

EVIDENTIALITY AND EPISTEMIC MODALITY: SETTING BOUNDARIES*

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ABSTRACT

This paper deals with the relation between evidentiality, the coding of the source of information, and epistemic modality, the coding of the degree of commitment on the part of the speaker to his/her statement. In the literature, it has often been assumed that evidentiality is a kind of epistemic modality. I argue here that the two notions should be distinguished because there are major differences between the two. Evidentiality and epistemic modality differ in their semantics: evidentials *assert* the nature of the evidence for the information in the sentence, while epistemic modals *evaluate* the speaker's commitment for the statement. Also, the origins of evidential morphemes differ greatly from the lexical sources of epistemic modals.

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1. INTRODUCTION. In this paper, I will take a look at the relation between two notions that are often linked together, evidentiality and epistemic modality. Evidentiality deals with the source of information for the speaker's utterance while epistemic modality concerns itself with the degree of commitment on the part of the speaker for his or her utterance. This study is part of an ongoing project that aims to provide a better understanding of evidentiality and its relation to other areas of the grammar. While most scholars agree that there is a link between evidentiality and epistemic modality, this link is usually assumed without further discussion. It is the goal of this paper to critically investigate the extent of the connection between the two notions.

Indeed, the purpose of this paper is not to deny that such a link exists. One need to look no further than the Germanic language family, in which evidentiality can be expressed by means of epistemic modal verbs. For instance, the Dutch modal verb *moeten* 'must' can have an epistemic as well as an evidential interpretation (see, for instance, example (4), and the subsequent discussion, in section 3). This example shows that languages do in fact grammaticalize evidentiality in this way. However, this path of development does not appear to be common across the world's languages, let alone universal. Nor should we expect this to be the case. In the past decade grammaticalization studies have shown that any given construction can have a variety of origins (see e.g., Hopper and Traugott 1993 and Bybee *et al.* 1994 for examples).

The language sample for this study mainly consists of languages from North and South America, Europe and Asia. This does not mean that evidentiality is restricted to just these areas.

Although the most extensive descriptions of evidential systems are of languages from these areas (with a further concentration on the languages of the Americas, see for instance the papers in Chafe and Nichols 1986), in actuality evidentiality occurs in many language families on every continent. Precisely because there is no clear understanding of the boundaries of evidentiality, its presence usually goes unnoticed. The Cantonese particle family *wo*,¹ for instance, has evidential and mirative interpretations as part of its meaning spectrum.² Until recently, these interpretations were viewed as idiosyncratic but as is shown in Matthews 1998, these are quite consistent with what we know about evidentiality in other (unrelated) languages. Similar observations hold for other phenomena, such as the French conditional, which can have evidential (in this case, quotative) properties as well. The French conditional is similar to the Germanic subjunctive which can have a quotative meaning as well. The possible link between the French and German forms has not yet been investigated.

It is desirable that evidentiality receives a coherent and uniform interpretation. One of the areas where substantial work is needed is the demarcation between evidentiality and epistemic modality. As will be shown in the next section, the boundaries between these notions in the literature are either vague or nonexistent. It will be argued in this paper that it makes sense to distinguish between these notions for both semantic and syntactic reasons, as well as on diachronic grounds. Semantically, there is a distinction between marking the source of the information (evidential) and the degree of commitment a speaker places in his/her utterance (epistemic).³ Syntactically, fully-grammaticalized evidentials behave differently with respect to negation. Unlike epistemic modal elements, such evidentials cannot occur within the scope of a negation.⁴ Also, evidential morphemes can have very different origins from epistemic modals.

The basic distinction I will argue for in this paper is the following: while epistemic modality and evidentiality both deal with evidence, but they differ in what they do with that evidence. Epistemic modality *evaluates* evidence and on the basis of this evaluation assigns a confidence measure to the speaker's utterance. This utterance can be high, diminished, or low. An epistemic modal will be used to reflect this degree of confidence. An evidential *asserts* that there is evidence for the speaker's utterance but refuses to interpret the evidence in any way.

The paper is organized as follows. Section 2 surveys the literature on evidentiality and examines the claims on the link between evidentiality and epistemic modality. Section 3 and 4 deal with the claim that evidentials represent a diminished belief in the truth of the statement. In section 3, Dutch and English strong modal verbs are contrasted while section 4 deals with this claim from a broader perspective. Section 5 is a survey of typical grammaticalization paths for evidentials. It is shown that evidentials typically have a different origin from epistemic modals. Finally, section 6 draws some conclusions.

2. PREVIOUS CLAIMS IN THE LITERATURE. It is fair to say that the overwhelming majority of scholars who have concerned themselves with the relation between evidentiality and epistemic modality have asserted that there is a very close connection between these two. However, this relation is usually assumed without much comment, and very little discussion is devoted to differences between the two areas.⁵

A good place to start is an influential book on mood and modality, Palmer 1986. In this book, Palmer leaves no doubt as to his position: evidentiality is part of the epistemic modal

system. According to him, both deal with the degree of commitment on the part of the speaker to the speech utterance. This means that Palmer considers evidentiality to be an irrealis category:

There are at least four ways in which a speaker may indicate that he is not presenting what he is saying as a fact, but rather:

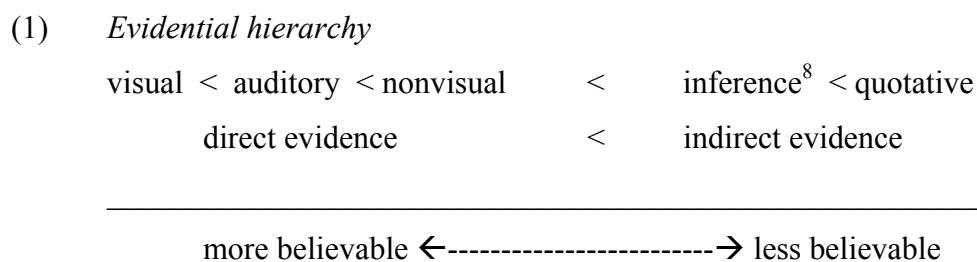
- (i) that he is speculating about it
- (ii) that he is presenting it as a deduction
- (iii) that he has been told about it
- (iv) that it is a matter only of appearance, based on the evidence of (possibly fallible) senses.

... All four types are concerned with the indication by the speaker of his (lack of) commitment to the truth of the proposition being expressed. (Palmer 1986:51)

Based on Palmer's own definitions (see section 2 and footnote 4), type (i) deals with pure epistemic modality, while (ii)-(iv) deal with evidentiality, namely inference, hearsay, and sensory evidence. Palmer makes this claim even more explicit: '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' (1986:70, my italics).⁶ If it were truly a futile exercise we would not be able to explain the numerous differences between the two areas: their origins, development and syntactic behavior. We therefore reject Palmer's position, since only if we sharply distinguish between the two areas can we hope to gain insights in their respective developments.

A similar position to Palmer's is taken by Frajzyngier (1985, 1987. See also Palmer 1987). He sees a direct correspondence between evidentiality and epistemic modality as well (1985:250): '... [I]t appears rather obvious that the different manners of acquiring knowledge

correspond to different degrees of certainty about the truth of the proposition ...'. In this view, there is a link between the interpretation of direct and indirect evidence as far as the truth value of the sentence is concerned. This is schematized in (1):⁷



Under this hypothesis, it will then universally be the case that direct evidence (e.g., visual and auditory evidence) is more believable than indirect evidence (e.g., inference and hearsay). However, there are counterclaims in the literature as well, and therefore it cannot be maintained as an absolute universal (see the statements on Kashaya Pomo, Iquito, and Coos below). Some similar viewpoints are:

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, Perkins, and Pagliuca 1994:180)

... [T]here is not yet a definitive understanding concerning exactly which part of the modal system the term 'evidential' should refer to. ... But the picture is clear enough to establish the fact that evidential distinctions are part of the marking of

epistemic modality, even though evidentials as such are seldom explicitly mentioned in theoretical treatments of modality. (Willett 1988:52)

An intermediate position is taken by Givón: ‘One interesting detail concerning the use of evidentiality in narrative suggests that the relation between truth/certainty and evidentiality is not straightforward’ (1982:34).

For explicit claims to the effect that evidentials are not necessarily closely linked to epistemic modality, we need to turn to grammatical descriptions (but see fn. 6). For *Kashaya Pomo*, a Hokan language spoken in Northern California, Oswald says that ‘it might be noted that ... all propositions with the Kashaya evidentials are presented by the speaker as certain and true’ (1986:43). For *Iquito*, a Zaparoan language from the Andes, Eastman and Eastman say, ‘Regarding the reportative suffix *-na* and free form *kináhá* “so it is said“, [their use] does not mean to cast doubt as to the truth of the statement, but merely implies that it is a reported statement (1963:191). Finally, in *Coos*, an Oregon Penutian language, the evidential particle *cku* denotes evidence based on inference. Frachtenberg (1922:388) analyses this morpheme as being composed of *cə* ‘slight surprise’ and *ku* ‘dubitative’ (see also section 5.1 below). Regarding the status of this evidential, Frachtenberg notes that it is used ‘whenever the speaker wishes to state a fact that occurred *beyond doubt*, but whose causes are not known to him’ (1922:388, italics mine).

These three examples are clearly in contradiction with the established position of Palmer, Frajzyngier, and others, and this paper is meant as a contribution to reconcile these viewpoints. The hypothesis I am using is that evidentials are in fact a priori *unmarked* with respect to a

commitment to the truth of the speech utterance on the part of the speaker. Evidentials merely assert that there is evidence to back up the speaker's utterance. Any connection between the two, such as the one outlined in (1) above, is secondary in nature. They encode different things (source of information vs. attitude towards that information). Although they are closely enough related to cause overlap in some languages, this overlap is not universal.

3. ENGLISH *must* VS. DUTCH *moeten*. A good place to start is the Germanic family, since the development of the strong modal verb *must* in English and Dutch provides us with an excellent idea of the scope of the discussion. It will be shown that there are in fact semantic and syntactic differences between the evidential and epistemic use of the modals.

Many scholars would consider the English modal verb *must* to have evidential readings as a possible interpretation. This is true, but the presence of evidential interpretation does not make it a fully grammaticalized evidential.⁹ See Sweetser 1990, who paraphrases sentence (2a) with (2b), in which a high degree of emphasis is placed on the probability based on evidence.

- (2) a. You must have been home last night.
 b. The available (direct) evidence compels me to the conclusion that you were home last night.¹⁰ (Sweetser 1990:61)

Thus, a sentence such as (3a) would be described as (partly) evidential due to the fact that epistemic necessity is based on some kind of evidence the speaker has for the statement. This evidence can be expressed overtly, as in (3b).

- (3) a. John must be at home.
 b. The light is on.

On this interpretation of *must*, the speaker bases his or her statement on evidence and in this sense, *must* can be said to have evidential nuances. However, more importantly, the speaker also introduces a degree of doubt into the statement, and I will argue that this is the only reason for using *must* in these cases. In other words, *must* in these cases is an epistemic modal, and not an evidential. As can be seen from (3c) and (d) below, the same evidence that is used to assert (3a), namely (3b) *the light is on*, can also be used to assert (3c), a simple declarative sentence. It can even be used to assert (3d), a sentence using the modal verb *may*, which is a modal with a weaker force than *must*.

- (3) c. John is at home, because the light is on.
 d. John may be at home, because the light is on.

From this we can conclude that the existence of evidence alone is not enough to warrant the use of the modal *must*. It depends on the way the speaker evaluates the evidence. On the basis of sentences like (3c) and (d), it is clear that the evidence is unrelated to the presence or absence of *must*. Stated otherwise, there is nothing inherently present in *must*, as opposed to other modal elements, to warrant the analysis of *must* as an evidential. Occurrences of *must* in cases such as (3a) must be seen as pure epistemic modals (or *judgments*, following Palmer 1986) and not as evidentials. The proper function of the epistemic modal *must* is then to evaluate the statement, but any definition of *must* which contains reference to evidence, like (2b) above, places an unwarranted emphasis on the role that evidence plays in the use of *must*.¹¹

However, the notion of evidence does play a greater role with *must* than with *may* and it is quite possible for a strong epistemic modal to develop into an evidential by means of conversational implicature (see below).¹² In this respect it is instructive to compare *must* with its Dutch counterpart and cognate verb *moeten* because this is exactly what happened in Dutch. The verb *moeten* has developed into an evidential for most speakers of Dutch, as shown in De Haan 1997 and 1999. Consequently, a sentence such as (4) is taken out of context three-way ambiguous between a deontic necessity, an epistemic probability and an evidential reading.¹³ The English translation of (4) is only two-way ambiguous; it can either refer to a deontic event or an epistemic event, but not to an evidential one. We are, of course, mostly interested in the difference between the epistemic reading and the evidential reading and we will disregard the deontic reading in this discussion.

- (4) Het *moet* een goede film zijn.
 It must.3SG.PRES a good movie be.INF¹⁴
 ‘It must be/is said to be a good movie.’

On its epistemic reading, sentence (4) is similar to its English counterpart (3a); it denotes a high degree of confidence in the truth of the statement on the part of the speaker. This high degree of confidence may be based on evidence, but this evidence is secondary. The main interpretation of epistemic *moeten* in Dutch is to denote that the speaker is not absolutely certain about the statement, just like English *must*.

The evidential reading of sentence (4) is different, however. The evidential interpretation is that the speaker has no direct evidence for his or her statement, i.e., the speaker has not

personally seen the film but is relying on indirect sources, such as the testimony of others who have seen the film, or by looking at movie posters, or the fact that the speaker liked every movie made by the particular director, and he/she expects this film to be no different.

Assuming that epistemic modality arose before the evidentiality reading of *moeten*, we can probably best explain the acquisition by *moeten* of an evidential interpretation by means of *conversational implicature*. When the hearer hears a sentence like (4) he or she can decide that the presence of evidence for the speaker's statement is more important than the evaluation. Thus, the hearer throws out the evaluation part and keeps the evidence part.¹⁵ This is of course not a logical entailment and this explains why this change did not occur in many languages (see section 5.1 on the development of modal morphemes into evidentials).

It turns out that the distinction epistemic - evidential has syntactic repercussions as well. This can be best seen in the behavior of *moeten* with a negative element. In both its epistemic and evidential sense, *moeten* can be combined with a negation. The interpretation of this combination is that the negation obligatorily is in the scope of the modal verb (except in the Southern dialects of Dutch, where both scope interpretations are attested with epistemic and deontic *moeten*).¹⁶ This may be seen in (5), where the negative element *geen* 'not a' is obligatorily in the scope of the modal:

- | | | | | | | | |
|-----|-----|--------------------------------------|-------|-------|-------|--------|--------------|
| (5) | Het | <i>moet</i> | geen | goede | film | zijn. | |
| | It | must.3SG.PRES | not.a | good | movie | be.INF | |
| | | 'It must not be a good movie.' | | | | | (epistemic) |
| | | 'It is said not to be a good movie.' | | | | | (evidential) |

To force the opposite scope interpretation, a suppletive modal verb, *hoeven* ‘need’ must be used. The use of a negative element with *hoeven* automatically results in the reading that the modal is within the scope of the negation. However, in choosing this option to negate sentence (4) means that we lose the evidential reading. The verb *hoeven* ‘need’ only functions as an epistemic modal, not as an evidential.

- | | | | | | | | | |
|-----|---------------------------------------|---------------|-------|-------|-------|----|--------|---------------|
| (6) | Het | <i>hoeft</i> | geen | goede | film | te | zijn. | |
| | It | need.3SG.PRES | not.a | good | movie | to | be.INF | |
| | ‘It needn’t be a good movie.’ | | | | | | | (epistemic) |
| | *’It is not said to be a good movie.’ | | | | | | | *(evidential) |

It turns out to be crosslinguistically valid that grammaticalized evidentials cannot be within the scope of a negation. This gives us a good diagnostic tool to determine whether a given morpheme is evidential or epistemic in nature. The crosslinguistic nature of this diagnostic tool is further explored in De Haan 1997 and 1998a. The following sentence from Maricopa (Yuman, Gordon 1986) illustrates this further. In (7a), the morpheme *-?yuu* is fully grammaticalized. When the sentence is negated, the negation morpheme *-ma* is placed between the root and the evidential, thereby reflecting the respective scope of negation and evidential. If we want to force the opposite scope interpretation (7b), Maricopa speakers need to take recourse in a biclausal structure, as evidenced by the different subject marker *-m*. The form *-yuu* is here used in its capacity as main verb with the meaning ‘to see’.¹⁷ The negation morpheme *-ma* is placed after *-yuu* because in this instance *-yuu* is the main verb of the construction.

- (7) a. Waly-marsh-ma-?yuu.
 NEG-win.DUAL-NEG-VIS
 ‘(I saw) They didn’t win.’
- b. Marsh-m waly-?-yuu-ma-k.
 win.DUAL-DS NEG-1SG-see-NEG-ASP
 ‘I didn’t see them win.’ (Gordon 1986:85)

Based on the distinctions between English *must* and Dutch *moeten*, it seems clear that it does make sense to distinguish between epistemic modality and evidentiality, despite what is claimed in the literature, because this distinction is relevant in certain areas of the grammar. On the basis of the evidence from the interaction of evidentials with negation and comparing this with epistemic modality, we can conclude that evidentiality has a wider scope than epistemic modality.

4. ON THE TRUTH VALUE OF EVIDENTIAL SENTENCES. Are evidentials really used by speakers to mark a diminished belief in the truth of the sentence, as has been widely asserted in the literature? These claims are usually made without much discussion and it turns out that they do not stand up to close scrutiny. The specific claim I will focus on in this section is one made by Frajzyngier 1985. It is discussed in some detail because it is the only proposal I am aware of that aims to set up a typology of languages based on the assumption that some languages cannot express non-modal (indicative) sentences. As will be shown, this assumption is in turn based on properties of evidentials which cannot be maintained.

There are languages in which evidentiality is an obligatory category on the verb. Frajzyngier 1985 treats this as a fundamental distinction. He divides all languages into two types, which he calls Type I and Type II languages. Type I languages are languages in which the ‘unmarked mood indicates that the speaker believes in the truth of the proposition.’ Type II languages are ‘... languages in which each sentence indicates how the speaker acquired the knowledge.’ (1985:250). He makes this distinction in order to show that some languages (Type II languages) do not have a non-modal way of looking at indicative propositions. This is of course based on the assumption that evidentiality encodes epistemic modality. I will show that the distinction of dividing the world’s languages into two types is not valid because these types do not really differ in their treatment of the interaction between evidentiality and epistemic modality.

Firstly, there are not that many languages known that uncontroversially belong to Type II. In order to qualify as a Type II language, evidentiality has to be obligatorily coded in the sentence. The only clear example of such a language is Tuyuca, a Tucanoan language spoken in the border region of Brazil and Colombia (Barnes 1984).¹⁸ As far as I know, there are no other clear examples of Type II languages, although some other Tucanoan languages may be of this type. Other languages that may conform to this Type are languages in which the *absence* of an evidential encodes evidential meaning as well. Such a case is Hixkaryana, a Carib language (Derbyshire 1979), which apparently has coded zero as denoting direct evidence on the part of the speaker (1979:143). Hixkaryana has two pure evidential particles, *tí* which denotes hearsay, and *mí*, which is used for inference. The absence of either particle is said to constitute direct evidence.

In spite of the presence of languages like Tuyuca and Hixkaryana, the vast majority of the world's languages belong to Type I. In Type I languages, evidentiality is an optional element, used to encode the source of information whenever necessary. Dutch, for instance, is an example of a Type I language. Even though Dutch has grammatical ways of marking evidence, it is not a obligatory part of the grammar. The absence of an evidential marker does not automatically mean that the information in the sentence was perceived directly. Dutch differs from Hixkaryana in this respect.

Secondly, as is the argument in this presentation, there is no a priori relation between evidentiality and the truth of the sentence. It would be strange if a speaker of a Type II language, i.e., Tuyuca, had no way of expressing absolute confidence in the statement he or she is making. There is in fact evidence that speakers of Tuyuca can make the same distinctions that speakers of, say, English can. Tuyuca has ways to code epistemic and deontic modality explicitly, and examples are shown in (8):

- (8) a. Wáa-ro boó-a
 go-OBL want-VIS.PRES
 'I must go.'
- b. Wáa-bo-ku.
 go-POSS-ASS.PRES
 'I may go.'
- (Janet Barnes, p.c.)

Note that the markers of epistemic and deontic modality are accompanied by an evidential morpheme. This fact shows that evidentiality should not (and perhaps cannot) be equated with other expressions of modality.

Thus, it has been shown that the existence of Type II languages does not shed any real light on the question of the status of declarative sentences. Rather, they appear to behave like any other language in that they may or may not make use of epistemic or deontic modal elements. Evidentials in such languages are simply a way to show the kind of evidence available for the statement, i.e., a degree of assertion relative to the evidence. The information in both indicative and non-indicative sentences can be based on evidence and the expression of evidence can be optional or obligatory, giving rise to Frajzyngier's Type I - Type II distinction. That is all there is to this distinction.

Type I languages make a distinction between evidentiality and epistemic modality as well. In Dutch, as seen above, the verb *moeten* can be used to show that the speaker only has indirect information available for the statement he or she is making. At the same time, however, the speaker can qualify the statement by inserting a clause indicating either agreement with the situation or doubt regarding the veracity of the statement.¹⁹ This is shown in (9a) and (b), respectively.

- (9) a. Het moet een goede film zijn, en ik ben
 it must a good movie be and I am
 daar zeker van.
 there sure of
 ‘It is said to be a good film, and I am convinced of it.’

- b. Het moet een goede film zijn, maar ik heb er
 it must a good movie be but I have there
 mijn twijfels over.
 my doubts about
 ‘It is said to be a good movie, but I have my doubts about that.’

As can be seen from the example in (9a), the presence of a marker of indirect evidentiality in Dutch is not in itself enough to cast doubt on the truth of the statement. Conversely, it would also be wrong to state that a sentence such as (4) is inherently committed to the truth given that it is quite easy to insert a clause which function is to convey doubt, as illustrated in (9b). Rather, it must be the case that sentences with evidentials are unmarked with respect to expressing truth. It is the almost explicit function of evidentials to refuse to take any responsibility for the truth of the statement by asserting the level of evidence the speaker has for his or her statement.

The same situation can be found in other languages as well. In Western Tarahumara, a Uto-Aztecan language, the quotative suffix *-ra* can be optionally followed by a suffix indicating truth or doubt. This is shown in (10), from Burgess 1984. Sentence (10a) shows a sentence with just a quotative, while (10b) and (c) show sentences expressing confidence in the statement and doubt in the statement, respectively:

- (10) 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. simi-le-ga-ra-e

go-PAST-STAT-QUOT-DUB

‘Someone said he went but he did not.’ (Burgess 1984:104)

Thus, it appears that neither in Type I nor in Type II languages, at least in those languages shown here, does evidentiality have any impact on the status of the declarative sentence as far as the degree of commitment of the speaker to the truth of the sentence is concerned. From the evidence brought forward here, it appears that evidentials are neutral with respect to the indication of truth or doubt. All they report is the presence and nature of the evidence on which the statement is made. Should the speaker wish to express a degree of doubt, he or she must do so by means of separate epistemic modal morphemes. Also, it appears that there is little basis for dividing the world’s languages into two groups, based on the obligatoriness or optionality of evidentials. Both Type I and Type II languages behave the same as far as the interaction of evidentiality and epistemic modality is concerned.

5. ORIGINS OF EVIDENTIALS. In the previous sections it was shown that evidentials differ from modals in their syntactic and semantic properties. In this section it will be demonstrated that they can differ in their lexical origins as well.

The origins of epistemic modals are typically deontic modals, which in turn can derive from a wide variety of lexical sources, such as ability verbs, ‘dare’ verbs, and ‘be’ verbs. This is extensively discussed in Bybee, Perkins, and Pagliuca 1994 as well as in Van der Auwera and Plungian 1998 and I have nothing to add to their observations here. The remainder of this section

the speaker's mind that the action actually occurred. Coos therefore conforms to the languages discussed in section 4.

Another possible example is from Wintu, a Californian Penutian language (Pitkin 1984, Schlichter 1986). The quotative particle *-ke(le)-* is analyzed by Schlichter as coming from a word **kEl* 'maybe' (1986:50) although Pitkin analyzes it as coming from the distant past *-kir* (1984:133), presumably because of its use in myths, which happened a long time ago. On Schlichter's analysis the Wintu example belongs in this section, while it would be in the next category, evidentials from tense, if we accept Pitkin's analysis of *-ke(le)*.

Thurgood (1986:218) notes that the nonvisual sensorial suffix *-nja* in Akha, a Lolo-Burmese language, is related to the verb *nja* 'able to' and sentence-final particle *njá* 'will'.

The development from evidential to epistemic modal also seems to be attested. In Patwin, a Penutian language closely related to Wintu (Whistler 1986), the suffix *-m(u)t^her* denotes 'uncertain knowledge' or 'an opinion rather than a claim of fact' (1986:71). It is cognate with the Wintu evidential suffix *-nt^here* which denotes nonvisual sensory evidence. The Wintu suffix comes from a verb *mut-* 'hear, sense, perceive' plus the passive suffix *-hEr* (Schlichter 1986:49). On the basis of this analysis, the modal quality of the Patwin suffix developed after the evidential interpretation. Patwin also has a suffix *-mte* which appears to be a phonological development of *-m(u)t^her* and is only used with the irrealis suffix *-ka* and functions as 'epistemic *must*' (Whistler 1986:71-2).

5.2. EVIDENTIALS FROM TENSE AND ASPECT MORPHEMES. Another common path for evidentials is the development out of tense and aspect morphemes. Bybee et al. (1994:95), have

(13)	<i>Tuyuca past visual suffix</i>		<i>Tucano remote past</i>
	3sg masc	-wi	-wi
	3sg fem	-wo	-wo
	3pl	-wa	-wa (3pl m/f)
	1/2, 3 inan	-wɨ	-wɨ

Aspect markers can develop into evidential markers as well. In the Pomoan languages, the morpheme *-ya*, which was originally a perfective aspect morpheme, turned into a visual evidential in the Pomoan languages. An example of visual *-ya* is exemplified by example (14a) from Kashaya Pomo. In Eastern Pomo the morpheme *-ya* has developed into a general indicative mode marker (example (14b)), although the examples given in McLendon 1975 are consistent with the hypothesis that *-ya* is a visual evidential in Eastern Pomo. Traces of the original perfective meaning can still be found in Southeastern Pomo where both interpretations are available (14c).

- (14) a. *Kashaya Pomo* (Oswalt 1986:36)
 qowaq-ya.
 pack-VIS
 ‘(I just saw) he packed.’
- b. *Eastern Pomo* (McLendon 1975:95)
 há: si:díqma-ya
 I swallow-IND
 ‘I am swallowing.’
- c. *Southeastern Pomo* (Moshinsky 1974:63)
 ?súya ‘he built it’

5.3. EVIDENTIALS FROM VERBS WITH EVIDENTIAL SEMANTICS. We now turn to the last category to be discussed in this paper, evidentials from verbs with evidential meaning. The most common examples of this category are quotatives that developed from ‘say’-verbs. The fact that quotatives commonly derive from ‘say’-verbs is well-known. On the basis of a study of mostly Caucasian languages, Harris and Campbell (1995:171) reach the development path shown in (15):

- (15) quotation-to-quotative path (Harris & Campbell 1995:171)
- a. The two clauses of the hypotactic quotation construction become a single clause.
 - b. No argument of the ‘say’ clause becomes an argument of the output structure.
 - c. A quotative particle is formed from some combination of the following:
 - (i) the verb ‘say’
 - (ii) its subject
 - (iii) the pronoun ‘it’
 - (iv) the complementizer.

This path can be illustrated with material from Mixtecan languages. In the Ayutla dialect shown in (16a), quotations are used with the full verb *kāchi* ‘to say’ plus speaker as subject. On the other hand in the Ocotepéc dialect (16b), the verb has degenerated into an invariable particle. Thus, the Ayutla dialect has not yet grammaticalized evidentiality while the Ocotepéc dialect has (there are no other evidentials in these languages).

- (16) a. *Ayutla Mixtec* (Hills 1990:243): *kāchi* ‘to say’
 kahan ah ndii vaahah a kachi ah.
 CON.speak she TOP NEG.good it.INAN CON.say she
 ‘She says, “It is bad,” she says.’
- b. *Ocoatepec Mixtec* (Alexander 1988:191): *chi* ‘hearsay’
 uu vwélta n-sahá de chi.
 two time COM-do he.RES QUOT
 ‘He did it two times, they say.’

Direct evidentials, it seems, uncommonly derive from verbs like ‘to see’ or ‘to hear’. Examples of this derivation include Maricopa, Wintu and Patwin. In Maricopa, which was already discussed in (7) above (Gordon 1986), the visual evidential *-yuu* derives from a verb *yuu* ‘to see’ but as can be seen in (7a) as opposed to (7b), the evidential morpheme behaves less like a verb than the full verb. In particular, the evidential does not take the aspectual morpheme *-k*. Also, the full verb requires a biclausal structure, witness the different subject morpheme *-m*. The evidential morpheme does not. The nonvisual sensory evidential *-?a* originally derives from a verb meaning ‘to hear’ and this evidential has been generalized into a nonvisual sensory evidential, covering not only auditory evidence, but also evidence from smell and taste. However, the most common usage of this evidential is for auditory evidence. Finally, these evidentials are used not in any epistemic sense but are used when ‘... the speaker is absolutely sure of the facts.’ (Gordon 1986:77).

The Wintu nonvisual evidential *-nt^here* has developed from a verb *mut-*, meaning ‘to hear, feel’ (Pitkin 1984:130-1, see also section 5.1). As seen above, in Patwin this has developed into a true epistemic modal.

This brief survey of development paths of evidentials is by no means meant to be exhaustive but rather to point to obvious differences between epistemic and evidential morphemes as far as their origins are concerned. It has been shown that evidentials and epistemic modals do not necessarily share common lexical sources.

6. CONCLUSIONS. While the literature on the subject makes it appear at first glance obvious that evidentiality and epistemic modality are closely related, there is just as much evidence, if not more, to cast serious doubt on this analysis. It is not the case that evidentiality is a subcategory of epistemic modality. Rather, we are dealing with two distinct categories: one, evidentiality, deals with the *evidence* the speaker has for his or her statement, while the other, epistemic modality, *evaluates* the speaker's statement and assigns it a commitment value. This evaluation is obviously done on the basis of evidence (which may or may not be expressed overtly, or which may or may not be expressed by means of evidentials), but there is nothing inherent in evidentials that would compel us to assign an *a priori* epistemic commitment to the evidence.

As was shown in the discussion of, for instance, Western Tarahumara (section 4), the evidential by itself is neutral with respect to any commitment on the truth (10a). Only if an overt epistemic modal morpheme is added, can a truth value be assigned. Similar considerations hold for Dutch *moeten*. As was argued in section 3 (and elaborated upon in De Haan 1999), the main semantic difference between epistemic and evidential *moeten* is the lack of evaluation of evidence in the latter case. This is also the main difference between Dutch *moeten* and English

must: epistemic *must* is always evaluative, while *moeten* can have an evaluative as well as an assertive interpretation.

In fact, one can argue that every time an evidential is translated by *must* in reference grammars, a serious mistranslation has occurred and the rightful domain of evidentiality has been invaded. An example of this is Bloomfield's grammar of Eastern Ojibwa, an Algonquian language (Bloomfield 1956). It contains several morphemes which quite possibly qualify as evidential, even though Bloomfield translates them as epistemic modals. For instance the morpheme *-pan*, which Bloomfield glosses as the Independent Dubitative Preterit (i.e., as epistemic) but the example sentence given points to a possible evidential.

- (17) a:ppeci kenacuwi-ku-pan uškinuwe:
 very.much handsome-3SG-IDP young.man
 ‘The young man must have been very handsome.’ (1956:36)

A more sensitive eye for the distinction between evidentiality and epistemic modality can avoid such problems. Territorial infringements such as the one we are witnessing here are not tolerated elsewhere. Why should this be tolerated when evidentiality is involved? A better knowledge of the exact placement of boundaries is an absolute necessity for the study of evidentiality and for modality as a whole. This does not mean that there cannot be some overlap on occasion, as was demonstrated in section 3.

There is a parallel here in the areas of tense and aspect, for instance (see Comrie 1976, especially chapter 4). These two areas were regularly confused before such works as Comrie 1976. Today, the boundaries between the two categories are clear although it is recognized that

there are some categories (such as the perfect) that straddle the line. The fact that there is the occasional overlap between tense and aspect does not invalidate either status as a separate category. Neither does the overlap between evidentiality and epistemic modality invalidate the separate status of the two categories. Such overlap include the development from modals to evidentials, as the data from Dutch in section 3 indicate, as well as the data from the languages discussed in section 5.1. The data in section 3 was explained by taking recourse to the notion of conversational implicature, and the data in 5.1 may be explained in a similar way. Another possible overlap are inferential evidentials based on deduction (see footnote 6), although this is a complex topic which warrants a separate study.

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NOTES

* This paper is a revised version of presentations held at the second Association for Linguistic Typology Conference, Eugene, Oregon, 1997, and the twenty-sixth Linguistic Association of the Southwest Conference, Los Angeles, California, 1997. I am grateful to all participants, as well as to Janet Barnes and Stephen Matthews, for data and comments. Special thanks to several anonymous referees, whose comments helped clarify the analysis. All errors remain mine.

¹ In Chinese linguistics, a *particle family* refers to all cognates of a given particle. In this example, the base particle *wo* can appear with a number of tones, all with a slightly different meaning. Nevertheless, evidentiality and mirativity are part of every particle within the *wo* family.

² On mirativity, see DeLancey 1997.

³ This definition is based on Palmer's discussion of epistemic modality (e.g., 1986:20).

⁴ See De Haan 1998a. Excluded from this discussion are elements such as the English phrase *I have evidence that...*. This and similar expressions, while semantically evidential in a trivial way, are excluded from the discussion.

⁵ A notable exception is Van der Auwera and Plungian (1998:84-6). They consider only inferentials based on deduction to be modal in nature, while the other evidential senses are non-modal.

⁶ The term *judgment* refers to the degree of epistemic commitment to the statement on the part of the speaker. This degree can be weak (English epistemic *may*) or strong (English epistemic *must*).

⁷ The categories above the line are the evidential categories and the categories below the line are the epistemic correspondences to these evidential categories. The evidential hierarchy is taken from De Haan 1997. The terms used in (1) must be seen as cover terms for a given category. For instance, the term *quotative* is the cover term for all events conveyed via another source. Some languages may make a distinction between recent events that were told to the speaker and events that happened a long time ago and were reported in myths.

⁸ An anonymous reviewer claims that inference should not be on the first line but rather on the second line of the hierarchy, since it is a 'super-category of other terms.' However, my use of the term *inference* is warranted because in many languages, inferential evidentials are distinct from both quotatives and direct evidentials.

⁹ The term *evidential* is used in this and subsequent sections to refer to morphemes with the notion of evidentiality as their main function. This includes all semantic and syntactic properties of grammaticalized evidentials (see De Haan 1997 for a discussion of such properties). Similarly, the term *epistemic modal* is used here to refer to elements with the notion of epistemic modality as their main function. Of course, it is possible for either category to have other meanings as well, as argued in this section.

¹⁰ It is not clear what Sweetser means by ‘direct’ evidence. If it is taken in its usual sense of ‘sensory’ evidence, then it would exclude nonsensory evidence. But *must* can also be used when the speaker has indirect evidence.

¹¹ Sweetser’s definition of epistemic *may* does not contain any reference to evidence, but is rather based on the phrase ‘I am not barred by my premises’ (1990:61).

¹² When an epistemic modal turns into an evidential, it does not necessarily cease being an epistemic modal.

¹³ There is no real consensus on the terminology for modality, either. Instead of *deontic*, many scholars use the term *root* modality (e.g., Sweetser 1990). Lately, the terms *agent-oriented* modality (Bybee et al. 1994) and *participant-external* modality (Van der Auwera and Plungian 1998) have come into use. All these terms differ from each other in subtle ways. I will use the term *deontic* in this study.

¹⁴ The following abbreviations are used in this paper: ASP: aspect marker; ASS: assumed evidential; COM: completive; CON: continuative; DS: different subject; DUAL: dual; DUB: dubitative; FEM: feminine; IDP: independent dubitative preterit; INAN: inanimate; IND: indicative mood; INF: infinitive; NEG: negation; OBL: obligation; PAST: past tense; POS: possessive; POSS: possibility; PRES: present tense; QUOT: quotative; RES: respect marker; SG: singular; STAT: stative; TOP: topic marker; VIS: visual evidential.

¹⁵ In grammaticalization terms, the evaluation is *bleached out* (see e.g., Hopper and Traugott 1993).

¹⁶ In the Southern Dutch dialects, *moeten* behaves like German *müssen*. *Moeten* is used both inside and outside the scope of negation and the suppletive verb *hoeven* ‘need’ is rarely used (see De Haan 1997 for discussion).

¹⁷ On the development of *-yuu* see section 5.3 below and De Haan 1998b.

¹⁸ It is the only language discussed by Frajzyngier 1985 which is of this type.

¹⁹ The epistemic modal phrase is more elaborate in this example, due to the fact that the evidential in Dutch derives from the modal. A second modal element in the sentence would lead to parsing and interpretation problems and for clarification’s sake, I have chosen to show the epistemic modality in (9) as a separate phrase.

²⁰ Even though West calls it a Remote Past, a term which normally refers to events in a distant past, this tense refers to events that happened three days or more before the moment of speech. It can therefore refer to events well within the speaker's personal recollection and it is quite plausible for this tense to have developed into a visual evidential.