Evidentials and Modals: What Makes them Unique

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Abstract. This paper is concerned with types of evidentials and modals, their interactions and perspective shiftability in evidentials, epistemic modals, and psychological (experiencer) predicates in Korean and English (and in Japanese where relevant). The evidence acquisition time denoted by *–te* is prior to speech time. The marker *–te* can be either direct or inferential with null tense, and inferential if result-based with PAST-marking. Shiftability may be universal, as McCready (2010) claims, and how and why will be addressed. Expressions of sensory, evidential and epistemological meanings require perspective shift to the hearer=speaker-to-be in questions, but expressions of indexical nature including honorifics typically do not show shiftability (*i.e.* monsters are rare). Conjectural questions are typically self-addressed by the speaker.

Keywords: evidentials, epistemic modals, perspective shift, speaker-to-be, indexicals, conjectural questions, psych-predicates, first-person data, direct/inferential evidentials

1.Introduction[1]

Almost a half of the world languages seem to have evidential affixes rather than words. The other half also has certain grammaticalized forms of words and auxiliaries showing evidentiality and modality. The nature of the direct evidential suffix marker *–te* will be explored first and it will be distinguished from inferential interpretations in null and PAST tense-marking. The null tense-marked *–te* may be inferential in genericity or future event readings. The result-based PAST marked *–te* has inferential meaning. In all interpretations of *–te*, the evidence acquisition time denoted by *–te* is constantly prior to speech time. The reportative evidential *–tay* and the epistemic modal marker *-keyss* and the interactions of all those will be examined. The shiftability of perspective from the speaker to the speaker-to-be or hearer in questions will be highlighted.

The basics of the direct/inferential evidential *-te* in Korean in comparison with analogous expressions in other languages will be discussed first in **2**, roughly in view of Matthewson's (forthcoming) criteria. Interactions among different evidentials and modals will be examined in **3.** Perspective shifts, conjectural questions as self-directed and interpretations of (*–ess*)-***te***–*ni* connective subordination are treated in **4**. **5** concludes the paper.

2. Types of Evidentials – from Prototype Direct to Inferential and Reportative
2.1 From Prototype Direct to Inferential by –*te* with Null-Tense

The evidence acquisition time denoted by –*te* in Korean is constantly prior to speech time. This point is unique to Korean. The evidential meaning of the marker –*te* can be direct or inferential with null tense marking in the prejacent proposition.[2] The perceiver of sensory and psychological observation or witness involved, *i.e.* senses of sight, hearing, smell, taste, touch, weight, and feelings (of dizziness, sadness and hunger), in the direct evidential –*te* sentence is the speaker of the sentence.

Observe some examples of direct evidential type. The predicates in (1) have no tense marking and the evidence acquisition time is prior to speech time. Because the eventualities involved here are typically co-temporal with their –*te* perception time in the past, the evidential can be said to be direct in type. The prejacent eventuality information is directly supported by witnessed evidence. This must be similar to direct evidentials in various languages investigated such as the Tibetan marker '*dug*, a typical direct evidential, denoting a stage-level, therefore, observable, event with spatio-temporal locatability. One difference between the Korean direct evidential and other direct evidentials, however, is that the evidence acquisition time in Korean is prior to speech time, while it can be speech time in other languages. Tibetan and Korean direct evidentials share the feature that they are most typically used for objective visual events but both can be used for subjective sensory and feeling experience. Observe examples of visual (1a) and various other direct sensory/feeling evidence denoted by –*te* in Korean in (1b-g). Finding and judgment about propositional content can also be expressed with –*te*, as in (2). In this prototypical category of direct evidentials by perception, seeing the event itself is most typical. The type direct is also characterized by the dimension of evidence **location** (Matthewson to appear), which is the event itself. Consider six classes. They can be prototypical in different degrees.

Table 1: Evidence nature and directness (from Matthewson)

	DIRECT	INDIRECT
EVIDENCE TYPE	e.g., sensory	e.g., inference, report
EVIDENCE LOCATION	event itself	results
EVIDENCE STRENGTH	best	not best

Typological examples:
    <1> type-direct: St'át'imcets *lákw7a*, Gitksan *'nakw*
                 Cheyenne Ø, Korean –*te*
    <2> location-direct: Cheyenne Ø, Tibetan *'dug*
    <3> strength-direct: Quechua =*mi*, Cheyenne Ø,
                 Korean –*te*?, Tibetan *'dug*
    <4> type-indirect: reportatives, Nivacle *pa*, Japanese *sooda*,
                 Korean -*tay* .

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[2] With null tense marking, -*te* can also be inferential and this point is different from J. Lee's (2011) claim that –*te*'s association with null tense is direct and its association with PAST is inferential. .

<5> location-indirect: St'át'imcets *lákw7a*, Gitksan *'nakw*
<6> strength-indirect: English *must*, Nivacle *pa*

Other locations may be its results in the case of inferential type, and its forecast information where the perceiver sees evidence of the event before it happens with null-tense-marking in Korean in context. The event itself is null-tense-marked in Korean for direct and it is co-temporal with the evidence acquisition time prior to speech marked by *-te*.

(1) a. Pi-ka   o-*te*-ra   [sight, visual]
    rain-NOM come- TE-DEC
    '[I saw] it was raining.'
  b. Kangtang-i   shikkurep-*te*-ra   [hearing]
    auditorium-NOM noisy- TE-DEC
    '[I heard] the auditorium was noisy.'
  c. Pipimpap-i   mas-iss-*te*-ra   [taste]
    pipimpap-NOM tasty -TE-DEC
    '[I tasted] the pipimpap was tasty.'
  d. Kkoch-i   hyangkirop - *te*-ra   [smell]
    flower-NOM fragrant TE-DEC
    '[I smelled] the flower was fragrant.'
  e. Son-i   pwuterep-*te*-ra   [touch]
    hand-NOM   soft -TE-DEC
    '[I touched] the hand was soft.'
  f. Kapang-i   mwukep- *te*-ra   [weight]
    bag   -NOM heavy- TE-DEC
    '[I weighed] the bag was heavy.'
  g. (Na-nun) sulphu-*te*-ra   [feeling]
    I-TOP   sad   -TE-DEC
    '[I felt] I was sad.'
(2) Ney   mal-i   mac-*te*-ra [finding, judgment][3]
   your word-NOM right-TE-DEC
   '[I found] you were right.'

The direct evidential marking is done on the most typical stage-level predication from visible events to instantaneously sensible states (and further to finding/judgment about a propositional content) in Korean and also in Tibetan. However, it must be noted that the sensory/feeling perceptions applied in (1b-g) are typically for their proper domains such as sound, taste, smell, touch, weight and feeling, not their associated event/proposition. In Tibetan, 'He left-*'dug*' is used when the speaker just heard his leaving sound, but it may not be so optimal to say it with –*te* in Korean. Particularly 'I heard a shot-*te-ra*' without seeing a scene of shooting is quite all right but 'Someone was shooting- *te-ra*,' together with other external events of action in progress and location state, seems to require some visual information in Korean. You can say, 'My roommate was

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[3]   This appears to be result-based; the propositional content addressed (it can be the speaker's own thought) is evaluated against real world facts or logical consequences. But the relation seems to be a little immediate and different from other event-related causal consequences or connections that give rise to reference to the prejacent event. The content addressed may, however, involve quotation or reportativeness analytically.

singing-*te-ra*,' just hearing her without seeing her. You cannot say it, just seeing her lips moving without hearing her. When you just heard a next door neighbor taking a shower (as in J. Lee's (2011) example), you can say but cannot optimally say 'Mary was taking a shower-*te-ra*,' without seeing her taking a shower; (it could have been her visitor friend or) even in the case of Mary as a roommate, seeing her silhouette seems desirable, although a shower sound is characteristic and J. Lee's discussion is not far-fetched. You may optimally say 'I heard some shower-taking sound-*te-ra*.' Sound is not the event itself. As part of the properties of an event, the sound can be metonymically extended and connected to the event but not so optimally with –*te* in Korean. Many speakers of Korean may well say 'Mary was taking a shower-*te-ra*' generously but then it may involve cognition and inference beyond passive sensory perception. From hearing to visual synaesthetic metaphorical and from sound to event metonymical (blending) transfer processes occur for extended or stretched use for many natives and the extension makes the whole picture a little distant from the prototypically direct. This applies to all other senses in Korean and the certainty "strength" criterion (Matthewson to appear) for direct seems to be rather stricter in this sensory respect than in Tibetan. Because –*te* requires the witness time to be prior to speech, the time of the psychological internal state described by (1g) must be likewise prior to speech and (1g) has the effect of recalling a past psychological state.

In Korean, however, individual-level predication can also be marked by –*te*, with no tense-marking, as in (3a). Such an individual-level property itself is not observable or directly perceivable, as in direct. Its related behaviors or results can be observed to lead the speaker to the determination of the individual-level property via generalization or other reasoning. The property, though determined in the past, may persist atemporally. A habitual predication can also be marked by –*te*, which scopes over the conjoined predicate. Instances of Mia's taking exercises and (then) studying were observed prior to speech and they led inferentially to the generalization of habituality, with *nul* 'always,' and evidential marking. The habit may persist but its continuation to future is not committed because of the nature of habits and past witness time.

(3) a. Ku ai-nun cham   chongmyengha-*te*-ra
        that child-TOP very smart/intelligent-TE-DEC
        '[I found] that child is very smart.'
    b. Mia-nun nul wuntong-ul ha-ko kongpwu-ha-*te*-ra
        M –TOP exercise-ACC do-and study –do-TE-DEC
        '[I found] Mia always takes exercises and (then) studies.'

Furthermore, an atemporal **generic** statement can also get marked by -*te* with no tense-marking. This involves more generalization and abstraction than the simple individual-level predication reasoning by the speaker, as in (3), in the sense that it involves the dimension of trustworthiness/reliability of general or public knowledge, included in public printing, as in (4), which can be uttered after consulting an encyclopedia. Reading some authoritative printed material is more trustworthy than just hearing the content and that is why –*te* is employed, not a reportative here. The direct '*dug* in Tibetan may be used only when instances were observed but not for individual-level

or genericity. "The *'dug* verb is used when one has firsthand knowledge ---. Specificity refers to the fact that *'dug* is always used with respect to knowledge deriving from a specific situation or state and is never used for general, usual, or commonly known situations or states. For these the *yodred* form is used" (Goldstein (1984:xvi), in Garrett (2001)).   :

> (4) Ces-meki-tongmwul-to   al-ul nah-**te**-ra
>   milk-sucking-animal-even egg-ACC lay-**TE**-DEC
>   'Even mammals lay eggs [I saw/read].'

How the existentially-oriented statement (only two kinds of mammals lay eggs) in (4) can be non-monotonically generic is another matter and is explained by dynamic genericity (Lee 2010). In Tibetan, *'dug* is attached to existential or presentational utterances, as described: 'When *'dug* is used in a sentence such as "There are three soldiers there," it means roughly that the speaker was "there" and found out that there were three soldiers' (Goldstein (1984:xvi). In contrast, (4) can be uttered not only when the speaker witnesses an instance of a Platypus or Echidnas laying eggs but also when she learns it from the encyclopedia. The latter case shows that the use of *–te* here is based on reliability in the certainty strength dimension via causal and logical connections and the witness scene co-locationality of the speaker and the event is waived.

Another remarkable use of *–te* with null-tense is the future event interpretation, based on learned forecasts of scheduled events in the newspaper or TV news. In this case, the speaker's witnessing the event itself is not involved and his/her reasoning is required for associating the news with some future (possible world) occurrence of the event. With no PAST, (5) can get a future time interpretation, with or without a deictic time adverbial. It becomes possible because the topical future reference time can be established from the context. The evidential *-te* is attached because the speaker truly relies on the information source, an institutional trustworthy forecast of some fixed schedule. This use of evidential is rarely reported in other languages. So its use is distinct from the use of the reportative *–tay*, the source of which may not be so reliable to the speaker for commitment. Without future time adverbials such as *naycwu-ey* 'next week,' *icey* '(future-oriented) now,' (5) is potentially ambiguous between the witness time past reading, which is predominant, and the future time reading. Consider (5).

> (5) Obama-ka   (naycwu-ey)   hankwuk-ey   o –te –ra[4]
>   O -NOM   next week-at   Korea   -to come-DEC
>   '[I read] Obama visits Korea next week.' [future event]

The evidential *–te* clearly shows that the time of witnessing is prior to speech time in all situations. But this never implies that *–te* itself

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[4] The temporal adverbial *naycwu-ey* 'next week' can be replaced by *kot* 'soon,' *icey* 'now soon (futuristic 'now'). But if it is replaced by *cikum* 'now,' Obama's coming was occurring (being on the trip) just a while ago and it cannot get a future interpretation. If it is replaced by *i shikan-ey* 'this time,' however, the time of Obama's coming can be in the immediate past with respect to the utterance time – real deictic or at the pointed time on the signal (e.g. watch) –**signal deictic** in the future.

is tense of any kind (contra Chung to appear); even if a deictic temporal adverbial modifier such as 'yesterday' occurs in (1) or 'next week' in (5), it never modifies (or narrow down) the *–te* witness time. The adverb modifies the time of the described propostional event. In (1a), if a deictic temporal adverb 'yesterday' occurs, it is anchored to the speech time and denotes the time of the event of raining in the past. Otherwise, in a non-proto-direct reading, a future temporal modifier 'tomorrow' denotes the time of the event of raining in the future. The same with (5); 'next week' is not the time of the speaker's witnessing - the witness time can be today. If the witness time is concurrent with the eventuality time, by a null tense marking on *-te*, its utterance gets a direct evidential interpretation of a past event. If the witness is on forecast or schedule, by the same null tense marking, its utterance gets an inferential interpretation of a future event.

By now we have examined how the evidential marker *–te* with null-tense marking in Korean can function variously. First, it can be prototypically direct – by sensory evidentials as in (1), expressing the speaker's own internal states by entitlement or first person authority; no one can ask "What's the evidence?" for (1b-g) (see Higginbotham 2009). The verb assumed to mediate the speaker with the expression may be PERCEIVE (or SENSE/FEEL) rather than KNOW, unlike Garrett (2003). (1a) is included in this class of prototypical direct in the sense that the event itself was visually witnessed by the speaker at the scene (location). All are sensories but the former are internally-oriented and the latter are externally or object oriented. The Cuzco Quechua enclitic *=mi* (Faller 2011) is either proto-direct or not, with the possibility of the described event's being not directly observable, i.e. other's emotions or plans; "the next best thing" to direct evidence or best possible grounds as accessible license *=mi* for Faller 2002; also see some related discussion by Matthewson (forthcoming). In Korean, however, another person's emotions cannot get the *–te* marking with the adjectival form via a reliable report.

The second class with the same simple form of *–te* is the class of judgment about propositional content, which involves some reasoning. The third is the individual-level predication class requiring generalization and of abstraction. The fourth is the genericity type that requires non-monotonic reasoning, and the fifth the class of future interpretation based on trustworthy forecasts. The first class alone is prototype direct while the second to the fifth classes are more or less inferential, although all of them share the same simple marker *–te* with null-tense and native speakers share the intuition of sensory observation by the marker *–te* with null-tense. This syntactic null-tense is similar to the status of null-tense of the complement in the English grammaticalized perceptual verb construction, as (6). The "tenseless and compementizerless objects serve as existential quantifiers over events *e*," events of Mary's crying here (Higginbotham 2009). In (7), the verb *see* is epistemic, with the meaning of *come to know* (*by using one's eyes*), according to Higginbotham. Eventualities described by the proto-direct must share co-temporal, co-locational features with the witness time and location. The object complement of (6), I would say, has the same features, although the perceptual main verb, unlike affixal evidentials in near the half of the world languages, has an assertive

force at-issue. Hearing a propositional content in (7) is different from hearing a crying sound in (6).

(6) I saw/heard [Mary cry/crying].
(7) I saw/heard [that Mary was crying].

2.2 Result-based Inferential by *–te* with PAST Tense

Contrast this with the situation where the event described is with PAST, as in (8). With PAST, the event of raining in the past is inferred from the speaker's own (direct) observation of the result evidence of raining (e.g. the wet ground). It is different from the direct observation of the event going on in question with no PAST in the *–te* sentence.[5]

(8) Pi-ka   o-ass-*te*-ra
    rain-NOM come-PAST-te-DEC
    '[I inferred, based on my direct observation of the result evidence], that it (had) rained (already before my observation).

The *–te* sentence (8), with PAST just before *-te*, is inferential and therefore has been treated as "indirect" in the sense that the evidence (location) is not the event itself. But the speaker's own (direct) observation (of the result evidence) is still required and the classification of evidentials into direct [event evidence] vs. indirect [inferential with result evidence and a separate reportative] (Willet 1988) may not be quite adequate in view of Korean facts. The speaker's commitment to the prejacent proposition is unmistakable in the PAST-marked *–te* but not so in the reportative *–tay*. Therefore, they cannot be in the same branch of "inferential."

   If the utterance with *–te* occurs by PAST marking, it receives an inferential interpretation of a past event that precedes the time of witnessing the result evidence. This deviates from the co-spatio-temporal (of the event and evidence acquisition) requirement (Matthewson's *type* and *location* direct, forthcoming) of the prototype direct. What is interesting here is that the Korean speaker of "It snow**ed**-*te*" trusts that his/her direct visual result evidence of white snow on the whole mountain is truly associated with the event at-issue itself 'It snowed.' Visual evidence supports strength and Matthewson's type indirect (inference) in this case may appear to be a little incompatible with visual perception, which has to do with type direct. Korean speakers are quite certain about the eventuality, not initially being aware of any inference involved. Therefore, Matthewson tentatively puts it in the box of **strength direct**. It is a metonymic association from the result evidence to the cause event. Furthermore, PAST-marked *–te* sentences typically represent result-

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[5] Native speakers, however, are not so sensitive to the inference part involved from watching the result evidence to a past event as to the (direct) observation of the result evidence itself. Lisa Matthewson asks, "Does that mean they don't realize inference is going on - they take it as definite that it did rain?" I say, "Yes"; they come to realize inference is going on only when they are asked, "How do you know that it rained/snowed?" An anonymous reviewer of the journal also helped the author to make this clear. In contrast, speakers are sensitive to the inference process in the conjectural modal *–keyss*. In the latter case, the evidence of the basis of the inference is vague.

salient **telic** events (Lee 1987). Observe (9).

(9) Mia-ka kamki keli-ess-*te*-ra (After seeing her runny nose)
   M –NOM cold catch-PAST-TE-DEC
   'Mia caught cold-*te*.'
(10) Hankwuk-i   iki-ess-*te*-ra (After seeing the score)
    Korea –NOM win-PAST-TE-DEC
    'Korea won the game- *te*.'

The evidence location is certainly the event's result, which makes the evidential belong to "indirect," according to Willett's and Matthewson's classifications, but the speaker's certainty strength is high and this factor in Korean must seriously be taken into consideration. This result-based PAST –*te* expression cannot be together with the second-hand/third-hand/hearsay reportative -*tay* in the same class of indirectness.[6]

In connection with the interaction between –*te* and the double PAST form –*ess-ess* in Korean, it is sometimes discussed whether the double PAST –*ess-ess* form can co-occur with the evidential –*te*. Observe (11). A discrepancy between (11a) and (11b) arises because of its (cognitive) discontinuity interpretation (Lee 1987) that discontinuity/undoing exists before speech time and the event time if the double PAST –*ess-ess* occurs by itself. 'It rained-*single PAST*' implies that the result of raining, wet ground, remains, co-occurring with –*te*, as in (8), but 'It rained-*double PAST*' is used when it cleared up with no wet ground. A natural situation fitting (11a), which denotes a natural force situation, the undoing of raining, is hard to find,[7] whereas (11b), involving mobile people, is quite possible, as opposed to (11c). Some un-doing of the described event must occur before the speech time, if the double PAST occurs. If the event has some clear un-doing effect, the double form can co-occur with the inferential evidential –*te*, as in (11b). This co-occurrence is correlated with the **result-salient** achievement (/accomplishment) aspectual class (Lee 1987).[8] With telic events, co-occurrence is fine but with process/activity events it is not. Consider (11).

(11) a. [??]Pi-ka o-ass-ess- *te* -ra   Cf. (8)
    rain-NOM come-PAST-PAST-te-DEC
    '[I observed] some discontinuity between the result of past rainfall and the speech time. [My observation of un-doing of rainfall result].'

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[6] Lisa Matthews (p.c.) finds this explanation very interesting and says, "I would call it [result-based inferential] **indirect** on the dimension of event type and location, but maybe **direct** in terms of strength." This strength directness seems to fit the Koreans' intuition but visual perception (though of the result) seems to support the strength.

[7] The double PAST form without –*te* in (11a) is all right because it can be fine now with no wet ground after raining in the past but the added –*te* seems to complicate its interpretation, implying that the speaker saw no trace or result of raining after it cleared up and that it rained before. Clearing up is not a good result of an event to witness for -*te*. Two stages of discontinuity are required once before the evidence acquisition time because of -*ess-ess* and another time after the time because of –*te*. Raining is a process rather than an achievement unlike someone's coming.

[8] 'She caught cold' typically implies 'She is in cold, as a result,' in **result-saliency**. Jungmee Lee (p.c.) indicates that (11a) is interpreted as a process or activity, virtually supporting my claim. All activity verbs such as *talli-* 'run' are likewise bad with - *ess-ess-* ***te*** -*ra*.

b. Mia-ka hankwuk-ey　　　o　　-ass-ess　*te* –ra
　　M –NOM Korea-to　　　come-PAST-PAST-TE-DEC
　'[I observed] some discontinuity between the result of Mia's coming to Korea and the speech time. [So she must have left Korea].'

c. Mia-ka hankwuk-ey　　　o　　-ass　　　-*te* –ra
　　M –NOM Korea-to　　　come-PAST-EV-DEC
　'[I observed] the result of Mia's coming to Korea. [So she must be in Korea].'

2.3　Two Features of *–te*
2.3.1 The Constraint of No Observation at Speech time

The past event described by *–te* can be accommodated into the flexibly extended 'now' and someone who was in the rain in the near past and just came into the house can say (12), applying 'now' to the proposition at-issue:

(12) Cikum pakk-ey　　　　pi-ka　　　　　o-ko iss-*te*-ra
　　　now　outside-at　　rain-NOM come PROG-TE-DEC
　　　'[I saw] it was raining (PROG) outside now.'

The condition of witnessing evidence before the speech time must include the strict constraint of 'deictic discontinuity' (Kwon 2008) or **no observation at speech time** such that there must be a gap or discontinuity between speech time and the described event, i.e. there must be a gap anchored to speech time. In uttering a *–te* sentence, the speaker does not observe the described prejacent event or its result at the time of speech. Therefore (12) becomes anomalous if at speech time the speaker sees the rainfall outside through the window after she came in. In that situation, the speaker must utter a progressive assertion without *–te*. Similarly (11c) cannot be appropriately uttered in the presence of Mia, who came to Korea. There is some discontinuity involved between the witness time and the speech time. No perfect (relevant to present) interpretation is involved in the direct *–te* evidential. The event time of raining and the time of the speaker's direct observation overlap and are simultaneous at least at some point before the speech time and that point cannot be connected to or recur at speech time. The use of *cikum* 'now' in (12), however, is pragmatically extended by neighborhood concept from the witness time to the interval range reaching the speech time. Thus, Chung's (2007) locationally and temporally contrasted example as in (13a with b) can be quite all right as long as the constraint of no observation at speech time is met. The deictic term *yeki* 'here' can also be pragmatically extended like *cikum* 'now.' Their actual ranges of use are flexible depending on context and contrast. Sentence (13a), uttered by a speaker who was at a distant place **there** but just came into the house to talk about the outside **here**, becomes good if it is contrasted with some utterance such as (13b) and if the same no observation at speech time constraint is met such that there was no observation of raining at the time of speaking (13a).

(13) a. #Yeki-nun **cikum** pi-ka o-;-*te*-ra. (# is Chung's)
　　　　here-TOP now rain-NOM fall-PRES-TE-DEC
　　　　'[I noticed] it was raining here **now**.'

    b. Keki-nun **akka**   pi-ka kuchi-ess-ta
      there-TOP a bit ago rain-NOM stop-PAST-DEC
    'It stopped to rain **there** some time ago.'

Time is continuous but the witness perception of a dynamic event can be discontinuous. This constraint is speaker- and speech time-related and pragmatic but the implicature such that the speaker does not perceive (typically see) the event/result at speech time comes from the meaning of *-te* and thus this meaning constitutes a conventional implicature. It cannot be cancelled and the utterances of (12) and (11c) with the expression of speech time observation preceding them as in (14a, b) create oddness. Observe.

  (14) a. #Nayta po-ni, pi-ka o-ko iss-nun-tey, (12).
         out look-as rain-NOM falling -and
         'As I look out, it is raining and (12).'
     b. #Mia-ka ceki ture o-nuntey, (11c)
         M-NOM there coming in -and
         'Mia is coming in there and (11c).'

The effect of this no observation or discontinuity constraint is reflected in the pre-nominal form of *–te*-**n** '-*te*-RELATIVIZER' with a strong implication of 'not any more,' as in (15).

  (15) Nay-ka   sarangha-*te* –n yeca
      I   -NOM love-TE-REL woman
      'The woman I used to love.'

The pre-nominal form of *–te*-**n** is not believed to retain the current evidential interpretation any longer but its discontinuity implication is still attached.[9]

2.3.2 Aloofness Attitude

Some interesting aspect of the evidential [*-te*] is that it often shows 'achieving entitlement, objectivity, and detachment' in conversation (Kim 2005). The declarative evidential ending *–te-ra* (*-ra* is a variant of *–ta* a declarative sentential type ending; *–te-nya* is an interrogative evidential form) conveys the speaker's attitudinal meaning of detachment or aloofness. It solicits the hearer's relevant response of all possibilities (with some modal sense), with the ending slightly rising prosodically in solicitation of response. Otherwise, the ending does not rise. For reconfirmation of the speaker's initial claim with the assertion marker, she even utters *–te*-ra-***kwu*** (kwu = COMPL), with *-**kwu*** attached to the speaker's *P-te-ra* claim in abstract or assumed self-quoting or interactional reconfirmation. Kim (2005) has no explanation on this co-occurring original complementizer *-kwu*. The original matrix verb of saying *ha-* with the DEC marker has been

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[9] So, if I still love her, the utterance of (15) cannot be felicitous. If a telic event is involved, its implication is that the event was not complete. Thus, *mek-te-**n** pap* 'eat-*te*-**n** bowl of rice' is 'left-over rice in a bowl someone was eating.' The underlying embedded relative clause in (15) is odd: [??]*Nay-ka ku yeca-rul sarangha-te –ra* 'I used to love her [I observed].' It must be because it is odd to observe one's own on-going mental activity. But as in (1), other psych-predicates are all right with *–te*.

omitted (analogously, '**that** S' from 'I *say* **that** S' in the indirect self-quoting S) and the complementizer has been grammaticalized as a sentential ending of reaffirming attitude together with *–te-ra*, as in (16).

(16) Pap-ul   manhi   mek-key   toy-*te*-ra-***kwu*** (Kim 2005)
    rice-ACC much   eat-COMP become-TE-DEC-COMP
    'I ended up eating much rice (because *panchan* 'side-dish' is salty).

The hearer pushes the speaker's claim that people easily break up after marriage by guessing that it is because they hastily wed. In order to ameliorate the hearer's push, the speaker shows detachment in saying 'I don't know if that's the reason but', continuing to (17).

(17) Manhi-tul heyeci-*te*-la-***kwu***   (Kim 2005)
    many-PL   break up-TE-DEC-COMP
    'Many people break up [I noticed], [I would say].'

The speaker's detachment or aloofness attitude often appears in conversational exchanges, cautiously seeking the hearer's response in an interactive and communicative way, in a slightly rising intonation, particularly more often without the slightly reaffirming *–kwu* attached. That attitude or stance also has the effect of making *–te* utterances **episodic**. Song (2010) thus came to claim that evidentials in Korean are not "assertive" (not-at-issue), but 'presentative' (Faller 2002) at most.

2. 4 The Reportative Evidential *–tay*: Its Complex S Origin

The reportative evidential marker *–tay* (*-ray* after *–te*) originally comes by contraction and grammaticalization from a complex sentence with the higher verb of saying and the higher subject of saying as the speaker of the complement clause. My complex S analysis proposed in Lee (1990) seems to be still valid, as in (18-19). If the source complex S is realized with the higher subject specified as in (18), it is slightly odd for some people.[10] It is perfect without the higher subject because *–tay* has been relatively grammaticalized as a simplex S element with the interpretation of 'I was told' in a declarative sentence. (19a) is the underlying structure, from which syntactic (a) and phonological (b, c) deletions occur to reach (18).

(18) ^(?)Emma-ka   aki-ka   nemci-ess -*tay*[11]
    mom-NOM baby-NOM   fall   -PAST -RPOR
    'Mom says that the baby fell.'
(19) a. ₛ[Emma-ka ₛ[[aki-ka nemci-ess -ta] -*ko*] hay]
      mom-NOM baby-NOM fall-PAST-DEC-COMP say

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[10] To avoid this slight oddness, a topical adjunct clause is often employed: *Emma-ka kure-nun-tey* 'Mom says so and/but,' with *kure-* 'do so' functioning as a cataphoric pro-verb for 'say,' which is undrelyingly in *–tay*.

[11] This complex S contrasts with (20), a simplex S with a Reportative evidential. However, even in (18) the marker *–tay* outscopes sentential operators like negation, time adverbials and so on, implying that *–tay* has undergone much grammaticalization as an evidential marker. Still it can get an independent tense-marking, as in *–tay-ss-e* in (18). It has a mixed feature.

                    <COMP –*ko* deletion>

    b. $_s$[Emma-ka $_s$[aki-ka nemeci-ess -ta]   *h*ay] <*h* deletion
       after vowel>

    c. $_s$[Emma-ka $_s$[aki-ka nemeci-ess -t*a*]   *a*y] <*a+ay*
       contraction>

    d. $_s$[Emma-ka $_s$[aki-ka nemeci-ess–t*ay*]]
       'Mom says the baby fell.'

(20) Aki-ka   nemci-ess   *-tay*
     the baby fell   [someone said, I was told]

(21) $_s$[PRO $_s$[P] SAY]

Therefore, if the reportative *–tay* utterance occurs without any overt higher subject, as in (20), then its underlying structure will have the arbitrary PRO subject as in (21). The overt higher subject (typically Topic-marked but often realized as a presentational Nominative) of (18), the derived (19d) *Emma-ka*, or a covert PRO is the source of the saying/report. The so-called '-*ko ha*' lump deletion in the literature is not adequate; it is a combination of syntactic complementizer *-ko* deletion and phonological deletion of *h-* and reduction of *-ay*. The need for such a complex S analysis is further shown by psychological adjectives, which require the Equi-Subject constraint (cf. Yang's non-Equi-Subject constraint for *-te* 1972) by subjectification, as in (22) via (23). Because Mia alone can perceive her own dizziness at the speech time in Korean and Japanese[12] as Experiencer of feeling dizzy in uttering (22), the higher subject speaker is Mia --- and she says that she herself, the embedded subject, is dizzy at that speech time by the Equi-Subject constraint, with the embedded subject *PRO* being co-referential with the higher subject. This is an optimal situation but a second-hand or third-hand report without an embedded subject became a possibility now, as shown in (22b) and (23b). To meet the second kind of situations, we may need a reportative evidential operator (Op: RPR) rather than the same complex S analysis, which may require a multiply complex S of abstract nature. Similarly, the Japanese reportative *sooda* does not require the speaker of the report content to be the subject Mia to be optimal. The reporter can be anyone.

  (22) Mia-ka   ecirep-*tay*
      M -NOM   dizzy-RPOR
      a. 'Mia says she is dizzy.' b. 'It is said Mary is dizzy.'

(23) a. $_s$[Mia-ka $_s$[[PRO ecirep-ta]-*ko*] *h*ay] <via rules in (19)>
    a'. Mia-ka ecirep-*tay* = (20)
      'Mia says she is dizzy.'
    b. RPR(P): *not-at-issue* I was told/It is said that P (P: at-issue)

Consequently, if a psych-predicate has its Experiencer as the speaker, it does not license any higher arbitrary PRO subject other than its

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[12] Japanese also has the reportative marker *sooda*, as in (1). The source of the content can be Meari or anyone else (including the speaker of (1) in a special disguising context). (Yasunari Harada p.c.)

  (1) Meari-wa samui *sooda*.
      Mary-TOP cold   RPR
      'Mary is cold [I heard].'

embedded Equi-Subject unlike in non-psych predicates such as (18).[13] The speaker's volitional modal –*keyss* 'will' is also reported with co-reference of the subject: *Emma-ka ha-**keyss**-tay* 'Mom says she will do it.' Without the reportative –*tay*, it is bad in the volition interpretation because you cannot know a third person's volition directly: [??]*Emma-ka ha-**keyss**-ta* 'Mom will do it' (it becomes all right only in the conjecture sense of -*keyss*). In parallel, a psych Adj with a 3rd person subject is bad: (a) [??]*Mia-ka ecirep-ta* 'Mia is dizzy' and its –*te-ra* S is also bad: (b) [??]*Mia-ka ecirep-**te**-ra* 'Mia is dizzy' because -*te*-*ra* is from the speaker's perspective and its prejacent is (a): a psych Adj with a 3rd person subject, which is bad. However, if this bad S (b) comes to be under the scope of the reportative –*tay*, as (c): *Mia-ka ecirep-**te**-ray*, it becomes felicitous with the structure of (d): [Mia$_i$-ka [PRO$_i$ ecirep-**te**-ra]-ko hay] 'Mia says she was dizzy-*te-ra*.' Mia can function as the report source and the Equi-Subj Experiencer as the witness of the direct evidential.

If the psychological adjective changes to the verb form *ecirew-**e ha**-* 'shows signs of being dizzy,' getting objectified, with the general action verb *ha-* added, then the first person restriction (in the sense that a psych Adj can occur only with the 1st person subject in PRES in the plain Declarative sentence on source – Equi-Subj reflects this phenomenon) is lifted and (24), with the third person subject is fine. If the sentence further takes the reportative evidential –*tay*, the subject is the one who shows signs of being dizzy in the complement clause and typically requires a higher PRO subject of the saying verb, which is distinct from the surface subject. Observe (25) and its underlying structure (26): The verbalizing morphosyntactic form -*e ha* is also called an evidential by some authors including Tenny (2006) in the literature. See Tenny (2006) for the Japanese counterpart –*garu*, which also lifts the person restriction as in Korean.

(24) Mia-ka   ecirew-*e hay*.
      M –NOM dizzy –show signs of
      'Mia shows signs of being dizzy.'
(25) Mia-ka   ecirew-*e ha-n-**tay***
      M –NOM dizzy   do-PRES-REPORT
      'Mia is said to show signs of being dizzy.'
(26) $_s$[PRO $_s$[[Mia-ka   ecirew-e ha –n   -ta]   -ko]   hay]
      PRO   M –NOM dizzy   do-PRES-DEC-COMP say
      'Mia shows signs of being dizzy [I was told].'

The higher subject, the source of the report content, often remains as an arbitrary PRO, but it can be specified any time, as in (27), showing a complex S structure, like (18).

(27) Mia chinkwu-ka   Mia-ka   ecirew-e ha-n-*tay*
      M   friend –NOM   M-NOM   dizzy do-PRES-RPOR
      'Mia's friend says Mia shows signs of being dizzy.'

There is a fully grammaticalized endearing form derived as a reportative evidential, as in (28a), that has a special amiable, affective appeal to a typically younger hearer, i.e. -***ta-n-ta***, < (derived

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from) *–ta-ko ha-n-ta* '-DEC-COMP SAY-PRES-DEC' (see the deletion and contraction steps in (19) with *-n*: PRES, *-ta*: DEC in the matrix sentence). Its reportative meaning is clearer, however, with a psych-predicate, as in (28b), because Mia must be the speaker of her own feeling.

(28) a. Aki-ka   nemci-ess   *-ta-n-ta*
        baby-NOM   fall-PAST –RPOR
      'The baby fell, my dear.'
     b. Mia-ka ecirep *-ta-n-**ta***
       M-NOM dizzy RPOR
       'Mia says she is dizzy, my dear.'

It is also possible to have **double occurrence of Reportative** with a psych-predicate, as in *Mia-ka ecirep-**ta-n-tay*** 'It is said that Mia says she is dizzy.' Mia is the embedded subject who says that she herself is dizzy and there is a separate higher subject speaker. This kind of complex S use can still be an indirect quotative. We still have the PAST-marked form of *–tay*, as in *nwu-ka o-n-**tay**-ss-e* '[I was told in the past that someone was coming.' But in many contexts, people came to use the same contracted present form in a reportative use rather as a single suffix and the actual information channel can be complex and (25) can be used in a very indirect way, second-hand or third-hand, even if the speaker has not heard Mia saying. This grammaticalized reportative suffixal use can lead to a hearsay interpretation of the form, with the speaker not committing to the truth of the propositional content of the utterance.

The reportative *-tay* [-ta + -ay] is simply for reporting a declarative type complement or asking the hearer (or speaker-to-be) whether she/he heard the reported content in an interrogative sentence. All other basic sentential types such as interrogative, imperative, and propositive can have a reportative or rather a quotative ending *–ay* attached to their respective complement sentential endings: *-nunya*, *-ra*, and *-ca*, ending up as respective reportatives: *-nunyay*, as in (29), *-ray*, and *-cay*[14].

So far these have not been treated together. The declarative reportative *–ta-n-ta* form also comes from [[--- -ta-ko] ha-n-ta], as already indicated.[15] In Korean, *-ta ha-* (after Complementizer *–ko* deletion) becomes *-ta-* simply phonologically in various constructions such as Conditional *–ta-myen* (see Noh's (2009) claim that an abstract metarepresntational interpretive feature of an assumption arises), Concessive *-ra-to* (in Weak NPI *amwu-ra-to*, Lee (1996)) and Confirmatory Reportative Question *–ta-myen-se?* (K. Song (2010)). The reportative in the causal adjunct clause P*–n-ta-ki-ey* 'because I am told that P' also involves the same original source of saying. In all these constructions, *-ta*/*-ra* is DEC and a deleted *ha-*

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[14] The promissive markers *–ma* and *–ulkkey* behave differently in complement clauses of saying verbs: V*–ma*-ko hay-ss-ta is possible but *–ulkkey* cannot be embedded. *–Ma*, cannot form a contracted reportative such as **-may*. Different reportative endings for different speech acts of question, imperative and propositive have also been independently observed by Chung, YJ (2010).

[15] In this sense, Lim's (2010) analysis of the initial*–ta* in *–ta-n-ta* as reportative loses generalization about different sentential endings in the complement clauses of *–(h)a-n-ta* 'say.' It originates from [(S radical)-ta-ko ha-n-ta '–DEC-COMP say-PRES-DEC.'

can be a ø, which can be an abstract –*HA* or be grammaticalized as a representation of public/common assumption. Consider Question/Imperative Reportative (29) and Confirmatory Reportative Question (30).

(29) a. Mia-ka   na-hanthey   pi-ka   o-ass-*nunyay*
        M -NOM   I-to   rain-NOM fall-PAST-QRPOR
     a'. [Mia-ka na-hanthey   [[pi-ka   o-ass-nunya]-ko] hay]
        (a, b) 'Mia asks me whether it rained.'
     b. Mia-ka   na-hanhey   cip-ey   ka-*ray/-cay*
        M -NOM I-to   home-to go-IMP-REP/PRO-REP
        'Mia tells me to go home/proposes that we (she and I) go home.'

(30) Hankwuk yeca U-17 team-i FIFA World Cup-ul cwi-ess-*ta*-myense?
     Korea   woman   -NOM   -ACC   grab-PAST-DEC-said-and
     'I hear that the U-17 Korean Women's soccer team grabbed the FIFA World Cup and is it true?'

(31) a. Mia-ka   o-n-**ta-ki-ey**   chengso-rul hay-ss-ta
        M-NOM come-PRES-REPORT-because cleaning-did
        'Because **I was told** that Mia is coming, I did cleaning.'
     b. Na-hantheyse naymsay-ka na-n- **ta-ki-ey** mokyok-ul hay-ss-e
        I- from   smell-NOM come out-RPOR-because bath-ACC-did-DEC
        'Because **I was told** that my body smells, I took a bath.'

The reason adjunct connective -**ki-ey** 'NOMINALIZER-at' embeds the reportative evidential -**ta-ø** in (31) (cf. Hara's 2008 for *because*).

We considered the direct witness evidential –*te* in terms of multi-dimensionality criteria basically à la Matthewson and adopted the notion of prototypicality (being best possible). The visual or other sensory witness with certainty of a stage-level event itself or one's own internal state is most prototypically direct with –*te*. Various factors such as generalization and reasoning in varying contexts dynamically decrease prototypicality.

3. Interactions among Evidentials (and Modals)
3.1 Interactions between the Witness Evidential –*te* and the Reportative –*tay*

There are interesting interactions among different evidentials themselves and between evidential and epistemic modals. First, let us consider how the witness evidential –*te* and the reportative evidential interact.

If the reportative co-occurs with a preceding –*te*, the perceiver of sensory (visual) observation involved in –*te* is the original speaker of the (complement) event reported, not the speaker of the reportative sentence, as discussed already. Observe (32). Although (32) is a simple sentence, it is underlyingly or semantically complex with the higher subject as the observer of the event reported, Mary's being at home. The sensory observer is not the speaker of (32), nor the subject; it is outside of (32) by perspective shift. If a time adverb such as 'yesterday' occurs in the sentence, it modifies the prejacent event

description, not evidential.

(32) Mary-ka   cip-ey iss –te -ray
       M -NOM home-at be –TE-RPOR
       '[I was told that] Mary is at home [observed by the person
       who told it].'

Therefore, the following kind of S-initial reflexive anaphor *caki* is natural with an abstract higher semantic antecedent. Furthermore, the perspective of sensory observation involved in *–te* is the antecedent's. Observe (33).

(33) Caki-ka   pan-eyse kkolcci-i–te –ray   .
       REFL-NOM class-in worst be–TE-RPOR
       '[I was told (by the antecedent of 'self')] Self was the worst
        (bottom) in the class (as she/he observed).'

If (33) has no reportative, ending with the witness evidential *-te*, as "*caki-ka --- kkolcci* **-te –ra**," *caki* can only have the second person reference, which is not so common.

However, there is also a grammaticalized affectionate use of the reportative *–ta-n-ta* form (see Lim 2010). This affectionate use only occurs with the declarative complement type, with no other source of the report than the speaker himself (an abstract hypothetical representation). If there is other than the speaker as the source of the report, as in a psych-predicate S, it tends to be interpreted as a complex sentence. The deletion of a reporting verb (*ha-* 'say') is also justified by all other complement types such as interrogative V–*nunya-n-ta*, imperative V–*ra-n-ta*, propositive V–*ca-n-ta*. The covert speaker of the deleted –*ha* must be the questioner, the commander or the proposer, respectively, except in the declarative type V-*ta-n-ta*, where the covert speaker can be the speaker of the whole utterance, as we noticed.

Let us observe how *–te* interacts. The question reportative in (29a) can be preceded by the observation evidential *–te*, as in "pi-ka o-ass-*te-nyay*." Then, Mia asks me whether it rained based on the result observation of "I," the hearer in the embedded question complement, where a shift of perspective in *-te* arises, as explicitly characterized by Lim (2010), in terms of Kaplan's character, intension and extension. But this shift also occurs in a *–te* proposition embedded in a reportative, as in *–te-ray* or *–te-ra-n-ta*.

We already noticed how two reportatives can doubly occur as in -*ta-n-**tay*** with a psych-predicate. We examined the order of the witness evidential *–te* and the reportative *–tay*. We also noticed the opposite order: the reportative *–ta-* ø (<-*ta ha-*) (ø =deleted *ha-* 'say') and the witness evidential *–te*(-ra). Consider (34), where *–ta-ø* and -*te-ra* interact. This shows the speaker's aloofness more than the simple reportative *–tay*. Its information channel sounds more roundabout.[16]

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[16] Lisa Matthews' comment on this: "That's interesting because it could be expected to go the other way - a simple reportative could be vague about how you heard it, but a reportative plus *-te* could mean you actually heard it first-hand. It fits with what you said above about aloofness of course."

(34) Mia-ka   ilpon-ey ka-n-*ta-te-ra*
      M-NOM Japan-to go-PRES-RPOR-TE-DEC
      '[I personally heard] Mia is [said] to go to Japan.'

3.2 Interactions between Evidentials and Modals

Let's see what happens if *–te* occurs with a modal *–keys*. It is not simply a future tense marker; its temporal meaning can be derived from the underlying conjecture or possibility modal category, independent of the evidential *–te*. Epistemic modality marks the speaker's evaluation of the truth of a proposition, whereas evidentiality marks the speaker's source of information (Faller forthcoming, Kratzer 2009). We can see their separate realizations in one sentence in Korean, as in (34).

(34) Pi-ka   o -ass   -**keyss** -*te* -ra
      rain-NOM come-PAST-MOD-EV-DEC
      'It might have rained, judging from my observation.'

The conjectural assertion based on the modal *–keyss* is made upon the speaker's observation of some evidence (by dint of the co-occurring evidential *-te*) for the conjecture. If the evidential *–te* is formerly analyzed as a quantifier over possible worlds with evidential assumptions or as an epistemic modal, which Faller (forthcoming) adopts (also see J. Lee's adoption of this modal analysis position, although her modal subordination argument does not hold completely), we can predict that (34), with a modal upon modal, is slightly weaker than (35), without the evidential.

(35) Pi-ka o-ass-**keyss**-ta
      'It might have rained'

Indeed the prediction is exactly born out; (34) is weaker than (35). Let's consider a model in which different certainty rates are assigned by *-keyss* and *–te*, as in table 1, based on the author's intuitions.[17] A simple assertion such as (26c) is assumed to have the rate of 100%.

Table 2: Weakening of certainty by double occurrence

a. the certainty rate by *–keyss*	70%
b. the certainty rate by *–te*	95%
c. the consequent certainty rate by *–keyss-te* (modal+evidential)	0.70 x 0.95 = 0.665 (66.5%)

The rate by the epistemic modal+witness evidential, (c), is slightly weaker than the rate by the modal *-keyss* alone 70%. Then, how about between (35) with *-keyss* and (8) [Pi-ka o-ass-*te*-ra] with *-te*?

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[17] It may sound a little strange to give such precise percentages, as a reviewer pointed out. But speakers of Korean agree on this approximation in general. the Murray (forthcoming) distinguishes between 'strength' and 'certainty,' saying that in Cheyenne direct evidential itself doesn't necessarily imply certainty but strengthens the assertion functioning as a parenthetical, and that certainty is not sufficient to license the direct evidential.

(35), with a conjecture modal, is weaker than (8), with observation evidentiality. If, however, a certainty modal (*thulim-eps-i* 'certainly,' 'without fail') is compared with a sensory observation evidential, simple relative weakness is not easy to tell, though the observation evidential, as shown in (8), seems still stronger than the certainty epistemic modal adverb or predicate such as (36) below. It is because the modal, even the certainty one, is primarily based on conjectural inference, whereas the observation evidential shows the impression of objectivity by direct observation of the event or result/symptom. The adverb in (36a) is a bit stronger than the predicate (36b). Remember an assertion is assumed to be 100% certain here. But why is 95% assigned for –*te*? It is because some misperception is possible, though very rare. Observe (36).

(36) a. thulim-eps-i pi-ka   o-ass-ta
        certainly rain-NOM   fall-PAST-DEC
        'Certainly it rained.'
     b. pi-ka o-ass –um –ey   thulim-eps-ta
        rain-NOMfall-PAST-NMNLZ-LOCfail-without-DEC
        'It is certain that it rained.'
     c. Pi-ka o-ass-ta
        'It rained.'

Observation of information source, 'type' (Lim 2010), rather channel, or anchor, gives the impression of more directness than modal expressions which require inference and evaluation of indirectness or restrictions. That seems to be why certainty epistemic modality in natural language such as *must* sounds weaker than simple logical necessity. In Korean, its counterpart is an adverbial or predicate of certainty, as shown in (36ab). Kratzer (2009) and von Fintel & Gilles (2010) show that English *must* makes an evidential contribution but that *must* φ.is infelicitous if the speaker's evidence is direct, as in (37bc).

(37) a.You *must* have a cold. (Inferred evidence) Your nose is dripping. (Evidence sentence)
     b. #Your nose *must* be dripping. I can see it. Kratzer (2009)
     c. [??] It must be raining. [Seeing the pouring rain.]
(38) Chris has lost her ball, but she *knows* with full certainty that it is in either Box A or B or C. She says:
     The ball is in A or B or C. It is not in A --- It is not in B. So, it must be in C. (von Fintel & Gilles 2010)[18]

The speaker of (38) has only inferential evidence for where the ball is

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and Matthewson (forthcoming) points out that this "indirectness" by von Fintel & Gilles here is actually an 'evidence certainty strength' ("certainty" added by the author). Therefore, epistemic necessity is emphatic ('strong' in a sense) but can be said to be weaker than logical necessity, which is true in all possible worlds. Trustworthy reports and general knowledge as well as information via sensory observation are claimed to be 'direct' evidence for *must*. She sees Quechua =*mi* as 'direct' and English *must* as indirect in this respect. That should be why we do not normally say, "My birthday *must* be September 22." There is a causal chain of trustworthy (expert = mother) reports to form knowledge. Certainly, Korean –*te* shows evidence certainty strength direct, trusting TV and newspaper reports and general knowledge in encyclopedia. In the situation of (38), an epistemic modal of necessity expression is needed in Korean, too. Only after opening Box C and taking a look at ball, we can say, 'It was in C-**te-ra**.

On the other hand, a modal sentence can be followed by the reportative ø (=deleted *ha*- 'say'), then by the observation evidential –*te*. See (39). Then, the conjecture or epistemic modal judgment is not made by the speaker but by the source of the report. The observation evidential –*te* simply denotes the speaker's direct hearing the report from the source but adding it makes the whole sentence sound more detached from the speaker's commitment.

(39) Pi-ka o -ass -keyss   -ta-ø -te   -ra
     rain-NOM fall-PAST-CONJ-DEC-RPOR-TE-DEC
     '[I personally heard that] it is [said] it might have rained.'

In contrast, the order of the reportative and the observation evidential can be reversed. Then:

(40) Pi-ka   o -ass -keyss   -te -ray
     rain-NOM fall-PAST-CONJ-TE   -DEC-RPOR
     '[I heard] from the report source the conjecture based on evidence that it might have rained .'

The embedded conjecture and observation is made by the report source and the speaker of (40) is not committed to its truth because of the outermost declarative reportative. The order corresponds to the relative semantic scope of elements. All evidentials and modals in Korean outscope sentential operators such as negation and temporal adverbs.

Different situations need different category markers, which are conceptually distinct and tell why they sometimes occur independently and sometimes co-occur, particularly in Korean.

4. Perspective Shifts and Interactions among Evidentials
4. 1 Perspective Shifts in Evidentials-Modals, and Psychological Predicates

The sensory witness evidential particle –*te* in Korean shows perspective shifts in questions and causal subordination. The speaker's perspective shifts to the hearer in questions but the hearer is potentially a speaker-to-be. This dynamic shift in the evidential –*te* and the conjectural modal –*keyss* applies to matrix and embedded

questions. Similarly, the speaker of a reportative –*tay* utterance is a reportee and a reportee by –*tay* in a question is shifted to the hearer. We will concentrate on the witness evidential – *te* and its closely related matters here.

Another conjectural modal form with the question ending –*ul-kka* shows the speaker's uncertainty/wondering, as in St'at'imcets (Littell et al 2010). I view it as a self-directed or reflexive question and the conjecturer is the speaker again. Even the evidential –*te* is used for the speaker's uncertainty/wondering about forgotten *wh*-elements in a self-addressed question, where the perspective involved in –*te* remains on or gets back to the same speaker.

Here it is argued that evidentials and epistemic modals of side-issue meaning are about their prejacent propositions (or assertions) at-issue and that ordinary or canonical questions are speaker-shifting speech acts; questions are sets of possible answers (Hamblin 1973) or assertions (Karttunen 1977). Speaker's perspective shifts because speakers potentially shift in a question-answer interlocution. Attitudinal particles of evidentials and epistemic modals are constantly speaker-dependent in a sense but a dynamically shifted speaker can be a foreseen one in questions. But indexicals in a question are questioner-speaker-based, being referentially rigid across interlocution in Korean and English. McCready's Japanese case of (deixis-based) 'monsters' is contextually very limited (for instance, *caki* 'self' never refers to the speaker in Korean, whereas *boku* can and it can also refer to the hearer in Japanese. See Lee 1973). He also views evidentials as monsters on the basis of perspective shiftability but they are not so monstrous if we explore their strict judge/speaker-dependence (including the speaker-to-be). Consider examples.

(41) Mia-ka   na-rul chac-*te*-nya?   \<Canonical Q\>
     M –NOM I-ACC look for-TE-Q
     'Did [you see] Mia looking for me?'

The indexical 'me' is fixed but –*te* (not presupposes because it gives information, Murray (forthcoming)), say, conventionally implicates (Potts 2005) without past tense that prior to the speech time the speaker (here shifted to the hearer = speaker-to-be) witnessed/ observed a described eventuality directly. If –*te* co-occurs with PAST, it shows that the speaker observed the result and inferred that the eventuality took place.

(42) $[[S]]^{c^*}=[[\textit{-te}]]^{c^*}$ $([[\text{whether}]]([[S]]^{c^*}))=\{\lambda c\quad s^c$ has direct sensory evidence that S (Mia looked for s^*). Mia looked for s^* in w, $\lambda c.\lambda w$: s^c has direct sensory evidence that Mia didn't look for s^*. Mia didn't look for s^* in w$\}$ ($^{c^*}$ =any utterance context, s = speaker, adopting Kaplan's notion of character; as in Lim 2010)

This formalism saves pointwise functional application and speaker-to-be, but intuitively the question force outscopes the evidential (at least syntactically) and Karttunen's outer [[Q]] should be incorporated and associated. The indirectly occurring modal consequent about certainty can be associated with the prejacent p's assertive interpretation.

Faller's (2002) analysis of question act as a request act cannot easily explain why (epistemic) attitudinal elements do not occur in a request act; *-te* cannot be attached to a request directly, which requires an action response. If the request act involves *tell me whether* then it has an indirect embedded question. If a question clause is assumed to be embedded in a higher clause of question verb such as *ask*, then *-te* can be in the question with the speaker-to-be's perspective with no problem.

(43) *Joe-rul chac-*te*-ra!
　　　'Look for Joe-*te*!'

But an embedded request cannot get *–te*, either. In (44), a question is embedded as a reported speech act. Here the subject Sue is the original speaker as an asker and Joe the hearer in the reported interlocution and the parallel of (41) and (42) must apply. The denotation of *na* 'I' in the embedded complement is based on the speech act situation and deictically fixed as the speaker of the whole utterance of (44) but the hearer or the speaker-to-be in the reported question, the Indirect Object 'Joe,' must be the witness designated by *–te*, dynamically shifted from the prior speaker Sue, the Subject. Exactly the same happens even if we replace *–te* by the conjectural epistemic modal marker *–keyss* 'I guess' in (41) and (44).

(44) Sue-ka Joe-eykey [Mia-ka na-rul chac-*te*-nya-ko] mul-ess-ta
　　　S-NOM J-IndObj　M-NOM I-ACC look-for-TE-Q-COMP
　　　ask-PAST-DEC
　　　'Sue asked Joe whether Mia looked for me [with Joe's direct sensory evidence].'

Now let's turn to the interesting case of queclaratives[19] with *–te*. In (41), a canonical question ending follows *–te*. But the assertion ending *–ra* is retained with the slightly rising question intonation on it in queclarative. But a queclarative with *-te* is different from traditional queclaratives in the sense that real *wh*-words must occur in this *–te* queclarative. In (45) the sensory witness of *–te* the perceiver who forgot where she put her book is the speaker, not the hearer, whereas a real question with *–te*, ending with the Q marker *–nya*, shifts the perspective to the addressee, who becomes the perceiver as the speaker-to-be in a foreseen assertion in answer. (45) has the question form but it is addressed to the questioner herself eventually, with *–te*'s evidential perspective vacuously shifted. Cf. Gunlogson (2002). She treats the declarative question without any *wh*-word in it. (45) is a self-addressed queclarative Q. Schematically, we can put it as in (46).

(45) nay-ka　　　ku chayk-ul　　etiey noh-ass-te-ra?
　　　I　-NOM the book-ACC where put-PAST-TE-DEC
　　　'I put the book where?'
　　　[I perceived I put it somewhere but I don't remember where]?'
(46) *P: Put (e, sp, book, somewhere)* – truth committed by the

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[19]This term was widely used at the time of Generative Semantics by researchers such as Sadock to denote a question in the form of declarative type.

speaker   *P-te: Perceived (sp, P)* – witnessing of the event and its result by the speaker conventionally implicated

?(P-te): Perceived (sp, [Put (e, sp, book, where$_q$)]) – the question is associated with the *wh*-word

The emerging inquisitive semantics by Groenendijk and Roelofsen (2011) and others are paying attention to conjecture (with *might*) and question in terms of possible (epistemic) alternatives. It can contribute to those phenomena but its work on conjectural question and related phenomena is yet to be seen. A prejacent p of *–te* is an at-issue proposal to be challenged or denied by the interlocutor to be added to the common ground. Evidentials are not-at-issue.

   McCready (2010) claimed shiftability of perspective with Japanese psychological predicates. Korean has parallel psych facts. But there is a crucial distinction between the sensory witness evidential *–te*, which Japanese lacks, and psychological predicates: The witness evidential objectively describes the relevant event in the sense that the eventuality described by its prejacent propositional content at-issue is the object of sensory perception, whereas psych predicates involve subjective description of the experiencer's internal state. The experiencer must be the speaker at the time of speech. Consider (47, 48) (Lee 2010), where description of psych state (47) and volitional act (48) with *–te* shows exact asymmetry in possible subject persons. In (47a), the first-person's utterance is a report of one's own pysch state and the 'judge' is the speaker.

(47) a. na/?*ku/?*ne -nun ecirep-ta
     I/he/you   -TOP dizzy-DEC
     'I am/?*he is/?*you are dizzy.'
  b. ku-ka   ecirep -*tay* / ?*-ta   [-*tay*: reportative]
     he-NOM dizzy-REPORT -DEC (equi-subj constraint)
     'He says he is dizzy' or 'He is said to be dizzy.'
  c. ku-ka   ecirep –*e hay*   [–*e hay*: a verbalizer]
     he -NOM   dizzy-E do
     'He shows signs of being dizzy.'
  d. (i) $_s$[ku-ka $_s$[[pro ecirep-ta]-ko] hay] [COMP –*ko* deletion] 'He says that he is dizzy.'
     (ii) $_s$[ku-ka $_s$[pro ecirep-ta] hay] [*h* deletion after vowel]
     (iii) $_s$[ku-ka $_s$[pro ecirep-ta] ay] [*a+ay* contraction] (-ta + ay -> -*tay*

The reportative form *-tay* is ambiguous: the contracted meaning having a semantic reporter and the grammaticalized reportative 'was reported' meaning. No explicit subject reporter is needed in the latter. A hearsay meaning is possible but not predominant and its acquisition is quite late.

(48) ?*na /ku/ne –nun   pap-ul   mek -*te*-ra
     I /he/you –TOP rice-ACC eat-TE-DEC
     '[I witnessed] ?*I/He/You were eating a meal.'

However, if (47a with 2nd person subj) is put in a question form, it ('Are you dizzy?') becomes appropriate, with the perspective of the

hearer = speaker-to-be in order. A dynamic shift arises. The parallel occurs with (48 with 1st pers subj) because my volitional action can be an object of the past direct sensory perception of the hearer = speaker-to-be. A shift operator *Sh* may be mobilized, as in McCready (2010) just before the semantics of the question really shifts the hearer the judge to the speaker-to-be in its answer set of assertions. His assimilation of personal taste predicates such as *fun, tasty* etc. with psych-predicates appears to be reasonable but they can form generic statements with inter-subjective generic judges, whereas psych-predicates cannot. It is all right to say, *Walnuts are tasty* but not all right to say, *Cats are dizzy* in Korean or Japanese.

The science of consciousness must be based on the 1st person data vs. the 3rd person data involved in this asymmetry (Chalmers 2010, 1995), with the *third-person data* about behavior and brain processes, and *first-person data* about "subjective experience." Chalmers lists first-person data as follows:

☐

  (49)   a. visual experience (e.g. that of color and depth)
☐   b. other perceptual experiences (e.g. auditory and tactile experience)
☐   c. bodily experiences (e.g. pain and hunger)
☐   d. mental imagery (e.g. recalled visual images)
☐   e. emotional experience (e.g. happiness and anger)
☐   f. occurrent thought (e.g. the experience of reflecting and deciding)

However, we already saw one finer distinction between outer-directed and inner-directed in evidentials and psych-predicates in Korean, which we need, even though they may be considered in the same wider subjective experience category.[20] It is interesting and reasonable to see the category of "occurrent thought" to be restricted to the underlying 1st person experiencer, though as the last item, as we saw finding/judgment with *-te* in (2).

4.2 Modals and Conjectural Questions

In Korean, a separate epistemic modal morpheme of conjecture – *keyss* is distinctly modal (and it can co-occur with the direct evidential –*te*, as we already considered in (34)). .

  (49) a. Pi-ka o-ass-keyss -ni (Q)? <asking the hearer's guess>
       rain-NOM come-PAST-CONJ-Q
       'Do you guess it may have rained?' [perspective shift]
     b. Pi-ka o-ass -ul-kka (Q)? <conjectural Q, wondering>
       (with the modal –*ul*)
       'I wonder/don't know if it has rained.' (a self-addressed Q)
       (negatively-biased)
     c. Pi-ka o-ci   -anh -ul-kka   twuryep-ta <Expletive Negation embedded>

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[20] The sight predicate, in the passive form, is also subjective and restricted to 1st person in present in Korean. Observe:
  (1) *na-/#ku-nun namwu-ka   po-i-n-ta*
      I/#he-TOP   tree-NOM   visible-PRES-DEC **'I see/#He sees the tree.'**

'I fear it will rain.' (*anh*: long-form negation, *twuryep*: 'fear')

    d. nay-ka   way ecirewu- ul-kka?
       I -NOM why dizzy   -modal-Q
       'Why would I be dizzy?' (a self-addressed Q, mumbling)

The conjectural Q of wondering in Littel et al is a unique semantic type of question, analyzable as a self-addressed Q and that's why the conjecturer turns out to be the speaker.

    As was indicated, such indexicals as 'I' and *na* 'I' are rigid with no shift in questions. Honorification has the same indexical nature, as a social deixis. HONOR (sp, the subj/hearer in P) has the rigid reference *sp*, invisibly anchored to the speech situation, with no shifting in a question. So the speaker's honoring the subject or hearer even in a question is not shifted to the hearer's.

4.3 Sequential/Causal Interpretations in (–ess)- *te* –ni Connective Subordination

If –*te* occurs in a non-final subordinate clause with the sequential/causal connective –(*u*)*ni*, it denotes sequential relation with the third person subject in the null-tense (PRES) marking, as in (50):

    (50) Ku–ka/*nay-ka   ture o-*te* -ni   coyonghi anc-*te*-ra
         she-NOM I-NOM come in-TE-SEQ silently sit-down TE-DEC
         'She/*I came in [as I observed], and (then) she sat quietly [as I observed].' (cf. As she came in, she sat quietly.)

In contrast, the connective subordinate clause in PAST denotes causal relation based on the internalized inferential result-experience as cause and the resulting consequence in the final clause with the first (and often third, but not second) person subject.

    (51) Nay-ka/*Ney-ka/??Ku i-ka inhyeng-ul chi-ess –te ni inhyeng-i ssureci-ess-ta
         I-NOM/you/she-NOM   doll-ACC-PAST-TE-CAUS   doll–NOM fall-PAST-DEC
         'Because I/*you/??he hit the doll [as I experienced], it fell.'

The direct objective evidential meaning by – *te* with PRES blocks the occurrence of 1st person with volitional action in (9) and the connective –*ni* denotes a sequential relation to show a panoramic view together with the following eventuality. Here a psych predicate with –*te-ni* okays 1st person because the speaker becomes the judge. The result of my hitting the doll [internally perceived by myself] causes the doll's falling and –*ni* in (10) is interpreted to show causal relation.   .

    So far I have tried to show how and why epistemic attitudes, assertion-associated, are basically speaker-dependent and the shift of perspective phenomena in various questions are to faithfully pursue the speaker-to-be as the hearer or a reflexive speaker in a question of conjecture or mumbling. Further explicit research is required in this direction.

5. Concluding Remarks

So far we have tried to show the comprehensive interpretive nature of –*te*, proposing a prototypical or best possible direct. We also showed how difficult it is to define the "types" of evidentials and (modals) involving sensory witness, inference and reporting. There must be a set of prototypically direct evidential utterances with a dynamic range of extendable possibilities depending on contexts and languages. Evidential and modal affixes are used to show meanings not at-issue, as almost agreed in the field, but their real functions are not easy to define. Direct ones may be 'presentative,' modifying the illocutionary act of an assertion or may be somewhat 'assertive' in force, though not at-issue (Murray 2011).

We examined how and why sensory evidentials, psych-predicates and epistemic modals, assertion-associated, are basically speaker-dependent and the shift of perspective phenomena in various questions is to faithfully pursue the speaker-to-be as the shifted speaker or the current hearer. The speaker-dependency also applies to a reflexive speaker in a question of conjecture or mumbling. Further research is required in this direction.

We noticed how a reportative projects out of a reason adjunct clause and how it interacts with other evidential and modals. They outscope sentential operators and reveal semantic scopes in distribution. More and more must be explored in these directions.

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