannot be embedded.

(unless some independent reason excludes the item that carries the meaning). If this assumption turns out to be false, the tests will not yield the expected results.

At this point in linguistic research, this question is unclear, because the elements that cannot be embedded are precisely those for which the discussion regarding their contribution to the proposition expressed is still ongoing, for example epistemic modals, sentential adverbs, and performative verbs (in the speech act performativity sense). In order to validate the second part of the test, one would have to show that there exists no element that uncontroversially contributes to p, but which cannot be embedded. In order to invalidate the test, we would have to find an element that uncontroversially contributes to the main proposition and show that it cannot be in the scope of *if*. In the account given here, the Quechua evidential *-chá* is such an element: it is analyzed as contributing the epistemic possibility operator $\Diamond$ to p, and as I will show in section 6.2.3, it cannot occur in the scope of *if*.

Until the assumption underlying (ii) has been proven to hold, the results of the test regarding an element's contribution to the truth conditions of the sentence are at best inconclusive.[19]

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[19]Asher (1999) also challenges the validity of the test of embedding an element in an *if*-clause in order to determine whether it contributes to the proposition expressed. He notes that the test predicts nonrestrictive relative clauses and appositive NP's do not contribute to the truth-conditions of the proposition expressed, because they scope out of *if*. His examples are:

i. If the party, which Jane attended, is over, then we should find some where else to get a drink.

ii. If the party, that one that Jane is hosting, is over, then we should find some where else to get a drink.

The nonrestrictive relative clause *which Jane attended*, and the appositive NP *that one which Jane is hosting* are not in the scope of *if*, because that would mean that (i) and (ii) have the meaning of the paraphases in (i') and (ii'), respectively, which they clearly do not.

(i') If the party is over and Jane attended that party, then we should find some where else to get a drink.

(ii') If the party is over and Jane is hosting that party, then we should find some where else to get a drink.

However, even though *which Jane attended* and *that one which Jane is hosting* are not in the scope of *if*, it is nevertheless clear that they do contribute to the truth conditions of the discourse (Asher talks of the truth conditions of the discourse rather than those of the proposition expressed).

In summary, the results of the above discussed tests are that m-performativity is excluded from conditional antecedents and the complements of attitude verbs and verbs of saying.

Why should that be? It appears that the reason is that m-performative expressions can only occur in illocutionary force bearing environments. Even though m-performativity is different from speech act performativity in that only the latter requires a verbal act (see quote from Nuyts above), it is nevertheless reasonable to assume that m-performativity shares its distributional restrictions with speech act performativity, since they both require *anchoring to the speaker*, that is, both make reference to the speaker's mental attitudes.[20],[21] I propose (181) as a preliminary conclusion regarding the occurrence restriction on m-performative elements.

(181)   M-performative expressions can only occur in illocutionary force bearing environments.

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[20]Haegeman (2002) uses the notion *anchoring to speaker* to account for the difference in interpretation of two types of conditionals, exemplified in (i) and (ii), and other types of adverbial clauses.

  i. If it rains we will all get terribly wet and miserable.

  ii. If [as you say] it is going to rain this afternoon, why don't we just stay at home and watch a video?

According to Haegeman (2002), "[T]he conditional clause in [(i)] modifies the event expressed in the matrix clause in that it specifies its cause. The conditional in [(ii)] modifies the discourse links of the associated clause in that it expresses a premise that leads to the question being raised in the associated clause." She analyzes this interpretational difference as a structural difference, which results in only the so-called premise conditionals being anchored to the speaker. Anchoring to the speaker here is not equivalent to the proposition embedded under *if* being used m-performatively—if that were the case, it would have to be the speaker's evaluation that it will rain in the afternoon in (ii), but clearly, it is not. What m-performative expressions, speech act performatives, and premise-conditionals have in common is that all reference the mental attitudes of the speaker.

[21]Note that the anchoring of linguistic expressions to the mental attitudes of the speaker is quite different from referential deixis to the speaker by first person pronouns. The latter can of course freely occur as part of the propositional content. This suggests that we need a level of semantic representation higher than the propositional level, at which the speaker's mental attitudes are represented. At this point, the only level that allows for this is the level of sincerity conditions within speech act theory. Further research is needed to determine whether this is the right level for housing the speaker's mental attitudes. As Nuyts (2000) observes in the above quote, a verbal act is required to perform an illocutionary act, that is, an utterance is constitutive of the illocutionary act performed. The same is not true for the speaker's mental attitudes, including the ones traditionally represented as sincerity conditions: an utterance of a sentence containing p is not constitutive of the speaker's belief that p.

Note that all performatives are also m-performative, but not vice versa, since not all m-performatives determine an illocutionary force.

6.2.3   M-performativity of Quechua evidentials

I will now apply the tests to the Cuzco Quechua evidentials. As shown in (182) none of the evidential enclitics can occur in the antecedent of a conditional.[22]

(182)   (Sichus) Pidru-cha ña   iskay t'anta-ta-ña-(***n/*-s/*-chá**)
        (if)   Pedro-DIM already two   roll-ACC-DISC-**mi/-si/-chá**
        mikhu-rqa-n chayqa ama   huq-ta   qu-y-chu
        eat-PST1-3   then   not-DIR other-ACC give-IMP

        (intended) 'If Pedro already ate two rolls, don't give him another one.'

If we apply the arguments above, we cannot conclude from the empirical facts exemplified in (182) that the Quechua evidential enclitics do not contribute to the truth conditions of the main proposition. That this is not the right conclusion is particularly clear for the Conjectural *-chá* which has been argued in section 5.2 to contribute the epistemic modal operator $\Diamond$ to the proposition expressed. However, we can conclude from (182) that evidential enclitics cannot be used descriptively.

   Secondly, none of the evidential enclitics can scope under a verb of saying.

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[22]Conditionals in Quechua can be formed in several ways. The example in (182) contains the particle *sichus*, which appears to be composed of Spanish *si* and the enclitic *-chus*, which has been discussed earlier (footnote 2, chapter 5). This particle is optional. The second, and main element indicating that this is a conditional is *chayqa—then* (composed of the demonstrative *chay—this* and the topic marker *-qa*), which syntactically still belongs to the antecedent (as shown among other things by the intonation break immediately following *chayqa*). The two clauses conjoined by *chayqa* are both finite. A second way of forming conditionals is by means of the nominalizer *-qti*, as shown in i..

   i. Pidru-cha ña   iskay t'anta-ta-ña-(***n/*-s/*-chá**) mikhu-qti-n ama   huq-ta
      Pedro-DIM already two   roll-ACC-DISC-**mi/-si/-chá** eat-SEQ-3   not-DIR other-ACC
      qu-y-chu
      give-IMP-NEG

      (intended) 'If Pedro already ate two rolls, don't give him another one.'

Evidential enclitics cannot occur within nominalized clauses in general, not only in ones with a conditional interpretation. The conditional exemplified in (182) is therefore more pertinent to the current discussion than that in (i).

(183)   a. Marya ni-**wa**-rqa-n   Pilar-(***mi**) chayamu-sqa-n-ta-**n**
             Marya say-1O-PST1-3 Pilar   arrive-PP-3-ACC-**mi**

         p=‘Marya told me that Pilar arrived.’
         EV= (i) speaker has direct evidence that Marya told her or him that Pilar
         arrived
         (ii) # Marya has direct evidence that Pilar arrived.

     b. Marya ni-**wa**-rqa-n   Pilar-(***si**) chayamu-sqa-n-ta-**s**
         Marya say-1O-PST1-3 Pilar   arrive-PP-3-ACC-**si**

         p=‘Marya told me that Pilar arrived.’
         EV= (i) speaker was told by someone else that Marya told the speaker that
         Pilar arrived
         (ii) speaker was told by Marya that Pilar arrived
         (iii) # Marya was told that Pilar arrived

     c. Marya ni-**wa**-rqa-n   Pilar-(***chá**) chayamu-sqa-n-ta-**chá**
         Marya say-1O-PST1-3 Pilar   arrive-PP-3-ACC-**chá**

         p=‘Marya told me that Pilar arrived.’
         EV= (i) speaker conjectures that Marya told her or him that Pilar arrived
         (ii) Marya conjectures that Pilar arrived

In (183), *Pilar chayamusqanta* is a nominalized clause (the nominalizer is *-sqa*, which
is to be distinguished from past tense *-sqa*). First note that evidentials cannot occur
within that nominalized clause, that is, they cannot attach to *Pilar*. They can however
attach at the end of the clause, since in that position they are part of the main
clause. Secondly, the evidential meaning is anchored to the speaker not to Marya:
(183a) means that the speaker has best possible grounds for asserting that Marya told
him or her that *p*, and (183c) has the perhaps somewhat odd interpretation that the
speaker conjectures that Marya told him or her that *p*. (183b) has two interpretation,
the odd (i) and the quite normal (ii), in which the original speaker of *p* is taken to be
the explicitly mentioned Marya. In none of the examples in (183) can the evidential
be interpreted as being in the scope of *niwarqan - she told me*. That would mean that
it is Marya who has the best possible grounds, who was told, and who conjectures.
While these interpretations are compatible with the actual interpretations, they are
not necessarily true. For example, (183b) could be uttered if Marya had originally
said *Pilar chayaymurqan-**mi** - Pilar arrived*.

The example in (184) shows that the evidential enclitics cannot be used to attribute the type of evidence on which a claim is based to a subject that is different from the speaker—which recall is another property of descriptively used expressions.[23]

(184)   Pilar-qa   yacha-sha-n   Marya-q   hamu-sqa-n-ta-(**n/-s/chá**).
          Pilar-TOP know-PROG-3 Marya-GEN come-PP-3-ACC-(**-mi/-s/chá**)

          'Pilar knows that Marya came.'
          EV: (i) speaker has best possible grounds/reportative evidence/conjectures
          that Pilar knows that Marya will come
          (ii) # Pilar knows from direct/reportative/conjectural evidence that Marya
          will come)

In conclusion, the tests discussed above for English epistemic modals and sentential adverbs applied to the Quechua evidential enclitics show that they are always used m-performatively, and cannot be used descriptively. In this, they contrast with epistemic modals, which can have both m-performative and descriptive uses, and performatives, which can have performative—and as such also m-performative—and descriptive uses. There are of course also elements which can only be used descriptively, namely those that can are never anchored to the speech event. Examples are adjectives such as *red, happy*, nouns such as *house, love*, purely descriptive verbs such as *run, study* and logical operators such *every, never, or*.

As mentioned, m-peformativity and performativity are closely related notions: both make reference to the speaker's mental attitudes. However, performativity is more restricted in that performative elements determine the illocutionary force of the utterance they occur in. It is helpful to represent graphically the relations between the three categories of elements, that is, between those that allow descriptive, performative or m-performative uses, and I propose Figure 6.1 as a first approximation.

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[23]If the subject is first person, then the evidential meaning is attributed to the subject of course. But this can be explained by saying that this is so because the subject happens to refer to the speaker, not because the evidential is linked directly to the subject.
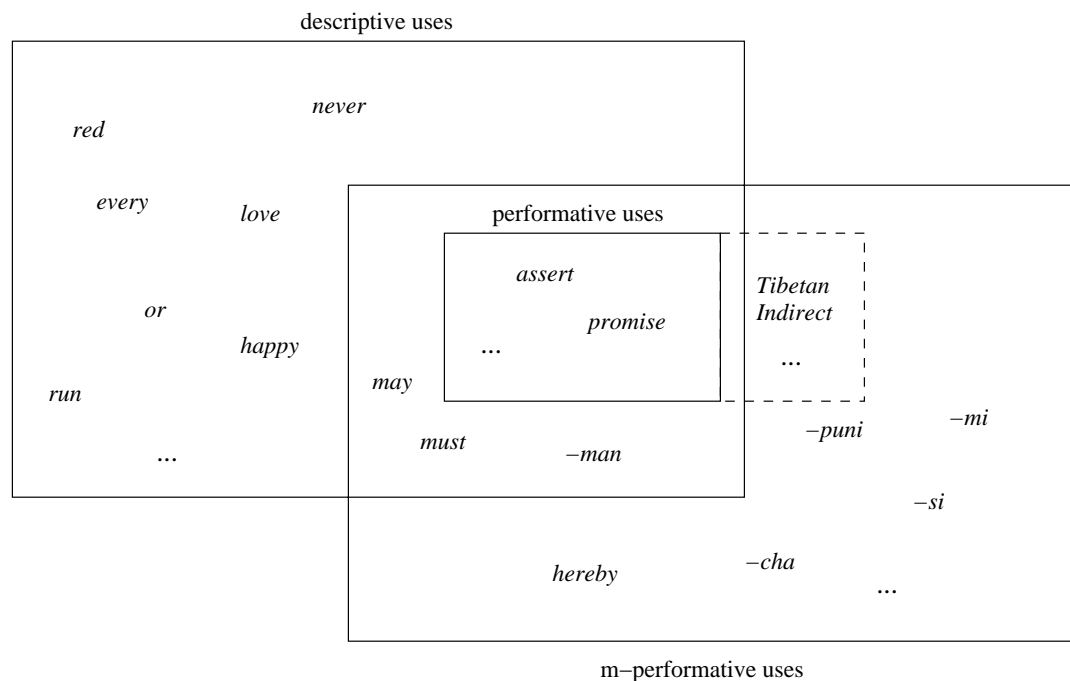
Figure 6.1: Taxonomy of elements with descriptive, performative or m-performative uses

According to Figure 6.1, the main categorical distinction is between elements that allow m-performative and those that allow descriptive uses. Since I have argued that there are elements that allow both uses, these two categories overlap/intersect. Within the intersection, the above discussion showed that we have to distinguish between performatives such as *assert*, and elements that are not performatives such as the epistemic modal *must*. Furthermore, Figure 6.1 captures the above observation that some elements, for example, the Quechua evidential enclitics, only allow m-performative uses, and that others only allow descriptive uses.

Among the elements which allow only m-performative uses, I also listed the English adverb *hereby*, and the Quechua high certainty enclitic *-puni*. That *hereby* fits in that category should be clear. For *-puni* this is at this point only a strong hypothesis (see discussion in section 6.3.4). In addition to the above-mentioned elements, I also consider the Quechua irrealis suffix *-man* to be in the intersection of elements with descriptive and m-performative uses (see section 6.3.4).

With respect to the elements under discussion in this dissertation, we can now ask whether their place in Figure 6.1 corresponds with the type of operator they denote. For example, the Quechua evidentials and *hereby* have been analyzed as illocutionary operators, and we can therefore ask whether all exclusively m-performative elements across languages should be analyzed as illocutionary modifiers. This would for example predict that the Quechua high certainty enclitic *-puni* should also be analyzed as an illocutionary modifier. This particular hypothesis can already be said to be proven wrong, if Garrett (2000) is right in analyzing the Tibetan Indirect as a performative without descriptive uses. Instead, his analysis suggests that the set of performatives is not completely contained within the intersection of m-performatively and descriptively used elements, but extends into the category of exclusively m-performative elements, as indicated by the dotted line.

A second question is whether we can read off from this figure which elements will be evidentials, which modals, and which epistentials (see section 3.2). It is clear that this is not possible. Recall that Garrett (2000) analyzes the Tibetan Indirect not only as a performative, but also as an epistemic modal. This element is therefore in a category all of its own. Epistemic modals are English *may*, and Quechua *-man* and *-puni*, but only *may* and *-man* are hypothesized to be in the same subset. The two epistentials in Figure 6.1, Quechua *-chá* and English *must*, are also not in the same subset.

A third question is whether it can be read off which elements contribute to the truth conditions of the main proposition expressed. It is clear that all elements that allow descriptive uses do, when used descriptively. However, I have argued that Quechua *-chá* also contributes to the proposition expressed, but it is not in the set of elements with descriptive uses. Similarly, the Tibetan Indirect contributes a modal operator to the proposition expressed, but is also not in the set of descriptive elements.

Thus, the distinction between elements that allow descriptive, performative or m-performative appears to be orthogonal to the other distinctions made in this dissertation, namely that between epistemic modals, evidentials and epistentials on the one hand, and elements that contribute to the truth conditions of the proposition expressed and those that do not on the other.

6.2.4   Summary on performativity

To summarize, I have argued for two claims in the preceding two sections: (i) the Quechua evidentials are not performatives in the speech act theoretic sense, since uttering a sentence containing them does not make the sentence true, and (ii) the Quechua evidentials are m-performative in all their uses.

How do these conclusions relate to the particular analysis of the evidential enclitics as illocutionary modifiers proposed in the previous chapters? Their analysis as illocutionary modifiers, rather than performatives captures the fact that they are not constitutive of the speech act performed by the utterance they occur. The fact that they are m-performative is captured by their analysis as modifying the mental attitudes expressed in the sincerity conditions of a speech act. This analysis also quite straightforwardly accounts for the fact that they can only occur in illocutionary force bearing environments.

I also proposed a first taxonomy of elements according to the distinction made between elements with descriptive, performative or m-performative uses. This taxonomy cross-cuts the other distinctions made in this dissertation, that between propositional and non-propositional operators, and that between epistemic modals, evidentials and epistentials. It is left for future research to explore how these different theoretical distinctions map onto the grammatical distinctions made in individual languages.

6.3   Quechua evidential enclitics and other types of operators

In this section, I study how the proposed analysis can be extended to account for the meaning of sentences containing the three evidential enclitics and other types of sentences. The aim is both to provide further data in favor of the speech act analysis of the Quechua evidentials, as well as to extend as much as possible the basic analysis proposed in chapters 4 and 5 to account for more complex cases. It will become clear that a full analysis is at this point not possible, which I believe is partly do to the fact that current theories of meaning are not designed to deal with evidentials.

6.3.1 Evidentials and negation

As briefly discussed in section 2.4, evidentials cross-linguistically cannot scope under negation. This is shown in (185) for each of the Quechua evidentials. Recall from chapter 1 that sentence negation has two parts: the particle *mana* and the enclitic *-chu*. The only interpretation (185) can receive for all three evidential enclitics is with negation having narrow scope as in (185)(i). The hypothetical readings in (185)(ii) with negation having scope over the evidentials are not possible.

(185)   Ines-qa **mana-n/-chá/-s** qaynunchaw ñaña-n-ta-**chu** watuku-rqa-n.
          Inés-TOP **not-mi/-chá/-si** yesterday   sister-3-ACC-**chu** visit-PST1-3

          'Inés didn't visit her sister yesterday.'
          EV= (i) speaker has direct/conjectural/reportative evidence that Inés did not visit her sister yesterday
          (ii) # speaker does not have direct/conjectural/reportative evidence that Inés visited her sister yesterday

That negation cannot scope over the evidential force comes as no surprise under the speech act analysis of the evidential enclitics. Negation is part of the proposition expressed, and evidential force is analyzed as a sincerity condition. Negation in general cannot negate a sincerity condition. In (186), the meaning components of (185) are displayed for each of the evidentials, with the negation operator $\neg$ separated out.

(186)   a. **-mi**:
            q='Inés visited her sister yesterday.'
            $p=\neg q$
            ILL=ASSERT(p)
            SINC=$\{Bel(s,p),\ Bpg(s,Bel(s,p))\}$

         b. **-si**:
            q='Inés visited her sister yesterday.'
            $p=\neg q$
            ILL=PRESENT(p)
            SINC=$\{\exists s_2[Assert(s_2,p) \wedge s_2 \notin \{h,s\}]\}$

c. **-chá**:
 q_1='Inés visited her sister yesterday.'
 $q_2 = \neg q$
 $p = \Diamond q_2$
 SINC=$\{Bel(s, p), Rea(s, Bel(s, p))\}$

Two points are of interest in connection with (186): the question of what it means to have Bpg for a negative proposition in the sincerity conditions contributed by *-mi*, and the order of the $\neg$ and $\Diamond$ operators in p embedded under *-chá*.

As with all assertions containing *-mi*, the sincerity condition requires that the speaker has the best possible grounds for asserting that Inés did not visit her sister. Since a negative event is not observable, the best possible grounds is to have observed other events that are incompatible with the negated event. For example, if the speaker of (186a) saw Inés at the time she was purportedly visiting her sister in some location where her sister was not, that would count as the best possible evidence. In general, we can say (187).

(187) If $q_1 \longrightarrow \neg q_2$ then $Bpg(s, Bel(s, \neg q_2)) = Bpg(s, Bel(s, q_1))$

The inference in (187) is a simplification, since sometimes it might be a set of propositions, not just a single one, that together entail $\neg q_2$, but (187) is only meant to illustrate what it means to have best possible grounds for asserting a negative proposition. Take for example (186a), and suppose that the speaker spent the day at a friend's house and Inés was there the entire time (but not her sister). Let us call the proposition *Inés was at my friend's house yesterday* q_1, and recall that the proposition *Inés visisted her sister yesterday* is q in (186a). Then, q_1 entails that Inés was not at her sister's house, i.e. $q_1 \longrightarrow \neg q$. Thus, by (187), the best possible grounds for p in (186a) is the best possible grounds for q_1, which is SEE(e_{q_1}).

We might therefore write the sincerity condition in (186a) as follows.

(188) SINC: $Bel(s, \neg q) \wedge \exists q_1[q_1 \longrightarrow \neg q \wedge Bpg(s, Bel(s, q_1))]$

Next, I discuss the order of the negation $\neg$ and the possibility $\Diamond$ operators in (186c). As shown, $\Diamond$ has scope over $\neg$. The question is whether this order is the only possible

order or whether (185) with *-chá* can also mean $\neg \Diamond q_1$, that is, *It is not possible that Inés visited her sister yesterday.* This, according to consultants, is not a possible interpretation for (185) with *-chá*.

The illocutionary analysis proposed for *-chá* accounts for this fact, because *-chá* is analyzed as a function on speech acts, that is, the addition of $\Diamond$ necessarily takes place after $\neg$ applied to q_1=*Inés visited her sister yesterday.*[24,25]

The fact that none of the evidentials enclitics can scope under sentence negation, is further evidence for the claim made here that they are illocutionary, and not propositional operators.

6.3.2 Evidentials in content questions

As mentioned at various points in the previous chapters, evidentials can also occur in content questions, and usually they attach to the question word.[26] This is illustrated in (189).

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[24]This is not to say that the epistemic modal analysis of *-chá* could not account for this ordering of $\neg$ and $\Diamond$. In English, some epistemic modals can, but others cannot fall under negation. Papafragou (2000:93–94) suggests that the divide is between possibility modals on the one hand, and necessity modals on the other, such that only the former can scope under negation. Thus, *Jo cannot be the thief* means that it is not possible that Jo is the thief, whereas *Jo must not be the thief* can only mean that Jo is necessarily not the thief. Thus, whatever accounts for the fact that *must* cannot scope under negation should also be able to account for the fact that the possibility operator introduced by the Conjectural *-chá* has scope over negation under an epistemic modal analysis of *-chá* —though this would be a potential counterexample to Papafragou's suggestion that possibility operators can scope under negation.

[25]I should also point out that in Cuzco Quechua the epistemic modal enclitic *-puni* cannot fall under the scope of negation, but the mood suffix *-man* can.

   i. **Mana-puni** hamu-nqa-**chu**.
      not-puni   come-3FUT-**chu**

     (a) '(S)he will certainly not come.'
     (b) # 'It is not certain that (s)he will come.'

   ii. **Mana-n** Lima-pi-qa   ka-sha-n-**man-chu**.   (Qusqupi rikurani payta)
      not-mi   Lima-LOC-TOP be-PROG-3-**man-chu**

    '(S)he cannot be in Lima/It's not possible that (s)he is in Lima. (I saw her/him in Cuzco.)'

Without the indicated continuation, (ii) can also have the reverse scoping, that is, it can mean: *She may not be in Lima.*

[26]Recall that these three enclitics are also focus markers, which explains why they attach to the question word: the question word is usually taken to be the focus of a question.

(189)   a. Pi-ta-**n**   Inés-qa   watuku-rqa-n?
            who-ACC-**mi** Inés-TOP visit-PST1-3

         'Who did Inés visit?'
         EV= (i) speaker has best possible grounds for asking
         (ii) speaker expects hearer to base his or her answer on best possible
         grounds

      b. Pi-ta-**s**   Inés-qa   watuku-sqa?
         who-ACC-**si** Inés-TOP visit-PST2

         'Who did Inés visit?'
         EV= (i) speaker indicates that somebody else is asking
         (ii) speaker expects hearer to have reportative evidence for his or her an-
         swer

      c. Pi-ta-**chá**   Inés-qa   watuku-rqa-n?
         who-ACC-**chá** Inés-TOP visit-PST1-3

         'Who could Inés have visited?'
         EV= one can only guess what the answer might be

These data immediately raise the question of whether or not the evidential enclitics
retain their evidential meaning when they occur in content questions. The answer is
yes, and their evidential meanings are as indicated in (189). As is also indicated in
(189), the questions containing the Direct -*mi* and the Reportative -*si* are evidentially
ambiguous. These two evidentials can either be anchored to the speaker or to the
hearer. With -*chá*, no such ambiguity arises: it is always anchored to the person who
provides the answer—which may also be the speaker in the case (189c) is used as
a rhetorical question. As I will show below, the analysis proposed in the previous
chapters of -*mi* and -*si* as illocutionary operators straightforwardly accounts for the
readings in which the evidentials are anchored to the speaker. The readings in which
they are anchored to the hearer can also be accounted for, provided one adopts an
analysis of questions that goes beyond analyzing them as sets of propositions.

    Let me point out that, while the interpretations given for (189a) are indeed pos-
sible interpretations, they are often undistinguishable. They are certainly not as
distinct to consultants as the readings given for -*si* in (189b). The claim that this is
an ambiguity might turn out to be an artefact of the analysis adopted below for ques-
tions, which in fact predicts such an ambiguity. Below I will discuss this hypothesized

interpretation in more detail. This hedge to the analysis proposed in the following does not affect my analysis of *-mi* as an illocutionary operator, but only the analysis of questions. The reason for adopting this particular analysis of questions is the need to account for the clear ambiguity that arises with the Reportative *-si*.

I first show how the proposed analysis for *-mi* and *-si* account for readings (i) in (189). I then show how the assumption that the meaning of content questions makes reference to the answer speech act allows for a straightforward account for readings (ii) associated with *-mi* and *-si*, as well as the absence of a similar ambiguity with *-chá* in content questions.

-mi and -si anchored to speaker

In chapters 4 and 5, I proposed analyzing the meanings of *-mi* and *-si* as functions from speech acts to speech acts, and I specified those functions for assertions as in (190a=130) and (190b=167).

(190)

    a. **-mi**: $\begin{array}{c}\text{ASSERT}(p)\\ \text{SINC}=\{Bel(s,p)\}\end{array} \longmapsto \begin{array}{c}\text{ASSERT}(p)\\ \text{SINC}=\{Bel(s,p),\ Bpg(s,Bel(s,p))\}\end{array}$

    b. **-si**: $\begin{array}{c}\text{ASSERT}(p)\\ \text{SINC}=\{Bel(s,p)\}\end{array} \longmapsto \begin{array}{c}\text{PRESENT}(p)\\ \text{SINC}=\{\exists s_2[Assert(s_2,p) \wedge s_2 \notin \{h,s\}]\}\end{array}$

I propose that the functions denoted by *-mi* and *-si* when applying to a question act modify its sincerity conditions—just as when modifying an assertive act. According to Searle and Vanderveken (1985:55), questions are directives, and all directives have the sincerity condition that the speaker "desires the hearer to do what he attempts to get him do to." In asking a question, the speaker attempts to get the hearer to perform a speech act which answers the question. I represent this sincerity condition as in (191), where, $Des(x, a_y)$ means that x desires an act a performed by y. $F_x(p)$ means that x performs speech act $F(p)$. As usual s and h stand for speaker and hearer.

(191)   SINC=$\{Des(s, F_h(p))\}$

The functions denoted by *-mi* and *-si* applied to questions can then be characterized as in (192).

(192)   **-mi**:
    QUEST(p) QUEST(p)
    SINC=$\{Des(s, F_h(p))\}$ $\longmapsto$ SINC=$\{Des(s, F_h(p)),Bpg(s,Des(s, F_h(p)))\}$

    -si:
    QUEST(p) PRESENT(p)
    SINC=$\{Des(s, F_h(p))\}$ $\longmapsto$ SINC=$\{\exists s_2[Quest(s_2, p) \wedge s_2 \notin \{h, s\}]\}$

I first discuss the function denoted by *-mi*. As mentioned above, that there is an ambiguity with *-mi* in questions is not as clear as in the case with *-si*. We therefore have to ask what it means to have best possible grounds for desiring that the hearer answers a question. This could mean two things: (i) the speaker has authority over the hearer and therefore has the best possible grounds for demanding an answer, or (ii) the speaker has very good reasons for wanting to know the answer—or both. An example that illustrates (i) is given in (193a) asked by a teacher, and one that illustrates (ii) is given in (193b).

(193)   a. Hayk'a-**n**   iskay yapa-sqa iskay-man?
            how-much-**mi** two   add-PP   two-ILLA
            'How much is two plus two?'

        b. Hayk'a-**n**   vale-n chay?
            how-much-**mi** cost-3 this?
            'How much does this cost?'

Quite obviously, the teacher asking (193a) has no real interest in learning the answer. Among speakers of equal social status, the asking of a question the answer of which the questioner already knows, can be considered offensive. However, the authority as a teacher gives the speaker of (193a) the right, and even the obligation, to ask questions of this kind, and demand an answer.

The speaker of (193b) has best possible grounds for asking his or her question, because they need to know the answer in order to decide whether or not to buy the

item. Asking a question because one has good reasons for wanting to know the answer is probably the more common case.

Note that often the speaker's best possible grounds for asking a question will coincide with him or her assuming that the addressee will know the answer based on best possible grounds. In order to show that the reading in which *-mi* is anchored to the speaker is a separate reading, and that we are dealing with an ambiguity, one would have to show that *-mi* can be used in content questions in a situation in which the questioner knows for certain that the addressee can only base his or her answer on reportative evidence. Since police officers are entitled to ask questions based on their authority when conducting an investigation, an example situation would be one in which a police officer knows that the addressee is friends with the spouse of the suspect, who is out of town, and in fact had talked to the spouse recently. If the police officer can ask *When does the suspect come back?* in this situation with *-mi*, then this would be an indication for the claim that content questions with *-mi* have the reading in which *-mi* is anchored to the speaker as is predicted by the analysis proposed here. Unfortunately, I do not have this type of data at this point in time, but will consult Quechua speakers in the future.

Turning now to content questions with *-si*, we have to ask what it means to perform a speech act of presenting a question. As with assertions, the speaker might have a variety of intentions in presenting a question to the hearer. First, the speaker might merely function as a channel for the original speaker, without having any intentions of his or her own. An example of this kind is given in (194).

(194)   Imayna-ta-**s** ka-sha-nki?
          how-ACC-**si**   be-PROG-2
          'How are you?'

This question was asked by one of my consultants during a session at which her little sister was present. I had asked the sister *Imaynatan kashanki - How are you?*, but she did not respond because she did not hear the question. My consultant therefore turned to her sister, asking (194), acting as my amplifier so to speak. Her sister's answer was directed to me, not my consultant.

However, the speaker of a question might also have her or his own intentions in asking the question. Suppose a teacher calls a mother and asks her *Where was your daughter yesterday?* If the daughter had left the house for school as usual, the mother might turn to her daughter, tell her that it was her teacher on the phone, and ask her (195).

(195)   May-pi-**s**   ka-sha-sqa-nki   qaynunchaw?
          where-LOC-**si** be-PROG-PST2-2 yesterday?
          'Where were you yesterday?'

The mother would probably like to know the answer herself. In this situation, she could also have asked the same question using *-mi*. By using *-si*, she indicates that she is not the only one who wants to know. It is easy to imagine that the effects produced by using *-si* and *-mi* will be quite different, but to investigate this lies outside the scope of this dissertation.

If the speaker of a content question containing *-si* has her or his own agenda in presenting the question, the intention need not be wanting to know the answer. Suppose that in the above described situation the daughter was actually sick at home. In presenting the question (195) to her daughter, her mother might solely intend to inform her that her teacher was asking about her. In this case, the daughter is not expected to answer, and in fact, no question is being asked.

Thus, as with assertions containing *-si*, the particular speech act performed in uttering a questions with *-si* is indirectly determined by the context in all cases in which the speaker is not acting merely as a channel.

In summary, the denotations proposed for *-mi* and *-si* in content questions that account for the reading in they are anchored to the speaker differ from their denotations in assertions only in the content of the sincerity conditions. That is, we can generalize their meaning as follows.

(196)
$$
\textbf{-mi:} \quad \begin{array}{l} \text{ILL}(p) \\ \text{SINC=}\{M(s,v)\} \end{array} \longmapsto \begin{array}{l} \text{ILL}(p) \\ \text{SINC=}\{M(s,v), Bpg(s, M(s,v))\} \end{array}
$$

$$
\textbf{-si:} \quad \begin{array}{l} \text{ILL}(p) \\ \text{SINC=}\{M(s,v)\} \end{array} \longmapsto \begin{array}{l} \text{PRESENT}(p) \\ \text{SINC=}\{\exists s_2[Ill(s_2, p) \wedge s_2 \notin \{h, s\}]\} \end{array}
$$

In (196), ILL is a variable over illocutionary force markers, *Ill* is the predicate corresponding to that illocutionary force, and *M* is a predicate over propositional attitudes such as *Bel* and *Des*; *v* is a variable over entities that can serve as the second argument of the mental attitude, for example a proposition in the case of *Bel* and a speech act in the case of *Des*.[27]

-mi and *-si* anchored to hearer

As discussed in the previous section, content questions with *-mi* and *-si* are ambiguous between a reading in which they are anchored to the speaker, and a reading in which they are anchored to the hearer.

(197)   a. Pi-ta-**n**   Inés-qa   watuku-rqa-n?
              who-ACC-**mi** Inés-TOP visit-PST1-3

   'Who did Inés visit?'
   EV= (i) speaker has best possible grounds for asking
   (ii) speaker expects hearer to base his or her answer on best possible
   grounds

   b. Pi-ta-**s**   Inés-qa   watuku-**sqa**?
      who-ACC-**si** Inés-TOP visit-**sqa**

   'Who did Inés visit?'
   EV= (i) speaker indicates that somebody else is asking
   (ii) speaker expects hearer to have reportative evidence for his or her answer

As indicated in (197=189), reading (ii) implies that the speaker expects the hearer to base his or her answer on a certain type of evidence. Thus, with *-mi* the hearer is expected to have the best possible grounds for the answer, with *-si*, the hearer is expected to have obtained or to obtain the answer from someone else.

   Standard analyses of questions in formal semantics (Belnap and Steel 1976, Hamblin 1973, Karttunen 1977) identify the meaning of a question with the set of possible

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[27]I am simplifying somewhat, since the set of sincerity conditions may contain more than one mental state predicate $M(x,p)$. Also note that this general formulation predicts that *-mi* and *-si* can occur in any type of speech act. However, *-mi* and *-si* cannot occur in imperative sentences, although they can in indirect directives.

answers, where these answers are taken to be propositions. The meaning of a question such as *Who likes Bill?* is the set of possible answers, that is, $\lambda p[\exists y(p = Like(y,Bill))]$ (Hamblin 1973). Following Ginzburg (1996), I call this set the *Answer-Set*.[28]

The speech act analysis proposed for the Quechua evidentials enclitics cannot be combined with such a theory of questions to account for reading (ii). However, if questions are analyzed as requiring a speech act as an answer, this reading is straightforwardly accounted for. Thus, I roughly follow Vanderveken, who argues that the standard semantic analysis of questions should be embedded within speech act theory. In his account, it is part of the meaning of a question that its answer be a speech act.[29]

Vanderveken (1990) does not analyze questions in any detail. He only proposes a translation of simple *yes-no* questions into illocutionary logic such as *Is it raining?* He claims that "to ask is to request that the hearer give an answer to a question. An answer to a yes-no question whether *P* [*P* is a variable over propositions, M.F.] is in general an assertion or a denial of *P*"(Vanderveken 1990:157).[30] A simplified paraphrase of Vanderveken's (1990) translation of the question *Is it raining?* is this: *I request you to assert that it is raining or to deny that it is raining.*

It is not the purpose of this dissertation to develop a theory of questions, and I will therefore simply assume that a content question is paraphrasable as *I request you to assert p such that p is an element in the Answer-Set.* I represent this paraphrase as in (198), where I analyze the requirement that the propositional content of the answer speech act be in the *Answer-Set* of the propositional content of the question as a propositional content condition, PROP. Recall from section 3.5.3 that PROP is a standard component of a speech act in Searle and Vanderveken's (1985) theory. As before, the sincerity conditions are that the speaker desires the hearer to perform a

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[28]I do not want to commit myself to Hamblin's particular analysis of the *Answer-Set*, but only choose his account for simplicity.

[29]Note however that in his account the standard theories of questions are a necessary component of a complete logic of questions in order to account for the relations that hold between the propositional contents of questions and their answers (Vanderveken 1991:8–12).

[30]See Lyons (1995) for a critique of this approach to questions.

speech act in answer to the question.[31]

(198)   QUEST=REQUEST(ASSERT$_h$(q))
         PROP=$q \in$ *Answer-Set*
         SINC=$\{Des(s,$ASSERT$_h$(q)$)\}$

The reading in which the evidential is anchored to the hearer can now be derived
by having the evidential take the answer speech act as it argument, rather than
REQUEST. This has the desired effect that the answer is expected to be based on the
type of evidence indicated by the evidential, and it requires that the evidential be
in the scope of REQUEST. Thus, my proposal is to analyze the observed ambiguity
of *-mi* and *-si* in content question as a scope ambiguity between the evidential and
REQUEST as shown in (199), where, EVI is a variable over the functions denoted by
-mi and *-si*.[32]

(199)   a. EVI(REQUEST(ASSERT$_h$(q)))=EVI(QUEST)

         b. (REQUEST(EVI(ASSERT$_h$(q))))

It is crucial to my analysis of the evidential enclitics in questions that the argument
of the illocutionary force marker REQUEST is a speech act (ASSERT), not just a de-
scription of a speech act (*Assert*(s,q)), since the evidential enclitics take speech acts
as their arguments, not descriptions of those speech acts. In this, I deviate from
Vanderveken (1990:158), who analyzes the reference to the answer speech act in the
question as a description of that speech act.

　　Further support for this analysis of questions comes from illocutionary adverbials
such as *honestly* and *frankly*. They, too, are usually analyzed as applying to speech
acts, and they, too, are anchored to the hearer in content questions. Thus, the
question *Honestly, who asked who out* (from the internet),[33] requests that the hearer

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[31]For simplicity, I assume that the answers to content questions are assertions. However, answers
may consist of other type of speech acts. For example, "an answer to the question 'Do you promise
to come?' can be a promise or a denegation of a promise" (Vanderveken 1991:46).

[32]I leave it for future research to derive these representations compositionally.

[33]Questions with *frankly* appear to have primarily rhetorical uses, as shown by the example in (i).

  (i) And, frankly, who among us wouldn't benefit from being able to communicate better?

answers honestly. Unless one wants to analyze this type of element as having two different semantic types, one as applying to speech acts, and one as applying to descriptions of speech acts, the answers referred to in the question have to be speech acts.

-chá in content questions

I now turn to *-chá* in content questions, and ask whether we can derive an interpretation along the same lines I proposed for *-mi* and *-si*. Under the speech act account of *-chá* we expect that its denotation proposed in assertions can be generalized to questions in the same way as was done for *-mi* and *-si*, and that it, too, can either scope over or under REQUEST, as in (200).

(200)   a. *-chá*(REQUEST(ASSERT$_h$(q)))=EVI(QUEST)

      b. (REQUEST(*-chá*(ASSERT$_h$(q))))

Consider the example in (201=189c).

(201)   Pi-ta-**chá**   Inés-qa   watuku-rqa-n?

      who-ACC-**chá** Inés-TOP visit-PST1-3

      'Who could Inés have visited?'

Under the scoping in (200a), this question should have the evidential interpretation that the speaker bases his or her question on his or her own reasoning; under the scoping in (200b), that the hearer bases his or her answer on his or her own reasoning. However, only the second scoping makes any sense. My only way of accounting for the absence of the first reading is in the following, rather inelegant, way.

    Recall that for the illocutionary analysis of *-chá* I assume that it can somehow— possibly by taking a structured meaning approach to speech acts as briefly mentioned in section 5.2—add the possibility operator $\Diamond$ to the propositional content. Now, whatever we say about how *-chá* manages to add $\Diamond$ to a proposition embedded in the

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This does however not affect the point I am making here, since *frankly* is still clearly anchored to the audience not the speaker; the implicit answer *nobody* is only obvious if the hypothetical answerer is frank.

speech act it takes as its argument, it seems fairly clear that it will be a mechanism that adds this operator to the immediate argument of that speech act. Under scoping (200a), this would mean that it will want to add $\lozenge$ in front of ASSERT. However, $\lozenge$ cannot operate on speech acts, and this will therefore not lead to an interpretable representation.

In contrast, when *-chá* is in the scope of REQUEST as in (200b), then it can add $\lozenge$ to the proposition to be asserted by the hearer. The absence of a reading in which *-chá* in content questions is anchored to the speaker is thus explained by making reference to its epistemic meaning.[34]

In this section, I have extended the basic analysis of *-mi*, *-si* and *-chá* in assertions proposed in the previous chapters to account for their occurrence in content questions. The ambiguity that arises with *-mi* and *-si* can be accounted for as a scope ambiguity between them and the question marker, provided one adopts an analysis of questions that makes reference in the meaning of the question to the speech act performed in answer to that question, not just to the propositional content of this speech act, as is done in most analyses of questions. The absence of an ambiguity of content questions containing *-chá* can be explained by appealing to its epistemic nature.

An alternative

In the preceding section, I suggested that the ambiguity of content questions containing the Reportative and the Direct can be accounted for in terms of a scope ambiguity between the evidentials and the REQUEST operator. This account assumes that a question is a complex speech act consisting of the questioner's REQUEST that the addressee provides an answer speech act such as ASSERT. That questions should be analyzed this way is not generally accepted, however, and I therefore sketch briefly an alternative account for the Reportative *-si*.[35]

Recall that the sincerity condition associated with questions requires that the

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[34]This predicts that content questions containing epistemic modals are also not ambiguous. This prediction appears to be correct: *Who must/may Inés visit* cannot mean that the speaker necessarily/possibly asks who Inés visits, but only that the speaker asks who it is that Inés necessarily/possibly visits.

[35]I thank Cleo Condoravdi, who suggested this type of alternative.

speaker has the desire that the hearer makes a speech act in answer to the question. Above, I represented this condition as $\{Des(s, F_h(p))\}$, and I simply stated that the variables s and h stand for speaker and hearer. More precisely, I take them to be deictics, which receive their exact reference in the context of utterance such that s refers to the speaker and h to the hearer.

An alternative is to say that these two variables are not strictly deictic in this sense, but are free to refer to anyone in principle. That is, somebody desires that somebody provides the answer to the question. Gricean reasoning will ensure that s refers to the speaker and h to the hearer in the default case, that is, unless otherwise indicated.

I now sketch how this view of questions can be combined with the meaning of the Reportative *-si* to derive the ambiguity. Assume that the Reportative *-si* requires as part of its meaning that one of the variables refers to a non-speech act participant, and that the other variable remains free to refer to anyone. The two readings of content questions with *-si* can now be accounted for as follows.

(202)   a. *-si* anchored to speaker: s refers to a non-speech act participant, h refers to anyone, by default the hearer

b. *-si* anchored to hearer: s refers to anyone, by default the speaker, h refers to non-speech act participant

As indicated, the reading in which the speaker asks the question for a third person is accounted for by having s refer to a non-speech act participant, that is, it is this third person that desires an answer. The variable h will by default refer to the hearer, that is, it is the hearer who is expected to provide the answer. In the case where h is required to be a non-speech act participant, s will by default refer to the speaker, that is, it is the speaker who desires the answer, and the answer is expected to be provided by a third person.

This analysis avoids postulating that questions acts are complex speech acts, and might therefore be preferred over the account proposed in the preceding sections. It also makes some testable predictions. For instance, it is predicted that in the non-default case, the free variables can refer to non-speech act participants as well, that is, a reading is predicted in which the speaker asks the question for someone else and the

answer is expected to be provided by a third person. I do not have data that would clearly show that such a reading exists, but I do not see any reason for considering it unlikely. It would certainly not be infelicitous to answer a question that contains *-si* with an answer that contains *-si*.

I leave it to future research to spell out this proposal in more detail for the Reportative *-si* as well as the other two evidential enclitics, and to study its consequences.[36]

6.3.3 Evidentials, conjunction and disjunction

In this section, I look at potential scope interactions between evidential force and the propositional operators conjunction and disjunction. I show that evidential force has always wide scope with respect to these propositional operators. This supports my analysis of the evidentials as illocutionary operators.

There is one interesting twist to the question of interactions between propositional and illocutionary operators, and this is Krifka's (2001)b claim that conjunction can scope over illocutionary force markers. I first show, mirroring Krifka's analysis of English, that speech acts in Quechua cannot be negated or disjoined, but that they can be conjoined. Next, I present data that shows that conjunction can scope over the question marker in English as well as in Quechua. However, in order to derive this scoping, it is necessary to type-lift conjunction to become an illocutionary operator. This leads to the question of whether conjunction can scope over evidential force, and I argue that this is indeed the case.

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[36]Garrett (2000) discusses the occurrence of Tibetan evidentials in content questions. It appears that these can only have a reading in which the evidentials are anchored to the hearer, but not a reading in which it is anchored to the speaker. In his account, a question denotes a set of answer speech acts (as opposed to the standard, Hamblin style account of sets of answer propositions), where the answer speech acts contain two free variables s and h. These two variables receive their referents pragmatically, such that it will be the hearer of the question who provides the answer to the questioner. He states: "[...] if I ask someone a question, the answerset consists of assertions by the person I'm talking to, i.e. the person right there in front of me, simply because that's the person who is supposed to answer my question." The evidential is anchored to the hearer, because "assertions have authors and (sometimes also) recipients", and "an assertion must have an origo [the person the evidential is anchored to]" (Garrett 2000:238). This account is therefore similar to the one sketched here in that the referents of s and h are determined pragmatically, with the difference that Garret's account is not intended to derive a reading in which the evidential is anchored to the questioner.

Krifka (2001)b observes that speech acts do not form a complete Boolean algebra, but "a simpler algebraic structure with just one operation, conjunction." This claim is based on the observation that speech acts cannot be disjoined and that there exists no complement formation. This is also true for Quechua, as shown in (203) for complement formation, that is, negation of a speech act and in (204) for disjunction.[37]

(203)   a. Ana **mana** mikhu-rqa-n-**chu**.
           Ana **not**   eat-PST1-3-**chu**

          (i) '(I assert that) Ana did not eat.'
          (ii) # 'I do not assert that Ana did eat.'

    b. Imanaqtin **mana** mikhu-nki-**chu**?
          why   **not**   eat-2-**chu**

          (i) 'Why have you not eaten?'
          (ii) # 'I'm not asking you why you have eaten.'

    c. **Ama**-ña ripu-nki-ña-**chu**!
        not-DISC go-2-DISC-**chu**

          (i) 'Don't go yet!'
          (ii) # 'I don't request you to go already.'

All three examples in (203) can only be interpreted with negation scoping under the illocutionary force marker—be that an assertion, a command or a question. (204) shows the same for disjunction.

(204)   a. Ana lawa-ta wayk'u-rqa-n **utaq** Berta papa-ta   wayk'u-rqa-n.
          Ana soup-ta cook-PST1-3 **or**   Berta potatoe-ACC cook-PST1-3

          (i) '(I assert that) Ana cooked the soup or Berta cooked the potatoes.'
          (ii) # 'I assert that Ana cooked the soup or I assert that Berta cooked the potatoes.'

---

[37]Negation in imperatives uses the particle *ama* in conjunction with the enclitic *-chu*; disjunction may be expressed with the conjunction *utaq*, which is probably derived from Spanish *o* - *'or'* by attaching the so-called contrastive enclitic *-taq*. Note also that most of these examples would be more natural with an evidential enclitic attached to the negation particle or to the question word. However, at this point I want to show that Krifka's observations hold for Quechua speech acts without evidential enclitics. The interaction of the Boolean operators with the evidentials will be discussed below.

    b. # Mayqen-ta Ana wayk'u-rqa-n **utaq** mayqen-ta Berta wayk'u-rqa-n?
       which-ACC Ana cook-PST1-3 or   which-ACC Berta cook-PST1-3

    # 'Which (dish) did Ana cook or which (dish) did Berta cook?'

    c. # Lawa-yki-ta mikhuy utaq mate-yki-ta ukyay!
       soup-2-ACC eat   **or**   tea-2-ACC   drink

    # 'Eat your soup or drink your tea!'

If examples like (204) can be interpreted at all, it is clear that they are not interpreted as a disjunction of speech acts. Thus, (204a) does not have the interpretation indicated in (ii), but the one in (i), in which the propositional content is disjoined, not the speech act of assertion. Likewise, (204b) is not a disjunction of question speech acts,[38] and (204c) is not a disjunction of orders.

    Speech acts can be conjoined, however, as shown in (205).[39]

(205)   a. Ana lawa-ta wayk'u-rqa-n, Berta-**taq** papa-ta   wayk'u-rqa-n.
        Ana soup-ta cook-PST1-3   Berta-**taq** potato-ACC cook-PST1-3

       (i) '(I assert) that Ana cooked the soup and Berta cooked the potatoes.'
       (ii) '(I assert) that Ana cooked the soup and (I assert that) Berta cooked the potatoes.'

    b. Mayqen-ta Ana wayk'u-rqa-n? Mayqen-ta-**taq** Berta wayk'u-rqa-n?
       which-ACC Ana cook-PST1-3   which-ACC-**taq** Berta cook-PST1-3

       (i) (I ask) Which (dish) did Ana cook and which did Berta cook?
       (ii) (I ask) Which (dish) did Ana cook? And (I ask) which did Berta cook?

    c. Lawa-yki-ta mikhuy! Mate-yki-ta-**pas** ukyay!
       soup-ACC   eat   tea-ACC-**pas**   drink!

       (i) '(I order you to) Eat your soup and drink your tea!'
       (ii) '(I order you to) Eat your soup! And (I order you to) drink your tea!'

The conjunction of speech acts is equivalent to the consecutive performance of those acts (Krifka 2001b).

[38]Krifka (2001)b refers to Belnap and Steel (1976) who assume that questions can be disjoined as in *Have you ever been to Sweden, or have you ever been to Germany?* An answer to such a question answers at least one sub-question. Krifka claims that such cases are much less natural than conjoined questions.

[39]Conjunction can take on many forms in Quechua, including simple juxtaposition. In (205a,b) the conjoining enclitic is *-taq*, in (205c) the so-called additive enclitic *-pas*.

Not only do we get conjunction of speech acts by conjoining two main clauses, we also get conjunction of speech acts through scope interactions between conjunction and the illocutionary force marker of a single sentence. Thus, Krifka (2001)b argues that the *pair-list* reading associated with the question in (206a) corresponds to a conjunction of question acts as indicated in (206b). The pair-list reading of a question like (206a) requires an answer such as (206c).[40]

(206)   a. Which dish did Al, Bill and Carl make?

         b. Which dish did Al make and which dish did Bill make and which dish did Carl make?

         c. Al made the pasta, Bill the salad, and Carl the pudding.

A similar question in Quechua is given in (207a), which can be paraphrased as in (207b), and its pair-list answer is given in (207c).[41]

(207)   a. Ima-ta   Ana Berta-**wan** wayk'u-rqa-n-ku?
            what-ACC Ana Berta-INSTR cook-PST1-3-PL

            'What did Ana and Berta cook?'

         b. Ima-ta   Ana wayk'u-rqa-n, ima-ta-**taq**   Berta wayk'u-rqa-n?
            what-ACC Ana cook-PST1-3   what-ACC-CONTR Berta cook-PST1-3

            'What did Ana cook, and what did Berta cook?'

         c. Ana papa-ta   (wayk'u-rqa-n), tarwi-ta-**taq**   Berta.
            Ana potato-ACC cook-PST1-3   *tarwi*-ACC-CONTR Berta

            'Ana (cooked) potatoes and Berta *tarwi*.'

Thus, if Krifka is correct in analyzing the pair-list reading of (206) as conjunction scoping over the question operator, then we can hypothesize that the pair-list reading of (207) can also be analyzed as conjunction scoping over the question operator.

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[40]This reading can be contrasted with the *narrow scope* reading, which requires an answer such as *(Every boy made) pasta*, and the functional reading, which requires an answer such as *(Every boy made) his favorite dish* (Krifka 2001b).

[41]The conjunction here is *-wan*, the so-called instrumental. Also, content questions usually contain an enclitic on the questions word. However, I present this example to show that conjunction can scope over the question operator. Below I discuss whether or not it also has the evidential in its scope.

Since speech acts cannot be negated or disjoined in general, it is also not possible to derive negation or disjunction of speech acts through a scope interaction between negation or disjunction and the illocutionary force marker of a single sentence.[42]

Assuming that these observations regarding the impossibility of negating and disjoining speech acts, and the consequent absence of scope interactions between negation and disjunction and the illocutionary force marker are correct, my analysis of the three Quechua evidential enclitics as speech act operators predicts that they cannot fall under the scope of negation or disjunction.

Assuming further that it is correct that conjunction can scope over markers of illocutionary force, my analysis of evidential force as a sincerity condition, which (recall) is a component of illocutionary force, predicts that conjunction can also outscope evidential force. In the following, I will only discuss the Reportative *-si*, as the issues involved can most clearly be illustrated with it.

The prediction regarding negation and disjunction is indeed borne out. As shown already in section 6.3.1, evidentials always scope over negation. The example in (208) shows the same for disjunction.

(208)   Ines-**si utaq** Juan-**si** llalli-sqa.
          Ines-**si or**   Juan-**si** win-PST2

          'Inés or Juan won.'
          EV= (i) speaker was told that Inés or Juan won
          (ii) # speaker was told that Inés won or speaker was told that Juan won

Only the scoping of the reportative force over conjunction in (i) is a possible interpretation of sentence (208). Thus, as predicted, the reportative force outscopes negation and disjunction.

Next, I consider the question of whether conjunction can outscope reportative force. Consider (209). This example suggests that this may be possible.[43]

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[42]Note that the observations made for disjunction and conjunction extend to existential and universal quantifiers. Existential quantifiers pattern with disjunction, and universal quantifiers with conjunction.

[43](209) is a conjunction of two clauses with the particle *ima*.

(209)   Ines-qa taki-sqa tusu-sqa   ima-**s**.
             Ines-TOP sing-PST2 dance-PST2 and-**si**

   'Inés sang and danced.'
   EV= (i) speaker was told that Inés sang and danced
   (ii) speaker was told that Inés sang and speaker was told that Inés danced

Both hypothesized scopings between evidential force and conjunction in (209) are indeed possible interpretations.

Now consider (210a), which is identical to (207a), but with *-si* added to the question word, and its pair-list answer in (207c).

(210)   a. Ima-ta-**s**   Ana Berta-wan   wayk'u-rqa-n-ku?
            what-ACC-**si** Ana Berta-INSTR cook-PST1-3-PL

      'What did Ana and Berta cook?'
      EV= speaker assumes that hearer was told what Ana and Berta cooked

      b. Ana papa-ta-**s**   (wayk'u-rqa-n), tarwi-ta-taq-**si**   Berta.
         Ana potato-ACC-**si** cook-PST1-3   *tarwi*-ACC-CONTR-**si**

      'Ana (cooked) potatoes and Berta *tarwi*.'
      EV= speaker was told that Ana cooked potatoes, and speaker was told that Berta cooked *tarwi*.

Example (210a) and its answer in (210b) show that the pair list reading is still possible when the Reportative *-si* is added to the question word *ima*. Thus, if Krifka is right that the pair-list reading requires the conjunction to scope over the illocutionary force, then it follows that conjunction has scope over *-si* in (210a).

However, there is also empirical evidence that may be taken to show that conjunction can *not* scope over reportative force. This evidence involves sentences with the Reportative *-si*, whose embedded proposition is composed of two contradictory conjuncts.[44] Consider (211).

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[44]Thanks to Stanley Peters for suggesting to use this kind of example as a test case.

(211)   Marya-wan   Pilar-wan   llalli-rqa-n-**si**.
          Marya-INSTR Pilar-INSTR win-PST1-3-**si**

'Marya and Pilar won.'
(i) EV= speaker has reportative evidence that Marya and Pilar won
(ii) speaker has reportative evidence that Marya won, and
speaker has reportative evidence that Pilar won

The example in (211) is ambiguous. It can involve one or two competitions. The evidential interpretation given in (211a)(i) is a possible interpretation in a context in which there were two competitions and Marya won one, and Pilar the other. It is not possible in a context in which there is only one competition in which both Marya and Pilar participated. The interpretation given in (ii) is also possible in a context in which there were two competitions, but not in a context in which there was just one competition.

However, under the hypothesis that conjunction can scope over evidential force, the interpretation in (ii) should be possible even in a context in which there was only one competition, and it is even easy to imagine what that would mean: it would mean that one person told the speaker that Marya won, and another person told the speaker that Pilar won. This is an entirely reasonable scenario. Thus, there is nothing incoherent in the meaning the speaker wants to express, namely that two sources have told her or him conflicting pieces of information. But the sentence in (211) cannot be used to express this meaning. The absence of reading (ii) could therefore be taken as evidence against Krifka's claim that conjunction can outscope illocutionary force. Before drawing this conclusion, we need to check whether it is possible to make two independent speech acts containing *-si* the content of which is contradictory. If it is not, then this kind of example does in fact not affect Krifka's claim. Consider (212).

(212)   Marya-**si** llalli-rqa-n. Pilar-**si** llalli-rqa-n
          Marya-**si** win-PST1-3 Pilar-**si** win-PST1-3.

'Marya won. Pilar won.'
EV= speaker was told that Marya won, and
speaker was told that Pilar won

In the situation in which Marya and Pilar took part in the same competition, and the speaker was told by one person that Marya won, and by another that Pilar won, (212)

would be just as strange as (211). And it would be perfectly acceptable, if Marya and Pilar participated in different competitions. The only (natural) way to express the intended meaning is with (213), which contains a main verb of saying, *niy.*

(213)   Wakin ni-n-ku   Marya-**si** llalli-sqa-ta,   wakin-taq   Pilar-**si**
             some   say-3-PL Marya-**si** win-PST2-ACC some-CONTR Pilar-**si**
             'Some say that Marya won, others Pilar.'

Thus, even though I have argued that the speaker of a sentence with *-si* does not necessarily consider the embedded proposition to be possibly true, these examples indicate that it nevertheless not permissible to express two contradictory propositions using *-si*. The positive conclusion we can draw from these examples is that the infelicity of (211) under interpretation (ii) in the described scenario does not affect the claim that conjunction can scope over illocutionary force.

But it raises the question of how to account for the infelicity of (212). My hypothesis is the following: even though the speaker is not required to believe p to be possible, and even though the speech act of a sentence with *-si* is PRESENT, which is practically devoid of pre-conditions other than the evidential sincerity condition, it is nevertheless the case that the speaker usually has some intention in making this speech act. Assume that the intention is the minimal one, namely that the speaker only wants to function as a channel. It would be strange to switch from being a channel to one person to being a channel for another person without any overt indication of this switch. Thus, the hearer of (212) would have to do a lot of work to deduce that the speaker must have two different sources in mind. Even clearer are cases in which the speaker has a more contentful intention, for example to inform the hearer of the winner of the race. An utterance such as (212) can clearly not achieve that intention. Thus, the most informative way of expressing the intended meaning is with (213).[45]

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[45]As pointed out in footnote 16, section 5.3.3, an alternative analysis of *-si* is to have an open variable range over the original source, instead of existentially quantifying over it. This open variable would then be bound by global existential closure over the entire text. This would account for the infelicity of (212), as it would require that the source for the first sentence is the same as for the second. Peter Sells furthermore suggested that the sequence in (212) might become pragmatically more acceptable if it were preceded by an explicit indication that the speaker is undecided as to which sentence to believe, for example *I'm really confused, because (212).* I have not yet been able

6.3.4 Evidentials and epistemic modals

As discussed in section 3.2.1, Cuzco Quechua has two pure epistemic modals,[46] the enclitic *-puni*, which expresses high certainty, and the irrealis verbal suffix, *-man*, which can often be translated with English *may* or *might*. The examples in (214) illustrate the epistemic uses of these suffixes.

(214)   a. Pilar t'anta-ta-**puni** irqi-ta   qu-rqa-n.
           Pilar bread-ACC-**puni** child-ACC give-PST1-3

   'Pilar gave certainly/definitely bread to the child.'

   b. Pilar t'anta-ta irqi-ta   qu-n-**man** ka-rqa-n.
      Pilar bread-ACC child-ACC give-3-**man** be-PST1-3

   'Pilar might have given bread to the child.'

As shown in (215), both *-puni* and *-man* can co-occur with all three of the evidential enclitics.[47]

(215)   a. Pilar-qa t'anta-ta-**puni-n/-s/-chá**   irqi-ta-qa   qu-rqa-n.
           Pilar-TOP bread-ACC-**puni-mi/-si/-chá** child-ACC-TOP give-PST1-3

   q='It was bread that Pilar gave to the child.'
   p='It was certainly/definitely bread that Pilar gave to the child.
   EV= **-chá**: speaker conjectures that p
   -mi: speaker has best possible grounds for p
   -si: speaker was told that p or speaker was told that q

   b. Pilar-qa t'anta-ta-**n/-s/-chá** irqi-ta   qu-n-**man** ka-rqa-n.
      Pilar-TOP bread-ACC-**n/-s/-chá** child-ACC-TOP give-3-**man** be-PST1-3

   q='It was bread that Pilar gave to the child.'
   p='It might have been bread that Pilar gave to the child.'
   EV= **-chá**: speaker conjectures that p
   -mi: speaker has best possible grounds for p
   -si: speaker was told that p or speaker was told that q

---

to test this with my consultants, but I am confident that the natural way to express this would still be (213).

[46]They are *pure* epistemic modals in the sense that they do not encode an evidential value when used epistemically. As discussed in chapter 1, section 1.2.8, *-puni* has other uses than as an epistemic modal.

[47]When *-puni* co-occurs with one of the three evidential enclitics, they tend to attach to the same word.

In the following, I discuss the meaning of these combinations for each of the evidential enclitics.

Combining *-puni* and *-man* with the Conjectural *-chá* results in straightforward interpretations: the speaker is making a conjecture, and at the same time indicates his or her degree of certainty that the conclusion is correct. Thus, in (215), a speaker using *-chá* indicates that (s)he conjectures that Pilar gave bread to the child, and by using *-puni* (s)he expresses a high degree of certainty, and with *-man* a lower degree.

The meaning of combining *-puni* with *-mi* is also fairly straightforward: the speaker has the best possible grounds for asserting p, in (215a), namely that (s)he saw the event, and at the same time adds *-puni* to express that (s)he is certain that it was bread that Pilar gave to the child.[48]

The combination of *-man* with *-mi* is more complex. It can often be translated with English *must*, that is, it indicates that the speaker is making a strong inference. This meaning is accounted for by my proposal for *-mi* in the following way: *-man* as a possibility modal contributes to the proposition expressed p, and *-mi* indicates that the speaker believes p to be a possibility because they have the best possible grounds for believing that p is a possibility. Thus, a sentence like (216), has the indicated meaning components.

(216)   Para-sha-n-**man-mi**.
             rain-PROG-3-**man-mi**

             q='It is raining'
             $p= \Diamond q$
             ILL=ASSERT$_s(p)$
             SINC=$\{Bel(s, p),\ Bpg(s, Bel(s, p))\}$
             STRENGTH= 0

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[48]In chapter 5, I mentioned that modalized sentences are weaker than their unmodalized counterparts. If *-puni* is an epistemic modal, then we would expect (215a) with *-puni* to be weaker than the same sentence without *-puni*. But this is not the case. This points to a difference between epistemic modals that make reference to the fact that the speaker arrived at a conclusion by reasoning such as English *must*, and epistemic modals that simply indicate a degree of certainty without necessarily involving reasoning such as Quechua *-puni* or English *certainly*. It appears to me that this difference can also be observed in English: *Jo is certainly at home* is not weaker than its unmodalized counterpart *Jo is at home*, but *Jo must be at home* is.

Adding *-man* to q='It is raining' results in the modal proposition p='It might be raining'. With *-mi* the speaker indicates that (s)he has the best possible grounds for believing p.[49] What does it mean to have the best possible grounds for believing that something is a possibility? Clearly, an irrealis event is not observable. I assume that the next best thing is to have the best possible grounds for some other proposition q_1 which entails that q is a possibility. Thus, I postulate (217).

(217)   If $q_1 \longrightarrow \Diamond q$ then $Bpg(s, Bel(s, \Diamond q)) = Bpg(s, Bel(s, \Diamond q_1))$

Note the similarity with the inference in (187) proposed in section 6.3.1 for what it means to have best possible grounds for a negated proposition. Applying (217) to the sincerity condition in (216) we get:

(218)   SINC: $\{Bel(s, \Diamond q), \exists q_1 [q_1 \longrightarrow \Diamond q \land Bpg(s, Bel(s, q_1))]\}$

The second, evidential sincerity condition has essentially the same meaning as that of epistemic modals within a possible worlds account: q_1, from which the speaker infers that $\Diamond q$, corresponds to the conversational background epistemic modals refer to, and the inference in (217) establishes a logical relation of possibility between that background and the embedded proposition q. This is paraphrasable as *In view of q_1, q is a possibility*. However, (218) has the additional meaning component that the speaker has the best possible grounds for the proposition that constitutes the conversational background. I will come back to this in section 7.4, where I will suggest that one difference between non-modal evidentials and epistemic modals is one of focus such that non-modal evidentials focus on the type of evidence the speaker has, whereas epistemic modals focus on the reasoning process. The analysis of the combination of *-mi* with *-man* is in line with this suggestion, since the speaker explicitly indicates that (s)he bases his or her inference on premises for which (s)he has the best possible grounds, that is, *-mi* is still focussing on the evidence underlying the inference. In contrast, a speaker who uses evidential/epistemic *-chá*—alone or in combination with

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[49]STRENGTH is indicated as being 0, that is, neutral. This is the result of first decreasing the strength by -1 when adding *-man* to q and increasing it again by +1 when adding *-mi*. Recall that these numbers are just symbolic, and that therefore the strength of this particular assertion might in fact not be the same as that of an assertion without any of these operators.

-man—no indication is given regarding what type of evidence the premises are based on.

One prediction of this account is that an inference expressed with the *-mi +* *-man* combination is stronger than an inference that is expressed with *-chá*. This is indeed the case, as the following examples show.[50]

(219)   a. Marya-**chá** llalli-rqa-n kan-**man**, Pilar-taq-chus.
             Marya-**chá** win-PST1-3 be-**man**,   Pilar-CONTR-DUB

             'Marya might have won, or perhaps Pilar.'

         b. # Marya-**mi** llalli-rqa-n kan-**man**, Pilar-taq-chus.
             Marya-**mi** win-PST1-3 be-**man**,   Pilar-CONTR-DUB

             'Marya must have won, or perhaps Pilar.'

The speaker of (219a), which contains *-chá* and *-man*, is not contradicting her- or himself, but the speaker of (219b) is. Thus, a translation with *must* is more adequate for the *-mi +* *-man* combination than a translation with *may* or *might*, even though *-man* by itself is only a possibility, not a necessity operator. Note that the meaning of a sentence containing *-mi* and *-man* does not require an analysis of *-mi* as an epistemic necessity modal. This meaning arises indirectly, through the determination of *Bpg* for a modal sentence.

I now turn to the combination of *-si* with the epistemic modals.

(220)   a. Pilar-qa   t'anta-ta-**puni-s**   irqi-ta-qa   qu-rqa-n.
             Pilar-TOP bread-ACC-**puni-si** child-ACC-TOP give-PST1-3

             q='It was bread that Pilar gave to the child.'
             p='It was certainly/definitely bread that Pilar gave to the child.
             EV= speaker was told that *p* or speaker was told that *q*

         b. Pilar-qa   t'anta-ta-**s** irqi-ta   qu-n-**man** ka-rqa-n.
             Pilar-TOP bread-ACC-**s** child-ACC-TOP give-3-**man** be-PST1-3

             q='It was bread that Pilar gave to the child.'
             p='It might have been bread that Pilar gave to the child.'
             EV= speaker was told that *p* or speaker was told that *q*

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[50]The examples in 219 contain the enclitic *-chus*, which was already mentioned in footnote 2, chapter 5, and which also appears to be used to form *sichus* which is used in conditionals (see footnote 22). Here, I glossed it as DUB, i.e. I take it to be a dubitative marker. I leave it to future work to determine the meaning of this enclitic across its different uses.

As can be seen from the evidential value indicated in (220), repeated from (215) with *-si*, combining *-si* with *-puni* or *-man* appears to give rise to an ambiguity with respect to what it was the speaker was told. However, I argue that this is not a true ambiguity, but vagueness in the case of *-puni*. In contrast, combining *-si* with *-man* does give rise to a true ambiguity.

Consider (220a). The original speaker might have said either of (221a) or (221b).[51]

(221)   a. Pilar-qa   t'anta-ta-**puni-n**   irqi-ta-qa   qu-rqa-n.
             Pilar-TOP bread-ACC-**puni-mi** child-ACC-TOP give-PST1-3

         'It was certainly/definitely bread that Pilar gave to the child.'

    b. Pilar-qa   t'anta-ta-**n**   irqi-ta-qa   qu-rqa-n.
        Pilar-TOP bread-ACC-**mi** child-ACC-TOP give-PST1-3

        'It was bread that Pilar gave to the child.'

One might therefore think that (214a) with *-si* is ambiguous between a reading in which *-puni* indicates the original speaker's judgment, and a reading in which *-puni* indicates the current speaker's judgment. However, there is evidence that suggests that *-puni* indicates always the current speaker's judgment. Consider (222).

(222)   # Pilar-**puni-s** llalli-sqa, ichaqa mana-**n** crei-ni-chu.
             Pilar-**puni-si** win-PST2 but   not-**mi** believe-1-NEG

         'Pilar definitely won, but I don't believe it.
         EV= speaker was told that Pilar definitely won

If a sentence containing *-puni* and *-si* were ambiguous in the hypothesized way, we would expect that the speaker can express doubts that the embedded proposition is true. This would force the reading in which *-puni* indicates the original speaker's judgment of p as true. However, as shown by the infelicity of (222), this is not possible. It follows that *-puni* always indicates the current speaker's judgment of p. This still allows for the possibility that the original speaker might have used *-puni* him- or herself, but this is clearly not a matter of ambiguity.

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[51]The original speaker might also have used *-si* instead of *-mi*, or no evidential enclitic at all.

Turning now to *-si* + *-man*, we can also observe that the original utterance could have been one that already contained *-man*, or one that did not. Thus, the original speaker of (214b) with *-si* might have said any of (223a) or (223b).

(223)   a. Pilar t'anta-ta   irqi-ta   qu-n-**man** ka-rqa-n.
           Pilar bread-ACC child-ACC give-3-**man** be-PST1-3

          'Pilar might have given bread to the child.'

    b. Pilar t'anta-ta   irqi-ta   qu-rqa-n
          Pilar bread-ACC child-ACC give-PST1-3

         'Pilar gave bread to the child.'

That is, *-man* may be either anchored to the current or to the original speaker. To give a naturally occurring example of the first case, I have already pointed out in footnote 7, section 4.3.2, that in news reporting, one often finds the combination of *-man* with *-si*, which is often best translated as *appears*. The example from section 4.3.2 is repeated in abbreviated form in (224a). A further example is given in (224b).[52]

(224)   a. [...] huk wayna   arma-ntin-**sis** ka-n-**man** ka-ra-n
              one young.man gun-INCL-**si**   be-3-**man** be-PST1-3

         'A young man appears to have had a gun.'

    b. huk turista-**s** ka-q-lla-taq   haqay Holanda llaqta-manta
         one tourist-**si** be-AG-LIM-CONTR that   Holland place-ABL
         puri-sha-n-**man**   ka-ra-n   kay calle Pumakurku ni-sqa
         walk-PROG-3-**man** be-PST1-1 this street Pumakurku say-PP

         'A tourist from Holland appears to have been walking in the street called Pumakurku.'

That we are dealing with a true ambiguity, and that *-man* can indeed be anchored to the original speaker only, can again be tested by attempting to have the current speaker's judgment be different from the original speaker's. In this case, this is indeed possible, as (225) shows.

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[52]In the past tense, the irrealis mood is formed by attaching *-man* to the main verb in present tense and the past tense suffix attaches to the auxiliary *kan—be*. Curiously, both verbs appear to be finite.

(225)   Pilar-**si** llalli-sqa, ichaqa mana-**n** llalli-rqa-n-chu.
          Pilar-**si** win-PST2 but   not-**mi** win-PST1-3-NEG

> p='Pilar might have won, but she did not.
> EV= speaker was told that Pilar might have won, and speaker has best possible grounds for saying that she did not.

Thus, the judgment that p is a possibility indicated by *-man* in (214b) with *-si* may be the current speaker's or it may be only the original speakers.

How can one account for this asymmetry between *-puni* and *-man* when combined with *-si*? Using Nuyts' (2000) terminology presented in section 6.2, my hypothesis is to say that *-man* can be used m-performatively as well as descriptively, whereas *-puni* can only be used m-performatively. This hypothesis is supported by the observation made in footnote 25, section 6.3.1 that *-man* can fall in the scope of sentence negation, but *-puni* cannot. Under this hypothesis the ambiguity of sentences containing *-man* and *-si* is attributed only to an ambiguity of *-man*, not to a scope ambiguity between *-man* and *-si*. Likewise the difference between sentences with *-si* and *-man* on the one hand and sentences with *-si* and *-puni* on the other, is attributed to a difference between *-man* and *-puni*, and not to any feature of the Reportative *-si*. Thus, in order to account for these observations, the epistemic modals of Quechua have to be studied in detail independently of their interactions with evidentials. Such an investigation lies however outside the scope of this dissertation.

In the above discussion, I said nothing regarding the relative scope of the evidentials and the epistemic modals. There are two cases in which it seems clear that the epistemic modal is in the scope of the evidential, namely when the irrealis *-man* is combined with either *-mi* and *-si*. For the combination of *-man* with *-mi*, I claimed that the speaker indicates that (s)he has best possible grounds for claiming that the embedded proposition is a possibility; for the combination of *-man* with *-si*, I claimed that the speaker indicates that (s)he was told that the embedded proposition was a possibility—at least in one reading. However, in those cases in which the epistemic modal is anchored to the speaker, which is always the case with *-puni*, the relative scope is unclear. My hypothesis is that they are not scoped with respect to each other at all, which might be captured by a paraphrase of the form *I have evidence of type*

x for p and I judge p to be true with a y degree of certainty. More research is needed
to confirm this hypothesis, and to explore what consequences this claim has for the
formal representation of these operators.

6.3.5   *De re/de dicto* readings of assertions with *-si*

As a last issue regarding the interaction of evidentials and other operators, I briefly
mention an ambiguity that arises with assertions containing *-si*, which may be ana-
lyzed as a *de re/de dicto* ambiguity—without, however, attempting to develop a full
analysis. Consider the example in (226).

(226)   Estados Unidos-pa rey-ni-n-**si**   Peru-man chayamu-nqa.
           United   States-GEN king-EUPH-3-**si** Peru-ILL   arrive-3FUT

           p='The king of the United States will come to Peru.'
           EV= speaker was told that *p*

The speaker of (226) may believe him- or herself that there is a king of the United
States (*de re*), or they may not (*de dicto*). The *de dicto* reading can be brought to
the fore by continuing (226) with (227), which does not lead to a contradiction.[53]

(227)   Ichaqa mana chiqaq-chu (kan-man). Estados Unidos-pi-qa   mana-**n**
           But   not   true-NEG be-IRR.   United States-LOC-TOP not-**mi**
           rey   kan-chu.
           king be-NEG

           'But (this) is not (could not) be true. There is no king of in United States.'

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[53]An interesting issue arises when comparing (226) with the following example containing the
so-called inexperienced past tense suffix *-sqa*.

   i. Qayna wata Estados Unidos-pa   rey-ni-n   Peru-man chayamu-**sqa**.
      last   year United   States-GEN king-EUPH-3 Peru-ILLA arrive-**sqa**

      p='Last year the king of the United States came to Peru.'
      EV= speaker was told that *p*

As mentioned in section 1.2.8, *-sqa* might be an indirect evidential with reportative readings. How-
ever, without the addition of *-si* to (i), it is not ambiguous in the same way as (226); (i) only has the
de re interpretation. This is evidenced by the fact that (227) is not a felicitous continuation of (i).
This suggests that if *-sqa* is an evidential at all, it cannot be analyzed parallel to the Reportative
enclitic *-si*.

Typically, *de re/de dicto* ambiguities are discussed in the context of belief reports such as *Jo believes that the king of the US will visit Peru.* One traditional way of accounting for this distinction is to say that the existential quantifier that is denoted by *the king* has wide scope with respect to *believe* under the *de re* reading, but narrow scope under the *de dicto* reading.

With the analysis proposed in this dissertation for the Reportative *-si* this traditional account of the *de re/de dicto* is not immediately transferrable to the ambiguity of (226), since the proposition expressed by (226) does not contain a belief predicate. The predicate that is responsible for the ambiguity is part of its sincerity conditions, which, recall, contains the condition $\exists s_2[Assert(s_2, p) \wedge s_2 \notin \{h, s\}]$. Here, the ambiguity holds between the existential quantifier that is part of p and the predicate *Assert*. To account for this, the analysis developed for belief reports needs to be lifted to the level of sincerity conditions. However, this raises two potential problems: (i) under the *de re* reading, the current speaker's (implicit) claim that there exists a king of the US would be part of the sincerity conditions, which may not be the right analysis, and (ii) it is not clear how to account for the continuation in (227), which denies on the propositional level that there is a king of the US, that is, it would have to be analyzed as challenging a sincerity condition, which is not expected under standard assumptions.[54] As mentioned, I will not attempt to provide an analysis of this ambiguity, but will leave it for future work.

6.3.6 Summary on evidentials and other operators

In this section, I discussed interactions of the Quechua evidential enclitics with other operators. I showed that their evidential meaning always has scope over propositional operators such as negation, disjunction and conjunction (with the possible exception of illocutionary conjunction). This supports the claim made in the previous chapters that the enclitics do not contribute to the proposition expressed. Support for the

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[54]Under a presupposition analysis, the *de re/de dicto* analysis boils down to (i) the speaker presupposing the existence of the king, or (ii) the original source presupposing the existence of the king, without the current speaker endorsing that presupposition. This raises the question what happens to presuppositions of the original sentence in general, when this sentence is reported with *-si*. I leave this as an issue for exploration in further research.

more specific claim that they are illocutionary operators comes from the ambiguity between them, especially the Reportative, and the content question operator. The interaction of the evidential enclitics with epistemic modals was also discussed. It appears that the irrealis suffix *-man* is always within the scope of the evidentials, whereas the high certainty enclitic might be said to be on the same level as they are, that is, not within their scope. This interaction between evidentials and epistemic modals requires further study, however. In particular, the semantics and pragmatics of epistemic modality in Quechua needs to be studied independently from evidentiality, before their interaction can be fully understood.

Chapter 7

Conclusion

7.1 Introduction

In the preceding chapters, I have studied evidentiality from various points of view.
I started out by looking at two main issues in the typology of evidentiality, namely
the hierarchical structure of evidential systems (chapter 2), and the relation between
evidentiality and epistemic modality (chapter 3). The guiding questions were: (i) Is
evidentiality a scalar notion, and if so, what is the ordering criterion and its con-
sequences for the interpretation of evidentially marked sentences, and (ii) how are
evidentiality and epistemic modality related? I then turned to evidentiality in Cuzco
Quechua, and described the meaning of its main evidential markers, the enclitics *-mi*,
-si and *-chá*, as well as the meaning of their absence. The guiding questions here were:
(i) are these enclitics evidentials, epistemic modals or both? (ii) do they contribute
to the main proposition expressed or to some other level of meaning, and if so which
one? I proposed an analysis of evidentiality in Cuzco Quechua within speech act the-
ory, and discussed the implications of this approach with respect to the interaction
of the enclitics with other types of operators (chapter 6). In the following section,
I summarize the main claims and hypotheses proposed in the preceding chapters. I
then discuss further issues and predictions of the proposed analysis which should be
studied and tested in future work, as well as some general issues that invite further
research. In section 7.4, I draw some conclusions regarding the different nature of the

three main types of source of information. Finally, I discuss some implications of the present work for theories of meaning in section 7.5.

7.2 Main claims and hypotheses

7.2.1 Evidential typology

In chapter 2, evidential taxonomies used to predict possible evidentials and evidential systems (Willett 1988, Plungian 2001) were discussed. I argued that a strict categorical distinction between evidential types cannot straightforwardly account for all existing evidentials, and that a gradient conception of evidentiality is needed. For example, if one makes a categorical distinction between direct evidence, which includes all sensory modes, on the one hand, and inference on the other, one cannot account for the existence of the Kashaya Inferential, which is used for inference as well as for smell, taste and touch, but not for vision and hearing. In contrast, if one conceives of direct evidence and inference as belonging to one gradient category, which I called personal evidence, and requires that an evidential refers to a contiguous area within this category, this evidential is straightforwardly accommodated. In addition to the cline of personal evidence, I argued that there is a second, the Mediated Evidence Cline, which orders types of evidence in terms of intervening speakers between the source of information and the current speaker. The two clines are repeated in (228=58)

(228)   a. **The Personal Evidence Cline:**
         PERFORMATIVE > VISUAL > AUDITORY > OTHER SENSORY > INFERENCE
         FROM RESULTS > REASONING > ASSUMPTION

       b. **The Mediated Evidence Cline.**
         DIRECT > SECONDHAND > THIRDHAND > HEARSAY/FOLKLORE

I then looked at evidential scales from a pragmatic perspective, and asked whether it is possible to arrange evidentials or evidential types in a scale that captures two observations made by previous researchers (Barnes 1984, Oswalt 1986, de Haan 1998,

Willett 1988), namely (i) that speakers prefer more direct evidentials over more indirect ones, and (ii) that more indirect evidentials implicate that the speaker does not have evidence of a more direct type. Previously, it had been proposed that these observations can be captured with a single, linear scale, but I argued that this is not feasible because it is not possible to establish a relation of preference and negative implicature between each pair of evidentials. I claimed that these relations only hold within the two separate scales proposed above. I then argued that the negative implicatures that arise with indirect evidentials (that the speaker does not have direct evidence) are not Q implicatures, because sentences containing direct evidentials neither entail the same sentences with indirect evidentials, nor are they more informative. In order to account for these implicatures, I suggested in section 2.4.5 that they arise from a derived version of the second Maxim of Quality, requiring not only that the speaker has adequate evidence, but that (s)he has the strongest evidence. This evidential version of the maxim is hypothesized to be available to speakers of languages with grammaticalized evidentials. It is still an open question whether these pragmatically defined scales can be used to predict possible evidentials and evidential systems as de Haan (1998) intended for his hierarchy.

In chapter 3, I argued that evidentiality should be recognized as a category distinct from epistemic modality, but overlapping with it. The main arguments given for making this distinction are that (i) the two categories are conceptually different, (ii) there are languages with pure modals and languages with pure evidentials, and (iii) evidentials have other properties than epistemic modals: evidentials do not contribute to the proposition expressed, but epistemic modals arguably are; evidential meaning cannot be analyzed in terms of necessity or possibility, which is a defining feature of epistemic modals; and epistemic modals give rise to quantity implicatures, but evidentials give rise to quality implicatures.

Despite them being two different categories, I claim, following van der Auwera and Plungian (1998), that evidentiality and epistemic modality overlap in the concept INFERENCE. Overlap means that it is impossible to use an Inferential without simultaneously indicating that one judges the embedded proposition to be a necessity and that one is making an inference. In fact, one might say that making an inference

is judging something to be a necessity. While van der Auwera and Plungian (1998) only consider epistemic necessity to be in the overlap, I claim that this is not a universal restriction, because in Cuzco Quechua the overlap consists only of an evidential that also expresses epistemic possibility. This may be so because Cuzco Quechua does not have a simple form to express exclusively epistemic necessity. It is a matter of further study to determine what the overlap consists of cross-linguistically as well as on the conceptual level.

7.2.2   Evidentiality in Cuzco Quechua

In chapters 4 and 5, I described the meanings of the three enclitics that have been claimed to have evidential meaning: the Direct *-mi*, the Conjectural *-chá*, and the Reportative *-si*. Of these, the evidential nature of the Direct *-mi* has been the most controversial (Weber 1986, Nuckolls 1993, Floyd 1999). I argued that its analysis as an evidential should be maintained, but that its meaning is wider than previously claimed. It not only can be used for literally direct evidence, but for any type of evidence that constitutes the best possible evidence for the event described. This analysis fares better than the alternative of analyzing it as a marker of speaker certainty, because it accounts for the observation that *-mi* is not licensed by high certainty alone. The interpretation of sentences containing *-mi* as conveying the speaker's certainty that the embedded proposition is true is not a problem for this account, because this is the interpretation associated with assertions in general.

For the Conjectural *-chá*, I argued that it is both an evidential and an epistemic possibility modal, and as such belongs into the overlap between the category of evidentials and epistemic modals in Quechua. The Reportative simply indicates that the speaker obtained his or her information from a third person.

Thus, I claim that Cuzco Quechua has two pure evidentials, the Direct *-mi* and the Reportative *-si*. I also briefly discussed two pure epistemic modals, namely the high certainty enclitic *-puni* and the irrealis verbal suffix *-man*. The Conjectural *-chá* is claimed to be both and evidential and an epistemic modal.

The categories of evidentials and epistemic modals in Cuzco Quechua are therefore related as depicted in Figure 7.1 (repeated from Figure 3.2).
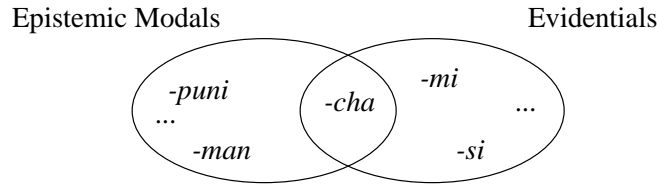

Figure 7.1: The overlap in Cuzco Quechua

I also discussed the meaning of sentences that do not contain any evidential enclitic, and argued that such sentences implicate the same value as those that contain the Direct enclitic *-mi*. This implicature also arises by reference to the derived version of Grice's Maxim of Quality, which requires speakers of evidential languages to base their statements on the strongest evidence.

In addition to describing their meanings, I also discussed those properties of the evidential enclitics that determine how they should be analyzed formally. I showed that the Direct and the Reportative are not analyzable in terms of necessity and possibility, and that the evidential meaning of all three enclitics do not contribute to the proposition expressed. Furthermore, especially the Reportative interacts with the question operator in content questions. These features, I argued, can best be captured within speech act theory as presented, for example, in Searle and Vanderveken (1985), Vanderveken (1990) and Vanderveken (1991), and I developed an analysis of all three enclitics as illocutionary modifiers (arguments against analyzing them as performatives were given in chapter 6). The proposed denotations for the three enclitics in assertions are repeated in (229).

(229)

-mi:
$$\begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\} \end{array} \longmapsto \begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p),\ Bpg(s,Bel(s,p))\} \end{array}$$

-si:
$$\begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\} \end{array} \longmapsto \begin{array}{l} \text{PRESENT}(p) \\ \text{SINC}=\{\exists s_2[Assert(s_2,p) \wedge s_2 \notin \{h,s\}]\} \end{array}$$

-chá:
$$\begin{array}{l} \text{ASSERT}(p) \\ \text{SINC}=\{Bel(s,p)\} \end{array} \longmapsto \begin{array}{l} \text{ASSERT}(\Diamond p) \\ \text{SINC}=\{Bel(s,\Diamond p),Rea(s,Bel(s,\Diamond p))\} \end{array}$$

This analysis is unproblematic in the case of the Direct -*mi*, since it simply requires the addition of the sincerity condition that the speaker has come to believe the embedded proposition to be true based on having the best possible evidence.

However, we soon reach the limits of standard speech act theory in trying to account for the Conjectural -*chá* and the Reportative -*si*. The Conjectural requires operations both on the illocutionary level—the addition of a sincerity condition—and the propositional level—the addition of the possibility operator, and it is not clear that our theory should allow for such operators.

The illocutionary act associated with sentences containing the Reportative does not have any of the illocutionary points recognized within standard speech act theory, since a speaker using -*si* literally only *presents* somebody else's illocutionary act. This enclitic is furthermore problematic in that it does not take over the sincerity conditions of simple assertions, but creates entirely new ones. These problems, I hypothesize, are limitations of current speech act theory which can be overcome by future developments of the theory. For example, the structured meaning approach to speech acts mentioned in the discussion of the Conjectural -*chá* may be the right way to account for hybrid elements like it. But these problems are not reasons to abandon the claim made here that these enclitics are illocutionary operators. Further support for this claim comes from two directions. One is that the alternatives that were considered in the previous chapters have other, potentially worse, problems. The second is that the illocutionary analysis can account for a number of observations made in chapter 6 regarding the (non)interaction of the evidential enclitics with propositional and illocutionary operators: evidentials always scope over negation, disjunction and propositional conjunction, they cannot occur in the antecedents of *if*-conditionals (or other non-illocutionary environments), they cannot occur in the scope of epistemic modals, and they interact with the content question operator.

The framework of speech act theory might also prove to be the right one in analyzing evidentials in other language, although not necessarily of evidentiality in general. It is a reasonable hypothesis that evidentiality that is encoded by markers of tense or modality can more fruitfully be analyzed within a framework such as possible world semantics, which was developed to account for these categories.

7.3 Predictions and open questions

In this section, I discuss some open issues that arise directly from the phenomena discussed in the previous chapters.

As discussed in chapter 2, researchers often use different labels for the same kind of evidential, or the same label for different kinds of evidentials. It is an open research question, whether evidentials called Direct, Reportative and Conjectural in other languages have the same meanings that I claim for the Quechua evidential enclitics. Of particular interest are so-called Direct evidentials. As briefly pointed out in section 4.3.1, direct evidentials in some other languages can be used for conveying encyclopedic information, but it is unclear whether these evidentials also have a relative meaning such as best possible grounds when used to convey personal information.

An indication that Direct evidentials in other languages may also have such relative meanings can be found in Hardman (1986), who studied the Jaqi languages (Jaqaru, Kawki, Aymara, spoken in parts of the Andes of Peru, Bolivia, and Chile). On the one hand, Hardman claims that in all three Jaqi languages, an evidential indicating that something was learned "through language" has to be used in referring to bodily states of a third person. The evidential for personal knowledge cannot be used. On the other hand, she gives examples for the personal knowledge evidential such as *She sees/saw the house. Seeing*, however, might be said to not be observable by another person, in contrast to *looking at* (one can look at something without seeing it, and one can see things internally).[1] Another example of personal knowledge Hardman gives is the future sentence *She will see the house.* Thus, the fact that the personal knowledge evidential can be used in these examples, indicates that it, too, might have a wider meaning than claimed by Hardman.

While there may be other Direct evidentials that have a wider range of use, this is not a universal. Thus, it is well known that in Japanese only indirect forms can be used to say something about the inner states of another person (Aoki 1986), even in cases in which the speaker obtained his or her information from the person experiencing the state. The use of direct forms in Japanese is therefore more restricted

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[1]Possibly, the verb glossed with Spanish *ver - see* by Hardman is not exactly equivalent to *see*, and can also mean *look at, watch.*

than in Quechua. One question for future research is therefore whether the meaning of a Direct evidential in a particular language is predictable from the meanings of the other evidentials in the language.

The particular analysis proposed for the evidential enclitics within speech act theory makes two testable predictions with respect to the environments in which they can occur. First, I analyze them as general illocutionary modifiers, without restricting the type of illocutionary act they can apply to. This predicts that they can not only occur in assertions and questions, but in all other types of speech acts. In particular, they should be able to apply to other types of directives such as orders or requests. However, evidential enclitics cannot occur in orders that are expressed by imperatives (they can occur in assertions or content questions that are used as indirect orders and requests). This is shown in (230).

(230)   a. Hamu-y-(***mi/-si/-chá**)
             come-IMP-(**mi/-si/chá**)
             'Come!'

         b. T'anta-yki-ta-(***mi/-si/-chá**) mikhu-y
             bread-2-ACC-(**mi/-si/chá**)   eat-IMP
             'Eat your bread!'

At this point, I cannot account for this restriction, but only stipulate that the illocutionary act the evidentials apply to cannot be an imperative.

A second prediction of the analysis is that they can only occur in illocutionary environments. The example in (231) shows that they can occur in embedded questions.

(231)   [...] hinaspan-**mi** tari-n imayna-**s** munay   ruwa-sqa ka-sha-sqa-ku
                    then-**mi**   find-3 how-**si** beautiful make-PP be-PROG-PST2-PL
             kikin panpa-pi-puni   chay-ta
             same plains-LOC-CERT this-ACC

             '[...] he then found how beautifully made they were, in the very same
             plains.'   (Nasca y sus líneas)

Examples of this kind may be considered to be problematic for the account proposed here, unless we assume that the embedded question is in fact a question *act*.

Krifka (2001)b claims that certain verbs do in fact embed question acts, but only so-called intensional verbs like *ask* or *wonder*. Extensional embedding verbs like *know* or *tell*, on the other hand, are claimed to embed sets of propositions which constitute true answers to the embedded question. Crucially, Krifka (2001)b derives these sets of propositions via a type shifting operation TA on an embedded question act: TA(QuestionAct)={$p|p$ is a true answer to QuestionAct}.[2] Thus, there always is an illocutionary act present at some level of representation, whether the embedding verb is intensional or extensional as in the Quechua example in (231). If this is the right analysis for embedded questions, then the occurrence of evidential enclitics is to be expected. The Quechua facts in turn support Krifka's analysis of embedded questions. I leave the exact details of adapting this proposal to account for the evidentials in embedded questions to further work. An interesting question is of course who the evidentials are anchored to in these cases, the speaker, the hearer, or some third person. Note also that (231b) contains two evidentials: *-mi* in the superordinate clause, and *-si* in the embedded questions. This also supports the claim that the embedded question projects its own illocutionary act.

While I have discussed some scope issues that arise with evidentials, there are others that I have not mentioned. For example, while evidentials cannot occur in the antecedents of conditionals, they can occur on the connecting element *chay* as well as in the consequent. Examples are given in (232).

(232)   a. Llank'a-nchis chay-**mi**, allin ka-nchis
            work-1PL.INCL this-**mi**   good be-1PL.INCL

            'If we work, then we are well.'   (Cusihuaman 1976:276)

        b. Sichus mana alma-q   p'acha-n-kuna-ta t'aqsa-waq chay-qa alma-n-**mi**
            if   not   soul-GEN cloth-3-PL-ACC   wash-2IRR this-TOP soul-3-**mi**
            tormenta-ku-n-man qhelli-n-wan.
            torment-REFL-3-IRR dirt-3-INST

            'If you don't wash the dead's clothes, then his/her soul will torment itself
            with the dirt.'   (Phuturi Suni 1997:337)

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[2]This is only one of the possibilities that Krifka considers, and for my purposes the simplest one. The final version of Krifka's proposal derives *sums* of propositions from an embedded QuestionAct.

c. Wayna-pura-taq   ka-sha-nchis   chay-qa, lluku-lla-taq-**chá**
    young-only-CONTR be-PROG-1PL.INCL this-TOP fast-LIM-CONTR-**chá**
    puri-ra-mu-sunchis
    walk-HORT-CIS-1PL.INCL.FUT

    'Since we both are young, we can move along fast.'

                                                              (Cusihuaman 1976:276)

Thus, the question is what exactly the evidential is indicating the source of evidence
for: only the consequent, or also the antecedent, or perhaps the conditional relation.
Initial data indicates that the evidential indicates the source of information for the
conditional relation and the consequent.

A second question relating to the scope of evidentials is whether they affect presup-
positions. For example, does the speaker of (233) have to have reportative evidence
for the presupposition that Marya was here?

(233)   Marya-qa   Lima-ta-**s**   ripu-sqa.
             Marya-TOP Lima-ACC-**si** go.back-PST2

             'Marya went back to Lima.'
             Presupposes: Marya was here.

Initial data indicates that presuppositions are outside the scope of the evidential.
Thus, the speaker of (233) may not know that Marya was 'here' through reports, but
because (s)he met her.

My working hypothesis for future studies is that the focus function of the eviden-
tial enclitics determines what falls within and outside their scope.

Another area that requires further study is the interaction of the evidential encl-
itics with the past tense suffix *-sqa*, which as discussed in chapter 1, has uses that
appear to be evidential. The Reportative *-si* can co-occur with *-sqa*, and this is as
expected. The somewhat unexpected facts that have to be explained are why the
Direct *-mi* can co-occur with *-sqa*, but the Conjectural *-chá* cannot. Examples that
illustrate the co-occurrence restrictions of the evidential enclitics with *-sqa* are given
in (234).

(234) a. Marya-qa Lima-ta-**s** ripu-**sqa**.
          Marya-TOP Lima-ACC-**si** go.back-**sqa**

     p='Marya went back to Lima.'
     EV= Speaker was told that p

  b. Marya-qa Lima-ta-**n** ripu-**sqa**.
     Marya-TOP Lima-ACC-**mi** go.back-**sqa**.

     p='Marya went back to Lima.'
     EV= Speaker was told that p

  c. * Marya-qa Lima-ta-**chá** ripu-**sqa**.
          Marya-TOP Lima-ACC-**chá** go.back-**sqa**

     intended: p='Marya might have gone back to Lima.'

My hypothesis for why the Conjectural cannot occur with *-sqa* is that *-sqa* is used to state facts. This hypothesis is supported by the fact that *-sqa* can also not co-occur with the irrealis suffix *-man*. That is, I hypothesize that the so-called inferential interpretation of sentences with *-sqa*, which was briefly discussed in connection with (24b) in chapter 1, are not irrealis inferences, but statements of facts. This would to some extent account for the fact that *-sqa* can only be used for a very restricted set of inferences, namely those from results to their (unique) causes.

For the possibility of *-mi* co-occurring with *-sqa*, and the resulting evidential interpretation indicated in (234a), I hypothesize that an explanation along the lines given in section 6.3.4 for the co-occurrence of *-mi* with the irrealis suffix *-man* can be developed: *-mi* is hypothesized to indicate that the speaker has the best possible grounds for the event described, which is an event marked as not having been experienced by the speaker. Having best possible grounds for an unexperienced event explicitly marked as such will be different from having best possible grounds for an event that is not marked as unexperienced.

7.4 All evidentials are not equal

In the literature on evidentiality, the three main evidential types DIRECT, REPORTA-TIVE and INFERENCE are usually treated as being on a par in that all express ways by which the speaker acquired the information conveyed. However, I hope that the

discussion in the previous chapters has shown that at least in Cuzco Quechua there are some significant differences between the evidentials. Thus, I have claimed that only the Direct and the Reportative are *pure* evidentials, whereas the Conjectural is also a modal. Also, the Reportative is fundamentally different from the other two in that it indicates a mediated way of acquiring information. This means that there is a third speaker in the representation, which, as discussed in chapter 6, gives rise to *de re/de dicto* readings. The difference I discuss here has potential cross-linguistic validity and has to do with what part of the process of arriving at a statement from one's evidence is focused on. I assume that INFERENCE is a mental operation on one or more pre-existing propositions, the premises, from which another proposition, the conclusion, is derived. In principle, the source of information for the premises can be of any type, that is, they can be based on direct or reportative evidence or on a pure mental construct such as a hypothesis.

I hypothesize for Quechua that the Conjectural only points towards the process of reasoning to arrive at the conclusion, and does not indicate anything about how the premises were acquired, whereas the Direct and Reportative do not point to the mental process of getting from the evidence to the statement, but directly to the evidence. In spite of this linguistic difference, the basic underlying process of getting from the evidence to the statement is in all cases the same. Suppose that I see someone walking down the street, and I say to you *A woman is walking down the street.* In order to use the word *woman* I will have to have made certain inferences from the things I see to conclude that the person I see is a woman and not a man or a child. Even though I have to make certain kinds of inferences, I am entitled to use the Direct evidential in such a case, certainly in Quechua, and I assume also in other languages with evidentials.

That sentences marked with the Direct or Reportative may involve inference becomes even clearer when one considers negative statements. Suppose that I have lost my keys and searched my entire backpack. In this situation I can use the Direct evidential in Quechua to say that the keys are not in my backpack, see (235=10c). It is impossible to see that something is not there, and I have to infer from the things I do see that the keys are not there.

(235)   Mana-**n** muchila-y-pi-chu   ka-sha-n.
         not-**mi** backpack-1-LOC-NEG be-PROG-3

         $p=$'It is not in my backpack.'
         EV= speaker "infers" from not having seen the keys in the backpack that
         they are not in the backpack

Similarly, reportative evidence is always processed mentally to a minimal extent. For
example, if Pilar tells me *I bought a horse*, and I want to relate this to someone
else without quoting directly, I have to change the subject from *I* to *Pilar*. Cases in
which the inferential processing is more obvious but where one can nevertheless use
a Reportative are the like following. Suppose that someone told me that the price
of a certain type of potatoes has doubled and that I know that they used to cost
50 cents. Then I can report this with (236a). And again, one can make a negative
statement such as (236b), having positive evidence for strictly speaking something
else. Suppose that Pilar regularly comes to visit on Sundays, but this Saturday she
told me that she would go to Cuzco on Sunday. Then, when asked on Sunday who
will come to visit, I can use (236b) to say that Pilar will not come.

(236)   a. Kunan-qa chay papa-qa   huk sol-**si** ka-sha-n.
            now-TOP   this potato-TOP one Sol-**si** be-PROG-3

            'These potatoes now cost one Sol.'

         b. Pilar-qa mana-**s** hamu-nqa-chu.
            Pilar   not-**si** come-3FUT-NEG

            'Pilar will not come.'

Thus, all statements might be said to be based on the same schema: a proposition
is formed through reasoning from evidence (which might in turn have been obtained
through reasoning from evidence).

(237) $(p_1 - p_n)$ ——— REASONING ———→ p

In (237), $p_1 - p_n$ are meant to represent the (various pieces of) evidence the speaker
has, which for convenience I assume to be represented as propositions;[3] the arrow

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[3]It is in particular questionable whether the direct evidence a speaker has for making a statement
should be represented in propositional form, because propositions cannot be perceived. What is
perceived is an event, a situation or a scene, and I do not know whether people represent their
perceptions as propositions.

represents the reasoning process to arrive at the final proposition expressed p.

If the amount of reasoning is minimal, and $p_1 - p_n$ were acquired through reports or directly, the speaker can use a Reportative or a Direct. However, if the amount of reasoning is greater, the speaker will use an Inferential. It is up to the speaker to judge when to shift from indicating the type of the (original) source of information to indicating that much of the statement is based on reasoning.

Above, some examples were given that showed that the speaker can arrive at a statement from direct or reportative evidence via a minimal amount of inference. In fact, in those cases, the speaker is probably not even aware that (s)he is making an inference. I suggested that the speaker will switch to using an Inferential when they judge the amount of inference to be substantial enough to require pointing out. However, in Quechua, it is possible to continue using Direct *-mi* and Reportative *-si* even in cases which are quite noticeably inferential, by combining them with the conditional mood suffix. Such cases were discussed in section 6.3.4. Thus, it is not strictly the case that *-mi* and *-si* cannot be used when the speaker is making an inference. But it remains true of course that the Direct *-mi* is used when the speaker has the best possible grounds for drawing an inference indicated by *-man*, and *-si* when (s)he has reportative evidence on which to draw the inference.

I therefore hypothesize that the Conjectural differs from the Direct and the Reportative in that it focuses on the reasoning part in the process of arriving at a statement from the available evidence, whereas the latter two focus on the source of information for the premises.[4] Since the Conjectural is also an epistemic modal, I hypothesize that it is also true for epistemic modals in general that they focus on the reasoning part in the schema in (237). Lastly, I hypothesize that epistemic adverbs that do not make reference to the speaker's reasoning process such as *certainly*, *perhaps* focus only on the final proposition, that is, they make no reference at all to the process that

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[4]The Conjectural can also be used for pure guessing. In this case, there is no available evidence, but the speaker is nevertheless going through a mental process of reasoning.

led the speaker to state p.[5] Thus, my hypothesis is that the linguistic differences between evidentials, inferential epistemic modals and non-inferential epistemic modals correspond to a difference in what part of the process of arriving at a statement from evidence they focus on. It remains to be studied further if the schema in (237) and this hypothesis make the correct linguistic predictions. An interesting non-linguistic question is whether (237) has any psychological reality.

7.5 Tools in theories of meaning

The analysis of evidentiality developed in this dissertation draws on a variety of tools developed in linguistic theory. In the cross-linguistic discussion of evidentiality, I have made use of the notion of a scale, a construct that has proven a useful tool in typology as well as pragmatics. In the study of evidentiality, scales are useful to predict what possible evidentials are, and to account for certain inferences that arise in the use of evidentials. Scales alone cannot account for these inferences. The real work is done by appealing to Gricean reasoning, which involves a set of conversational maxims or heuristics.

In section 2.4.5, I argued that the negative implicatures associated with indirect evidentials arise from an evidential version of the Maxim of Quality. Although this is implicit in the Gricean approach to meaning, it is perhaps worth pointing out that some types of implicatures arise only in languages that have certain types of markers.

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[5]The schema in (237) also captures the observation that a speaker might have arrived at p on the basis of a set of $p_1 \ldots p_n$ obtained through different sources of information. Consider the following situation. I'm invited to a party, and among other things I've been told by a friend that Maria's sister will be there, that her name is Susan, and that she has red hair. At the party, there is only one woman with red hair, and I see her standing next to Jo. I cannot see their faces, but they are gesturing, and in general behaving like people talking to each other. I might then say to somebody, to whom I have been giving the names of the people at the party: *And over there, Jo is talking to Susan.* This statement is based on complex evidence: DIRECT, REPORTATIVE and INFERENCE. What evidential would I use? My guess, and I cannot do any better than that at the moment, is that for this all-new-information-statement the speaker could use a Direct in Quechua. If the speaker were answering the question *Who's that talking to Jo?* a Reportative would perhaps be more appropriate, and for answering *What are Jo and Susan doing?* an evidential that conveys the meaning of *appears*, *looks like*, or *seems*, which in Quechua is the combination *-chu hina* (see section 5.2).

Thus, the evidential implicatures discussed in section 2.4.5 will only arise in languages with evidentials.

The evidential version of the Maxim of Quality was hypothesized to be derived from the standard maxim and the fact that a language possesses evidentials. This perspective suggests that maxims are in part determined by the grammatical resources of a language. If the Gricean maxims are assumed to operate outside the linguistic system, then this perspective is Sapir-Whorfian in nature. Under this view, no explanation can be given for why some languages possess evidentials while others do not.

An alternative perspective is to say that the Gricean maxims capture what is important to people in communication, and that different cultures put emphasis on different aspects. Thus, one could say that the degree of strength of a speaker's evidence is more important in some cultures than in others, and that therefore those cultures will develop linguistic devices to express this.

Both perspectives raise the question whether the Gricean maxims can be considered universal. Do speakers of evidential languages reason with an evidential version of the Maxim of Quality (in place of the standard version), or do they reason with the standard version plus the assumption that strength of evidence is an important concept? I cannot provide an answer to this question, and it is not clear what kind of data is needed to decide between the two alternatives. For Cuzco Quechua, I have suggested that an evidential version of the Maxim of Quality is available to speaker, but I remain agnostic regarding the question whether this version is derived from or replacing the standard version.

The analysis of evidentiality in Cuzco Quechua is couched within speech act theory, and, as pointed out above, through the study of evidentials in Quechua, I have had to stretch it to its limits. I also made use of possible world semantics in order to account for the epistemic character of the Conjectural. The study of evidentiality in Cuzco Quechua therefore suggests that the interface between illocutionary and propositional meaning should be studied in more detail. Speech act theory should not only be developed further "downwards", that is, to interface better with propositional

meaning, but also "upwards" or "sidewards" to account better for the interactional nature of evidentials and other elements.

Moreover, to fully understand evidentials in Quechua one has to use tools developed to account for information structure, since the evidential enclitics are also focus markers. This is to date a largely unexplored area in Quechua semantics/pragmatics (only Weber (Weber 1986, Weber 1989) makes a first proposal), which I plan to study in the future.

In order to account for the meaning and use of the Cuzco Quechua evidentials, one can therefore not stay within the confines of one sub-theory of semantics and pragmatics, but has to take an eclectic perspective. This is what I attempted to do in part in this dissertation. Of course, more work is necessary to arrive at a comprehensive analysis of Quechua evidentiality and evidentiality cross-linguistically.

In chapter 3, I gave a list of different meaning types that are standardly differentiated in semantic and pragmatic theories. One item on this list is *conventional* implicatures. I excluded conventional implicatures as a potential analysis of Cuzco Quechua evidential enclitics, because it is not a very well understood notion. It might, however, be worthwhile to revisit the question of whether conventional implicatures are a useful tool for accounting for certain types of meaning. Recall that I claimed that the evidential meaning of the enclitics is not propositional, not conversationally implicated, and not presupposed. Evidentials are not the only type of element that have these properties. For example, honorifics and deictics in many languages are arguably of the same type. A suggestion for future research is therefore to study whether a class of elements can be identified that shares these, and potentially other properties, and investigate possible analyses. It is not implausible that conventional implicature will prove a useful notion for analyzing them.[6]

Throughout the dissertation, I have placed footnotes with reference to work in Relevance Theory, but I have certainly not done justice to the work done within this

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[6]Thanks to Stephen Levinson for suggesting this.

framework in doing so, in particular to Ifantidou's work on evidentiality—as mentioned, I only had a copy of her book (2001) available at a very late stage of writing.[7]
One focus of Relevance Theory is to study the calculations the hearer performs in interpreting an utterance, and consequently what the speaker can assume regarding how the hearer will interpret an utterance. This is of course also an important aspect of evidentials. As pointed out when discussing the Direct *-mi*, it is used in daily conversation only when the speaker has been challenged or anticipates a challenge. Also, I mentioned that the increased degree of strength associated with assertions containing *-mi* has little to do with the strength of the speaker's belief that the embedded proposition is true, but is oriented towards the hearer.

To date, there exists no single framework that allows one to state all aspects of the meaning and use of evidentials in the same representational language, but I take it to be one goal of semantic and pragmatic theory to develop such an integrational framework. I hope to contribute to the development of such comprehensive theories in my future work on evidentiality and other semantic and pragmatic issues in Quechua.

Before closing, I would like to emphasize one more time the importance of studying languages of all types. Theories developed on the basis of a handful of well-studied languages largely with long written histories need to be tested on less well-studied languages and revised and expanded to have cross-linguistic validity. As the work presented in this dissertation shows, the investigation of less well studied languages and phenomena that are not present in the familiar languages on which the existing theories are based will bring out their inadequacies and weaknesses—as well as their strengths—that might otherwise go undetected. It also sheds new light on phenomena that were thought to be well understood, such as epistemic modality.

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[7]For a critique of Relevance Theory in general see Levinson (2000); for a review of Papafragou (2000) see Traugott (to appear).

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