

Evidentials and epistemic modals in a causal event structure

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Evidentials and Epistemic Modals in a Causal Event Structure

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Introduction

Human reasoning processes are necessarily based on some stimulus or information that enters human's cognition. Based on the given stimulus or the given information, they predict, for instance, what will come next, infer what has happened, and decide their course of action in the future. In this respect, it is not surprising that languages are equipped with functional devices which encode the experiencer's perception of the stimulus and human's active reasoning processes based on them. Such functional devices are evidentiality (EV, henceforth) and epistemic modality (EM, henceforth).

Chafe (1986) narrowly defines EV to be a linguistic device that indicates information source via which the origo obtains information in question. EM generally refers to a linguistic device that marks the speaker's commitment for validity of what the speaker believes to be true with regard to information in question. In spite of the seemingly transparent definitions of the two functional categories, the relationship between the two categories has been the target of a heated debate for decades and it still seems to be an ongoing issue: a debate on whether or not EVs and EMs should be conflated. For those who claim that the two categories are conflated (this paper names them 'conflationists') have seen EVs as means for qualifying the validity of a proposition (Boas 1911, Chafe and Nichols 1986, Palmer 1986, Willett 1988), whereas for 'non-conflationists,' they have argued that EV must be distinguished from EM (Aikhenvald 2004, De Haan 1999, 2001, Michael 2010).

Each of the approaches has their own strength: Conflationists' claim is supported by evidence that EM readings are usually conveyed by utterances that contain EVs in some languages; Non-conflationists' claim is also supported by evidence that EM reading is not necessarily encoded semantically by EVs in other languages. And it has been generally assumed that if one of the two approaches is taken, it will contradict and undermine the other.

This paper claims, as a third view, that **it is not a matter of separability of the two functional categories, but a matter of which portion of the causal event structure, which embeds both of the categories, is profiled and becomes salient in the construal.** That is, one schematic causal structure can account for the wide range of EV and EM semantics, assuming that specific forms and languages can differ in referring to different part of this schematic structure. In order to provide motivated accounts of the interdependence of EVs and EMs as a conceptual ‘package,’ this study looks into schematic structure of causality, EV, and EM via force dynamics accounts (Sweetser 1990) in depth.

Section 1 overviews the debate between conflationists and non-conflationists and the previous accounts of conceptual structure of epistemic modals, which will be a stepping stone for the discussion of the conceptual interdependence of EVs and EMs. In the following section, I argue that the causal structure underlying Sweetser’s accounts of EMs needs investigating further in depth, in order to accommodate both EVs and EMs in the causal structure. In section 3, based on the specified overall picture of EVs and EMs, this paper proposes a third view that we should consider the whole causal event structure in order to better grasp the interdependence, providing conceptual schematic model for EVs and EMs.

1 Background

This section explores two major issues before proposing another view on the debate: 1) the nature of the debate between conflationists and non-conflationists and 2) the previous accounts of conceptual structure of EMs (Sweetser 1990). The goal of this section is first, to show that both approaches are not fully satisfactory in that the debate is being made without agreement on whether EVs contribute meaning at the propositional level or the illocutionary force level (Speas 2008: 941) and in that the nature of the debate is solely due to the artificial and theoretical assumption that semantics and pragmatics should be separated (Section 1.1). Second, this section also aims to show that EVs and EMs need to be viewed in a broad conceptual picture (in a causal event structure), which has not been discussed thoroughly in the previous accounts (Section 1.2).

1.1 Conflationists vs. Non-conflationists

1.1.1 Conflationists

To begin with, the main claim of conflationists is that whatever the semantics of EV may be, their communicative purposes are epistemic in nature (Atkinson 2004, Chafe and Nichols 1986, Fox 2001, Ifantidou 2001, Kärkkäinen 2003, Palmer 1986, Sakita 2002, Willett 1988; see Michael 2010). The close link between EV and EM is also hinted in Dendale and Tasmowski’s (2002) statement, “[R]eferences to sources of information have been linked closely to attitudes

about the epistemic status of information, because the linguistic markers encoding these two semantic domains are often the same.” If an EV marker semantically encodes direct source of information, for instance, it is natural that the information conveyed by the utterance is more reliable than the one semantically encoded by an indirect EV. In short, EV naturally triggers the origo’s reasoning process, leads the speaker’s process of reasoning from the available premises to his or her conclusion, and eventually qualifies the utterance to be related more or less to EM functionally.

The Korean firsthand EV marker *-te-* makes a supporting example for the claim: when the marker is used, both EV and EM are semantically encoded and pragmatically indefeasible (Kwon 2009). The marker semantically encodes that information that is talked about is directly witnessed or experienced by the speaker:

- (1)* *chelswu-ka kong-ul cha-te-la, kulentey*
 Chelswu-Nom ball-Acc kick-te-ending but
chelswu-lul po-ci-mos-ha-ess-ta
 Chelswu-Acc see-Conn-Neg-do-Ant-Decl.ending
 *“(I directly experienced that) Chelswu kicked the ball, but I didn’t see C.”

Since the EV semantically encodes the firsthand source of information, we can see that the inference is indefeasible, considering that (1) is contradictory. In addition, the marker also indicates that the speaker is sure about the conveyed information:

- (2)* *amato chelswu-ka kong-ul cha-te-la*
 Probably Chelswu-Nom ball-Acc kick-te-ending
 *“(I directly experienced that) Probably, Chelswu kicked a ball.”

Since the focal event has been fully vouched by the speaker, a weak epistemic modal adverbial *amato* ‘probably’ is incompatible. Therefore, the Korean case is a supporting evidence for the conflationist approach, since both EV and EM semantics are semantically coded by the single morpheme. It shows that in some language, there is no need to separate one category from the other and thus, we can infer that the boundary between the two functional categories is far from being clear-cut.

Moreover, the fact that EVs and EMs in languages are reported to functionally overlap with each other cross-linguistically is another supporting generalization for conflationists, because cross-linguistic functional overlap indicates that the two categories are conceptually contiguous. In fact, the functional overlap is witnessed by more than a few linguists in various languages (Tibetan (Garrett

2001), Quechua (Faller 2002), St'át'imcets (Matthewson et al. 2006) inter alia). Thus, conflationists argue that the coupling of EVs and EMs is conceptually natural and unmarked.

The conflationist's argument is, however, vulnerable to the claim that 'to talk about inseparability of the two categories already takes an assumption that there exist two separate categories.' The next sub-section discusses the counterargument in detail.

1.1.2 Non-Conflationists

In section 1.1.1, we have seen that EVs and EMs are conceptually close to each other and that one of them naturally gives rise to sense of the other. However, there are some other languages where only one of the two is encoded and the other is pragmatically implicated. So to speak, some languages do not have the functional overlap necessarily. For instance, Michael (2010) argues that EVs and EMs should not be treated as a single conflated category, since the seemingly plausible overlap might not work in some language. His evidence is found in Nanti quotative: the EM evidenced by quotatives in Nanti is defeasible pragmatic implicature and thus, they can have the opposite effect of increasing responsibility, not necessarily diminishing (Michael 2010):

- (3) Ari nokaNti.
ari *no=* *kaNt* *-i*
 truly 1S= say -REAL.I
 'Indeed I say.'

Although indirect EVs in general are likely to indicate that information of the focal event is less reliable than direct EVs (because the speaker obtains the information indirectly, i.e., via someone else's hearsay), some languages employ a quotative with the speaker's increased responsibility for the reliability of a proposition as shown in (3). In this respect, non-conflationists claim that EV does not principally play the role of a pragmatic proxy for EM in communicative interaction (Aikhenvald 2004, Davis et al. 2007, DeHaan 1999, 2001, DeLancey 1986, Fasola 2007, Hardman 1986, Lazard 2001, Michael 2010, Plungian 2001). According to them, EV only asserts the presence of evidence, but not evaluates it in any way; EM is evaluative in nature and based on the evaluation assigns a confidence measure to the speaker's utterance, but it does not necessarily encode the source (De Haan 2001). EV just encodes primarily the type of information source, and speaker certainty is either made explicit with a modal expression or determined pragmatically from what is known about that source (Speas 2008: 952).

The critical cue for this claim is, first of all, whether pragmatic implicature

involved in usages of EV is defeasible or not. Since there exists a case where only one of the categories (EV) is semantically encoded, EV and EM do not belong to the same functional category. Even the Korean case where EV and EM are both semantically encoded by a single morpheme is not a problem to them. That is because it is merely a language-specific case where two functional categories used to exist separately, and are grammatically united as such.

Secondly, they argue that the fact that EVs and EMs often have different historical origins in languages supports the claim (De Haan 1999). They stipulated that EM is simply one of the potential sources of EV, which involve deixis, tense/aspect systems, not to mention perception and mirativity (De Haan 2001). Since a diachronic connection between EM and the possible functional ranges is not necessary, they concluded that EVs and EMs do not have to belong to a single functional category. Thirdly, they claim that co-occurrence of EV and EM in some languages shows that they are not members of the same paradigmatic category.

The non-conflationist's claim is still, however, open to some conceptual challenges. Although it is true that the increased responsibility of quotative EV is normally unexpected, it involves more or less the speaker's assessment of the situation, which can still be regarded as EM. What Michael's Nanti example shows is that the EM semantics of the utterance relies on which pronominal reference is utilized, rather than that the quotative's EM sense is cancellable. If the source is the speaker herself, an utterance that contains the quotative marker will naturally qualify its strong epistemic stance. The motivation of the increased responsibility lies with the subjectivity with regard to the usages of the first person pronominal reference, rather than with the separability of the categories.

Moreover, the conflationist's historical claim is not impregnable. With regard to De Haan's claim that EM is only one of the possible routes via which EV can develop, other potential ranges such as deixis, tense, aspect, perception etc. actually involves EM sense more or less. When deictic elements, linguistic tense and aspect properties are coded, the speaker's (epistemic) evaluation will definitely be involved more or less. If it is the case, it would not be easy to argue that EVs are totally discrete from EMs. The third claim regarding the co-occurrence of EV and EM is not conclusive evidence as well for a distinct class of EVs, when considering that some languages allow multiple modals (Speas 2008: 951).

1.1.3 Implications

Both conflationists and non-conflationists do not seem to make impregnable arguments. To conflationists, although it is true that EVs and EMs are united, it is not easy to deny that their concepts do exist separately, before they form a single grammatical category. To non-conflationists, although it is plausible that either of EMs or EVs are not necessarily encoded or implicated in languages, it is an

irresistible fact that EVs and EMs interact very closely and thus, that their functions overlap cross-linguistically. These unsettled definitions of EVs and EMs can be hinted by Speas' (2008:953-954) characterization of the two categories.

Whether Evidentials 'are epistemic modals' depends on how the modal base is related to classification as a modal. If dependence on a modal base entails that an item is a modal, then Evidentials seem to be modals. However, if modals are more narrowly defined as items whose interpretation involves quantification over worlds (or situations), Evidentials do not seem to qualify (Speas 2008:953-954).

Notice that the participants in the debate take it for granted that there exists a clear-cut boundary between semantics (encodability) and pragmatics (implicature). The reason why the debate has been spinning the wheel might be that the debate stems from the theoretical assumption of the artificial demarcation of the two functional categories. When focusing only on defeasibility of a certain function, which is a theoretically loaded way, we might not be able to capture the nature of each category appropriately. This artificial distinction will face a problem to analyze the following data in Imbabura Quechua (Kwon 2010):

(4)a. *Juan shamu-rka-mi*
 Juan come-Perf-**mi**
 'Juan came.'

b. *nyuka mama-mi wacha-ri-rka Seoul-pi.*
 my mother-**mi** born-Ref-Perf Seoul-Loc
 'My mother was born in Seoul.'

-*Mi* in Imbabura Quechua is called a direct EV or validator (EM). It is interesting, however, that (4a) is vague in that it can mean either that the speaker witnessed the focal event (*Juan came, I saw*; direct EV) or that Juan told the speaker that he ran (*Juan came, I heard from him*; EM). In addition, (4b) is uttered, when the speaker was told from her grandfather that her mother was born Seoul. On the surface, it is a marker of inconsistency: the enclitic functions either as a direct EV, a strong EM, or an indirect EV. Faller (2003) draws a conclusion from the similar data that *-mi* should be defined as the best possible evidential marker. The best possible evidence is not always direct visual evidence and 'EV licensing condition' flexibly licenses EM and/or EV functions of the marker upon context.

With the naïve semantic/pragmatic distinction, it does not seem to handle the Imbabura Quechua case, because the characteristic of the marker cannot be defined either without the speaker's optimal assessment or without the speaker's direct experience. In this respect, this paper assumes that what matters should be how the utterance is **construed**, not what the utterance encodes and/or implicates.

So to speak, in order to characterize EVs and EMs, it will be crucial to consider how the experiential origo experiences, evaluates, and reasons within a conceptually serial causal structure.

This paper argues that in order to grasp EVs and EMs, we need to consider the overall causal event structure where semantics of EV and EM arises, instead of employing a theoretical cue of semantic encoding and pragmatic implicature. In fact, EVs and EMs are construed within the series of causal event structure: the speaker's event perception, the speaker's recounting event, and the speaker's reasoning process. What makes EVs or EMs relies on which portion of the causal structure is profiled and coded by linguistic construction. Since the two categories belong to a single causal structure, what the linguistic cues of EV and EM signal overlap with each other, and either of the categories will give rise to the other sense. Hence, to define either of the categories is not to be done independently of the other. In addition, by considering them as overlapping regions of a single causal structure, the fuzzy categories in Quechua can be handled. Based on this reasoning, now let us take a look at the causal event structure in detail.

1.2 Deontic Modals vs. Epistemic Modals

The causal event structure has received much attention by various linguists (Talmy 1981, 1988, Sweetser 1990 *inter alia*s). Especially, the schematic causal structure of EM (and EV, implicitly) in English has been accounted for by Sweetser (1990) by means of Talmy's force dynamics approach (1981, 1988). I will argue that source of information implicitly takes part in the event structure and thus, that we need to analyze the event structure of EM in a more fine-grained sense so that we can account for the implicit EV function in the structure.

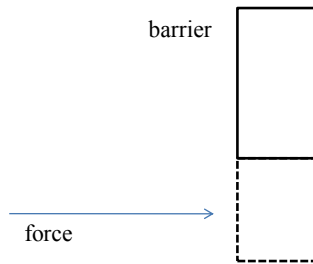
Originally, Sweetser (1990:50) observes that EMs are metaphorical extension of root-modal meanings, thanks to our tendency to use the language of the external world to apply to the internal mental world. Furthermore, the metaphorical extension of EMs can be schematized in terms of force and barriers (Talmy 1981, 1988). Examples of weak epistemic modal *may* can be exemplified as follows:

(4) *John may go.*

“John is not barred by (my or some other) authority from going.”

(5) *John may be there.*

“I am not barred by my premises from the conclusion that he is there.”

Figure 1. FD-Schema of *May*

As explained in (4) and (5), a physical trajector (John in (4)) or a mental trajector (the origo's reasoning in (5)) is not constrained by social authority in (4) or the given context in (5), which can be schematized as shown in Figure 1. The physical or conceptual trajector is represented to be a force vector in the figure, whereas the social authority or the physical/conceptual constraint to be a barrier. The interaction between the two frame elements determines the strength of EMs. In the similar vein, examples of *must* can be shown as follows:

- (6) You must come home by ten. (Mom said so.)
 “The direct force (of Mom's authority) compels you to come home by ten.”
- (7) You must have been home last night.
 “The available (direct) evidence compels me to the conclusion that you were home.”

Notice that in example of EM (7), the direct evidence forces the speaker to conclude that the addressee was home just as the direct force makes the speaker to come home by ten in (6). In other words, the direct force that compels the origo to conclude as such stems from the origo's direct perception of evidence. It becomes clearer that EMs involve the origo's direct perception of evidence, when we consider (8):

- (8) (looks at nametag) “You must be Seth Sweetser's sister” (Sweetser 1990: 57).

The evidence, a nametag, which is perceived directly by the speaker, causes the speaker to reason about the addressee's identity and to make an utterance such as (8). In this respect, a force vector in Sweetser's schematic picture needs to be broken down into smaller frame elements such as evidence, the origo's perception, the origo's reasoning, and the origo's inference.

2 Force Revisited: Evidentiality Embedded in Epistemic Modality

This section revisits frame element FORCE and casts a couple of questions: what triggers FORCE in Sweetser’s schematic picture? Is it triggered by itself or by an external motive? Who exerts it and who gets influenced? It seems that the previous approaches to EMs are not enough to deal with the raised questions, since other frame elements underlying FORCE such as ORIGIN of the FORCE, causation of the FORCE, motive of the causation and so forth are implicitly represented by a single force vector as shown in figure 1 above. This section aims to break it down into smaller pieces of frame elements and to model it in a more fine-grained sense.

Let us turn our attention to the parallelism between deontic and epistemic modals, which is shown in (6) and (7) above. *Must* in (6) indicates a deontic modal sense, whereas one in (7) does an EM sense. What is interesting is that the two kinds of modals share a common causal structure. In (6), an implicit cause in the given context or an implicit social authority which is inferred from the cause compels the addressee to do some action and in (7), an implicit evidence forces the speaker to reason and thus, to conclude that the addressee was home. Putting it differently, every EM requires that there be evidence, on which in most cases, the speaker’s reasoning is based, just as every deontic modality requires that there be cause, on which in most cases, the speaker’s authority is based. In this respect, we can see that in order to better grasp the causal event structure shared by deontic and epistemic modal senses, we need frame elements such as a CAUSE, a CAUSEE or a CAUSED EVENT, and CAUSE’S EFFECT or CAUSEE’S intention, which can be schematized in Figure 2.

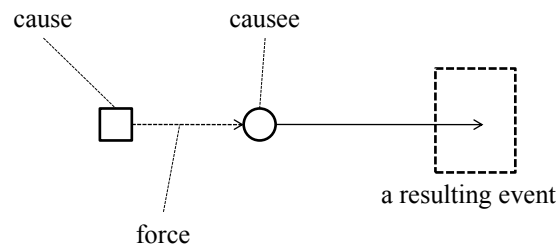


Figure 2. Schematic Structure of Causality

We need CAUSE, because with it, we could characterize motives of the FORCE, i.e. whether the FORCE is self-propelled or is triggered by an external factor. We need CAUSEE, because there must be a conceptual trajector that the FORCE is exerted on and thus, that travels through conceptual space. The exertion of the FORCE should be represented so that CAUSE and CAUSEE can be linked in the event structure.

With all the detailed frame elements, we can reanalyze the English modal examples that were shown in the previous sections. In the table, CAUSEE is a subject that force is exerted on and CAUSE is represented to be a FORCE EXERTER

in the frame of force dynamics.

MAY	(4)	(5)
Subject that FORCE is exerted on	John	the origo's reasoning
FORCE EXERTER	cause of John's going	the speaker's perception of evidence
FORCE	John's will	the speaker's cognitive processes of inference
BARRIER	whatever reason in the given context, e.g., the speaker's authority	presupposed doubt, suspicion in the given context

Table 1. Frame Elements of *May*

As discussed previously regarding the parallel between deontic modal and epistemic modal, the mapping between frame elements of force dynamics and those of deontic/epistemic modal domains is coherent and systematic. The strong deontic/epistemic modal *must* can be reanalyzed as follows:

MUST	(6)	(7)
Subject that FORCE is exerted on	you	the origo's reasoning
FORCE EXERTER	whatever cause in the given context	the speaker's perception of evidence
FORCE	causee's will, the speaker's authority	the speaker's cognitive processes of inference
BARRIER	none	none

Table 2. Frame Elements of *Must*

In (6), notice that the FORCE can be either CAUSEE's will or the speaker's authority upon the context, since the action of coming home can be construed either to be executed by the subject (e.g., *I must go home because I have lots of things to do*) or to be forced by the speaker's authority (e.g., *I must go home because my mom told me to do so*).

For EMs, it is noted that the motivation of the FORCE (FORCE EXERTER) is the speaker's perception of evidence. Without evidence, whatever its mode of access might be- direct, firsthand, indirect, hearsay, report, inference, or anything, EMs cannot exist. Some can challenge the claim by saying that EMs do not have to semantically encode the speaker's perception of evidence, but as shown in English EM example (6), information of the speaker's perception should be included

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in the common ground of the interlocutor's communicative acts.

If the reanalysis of EMs with the detailed frame elements is on the right track, we can schematize the causal event structure of the modals based on the identical schematic picture that is already shown in Figure 2. The representations of each modality can be illustrated as below:

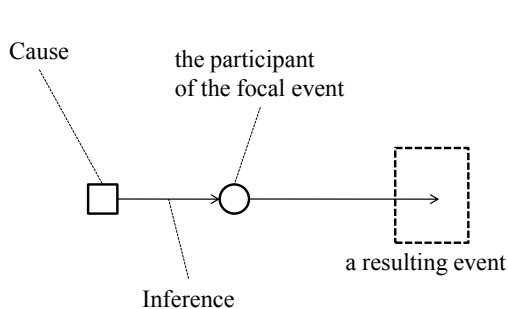


Figure 3. Deontic Modal

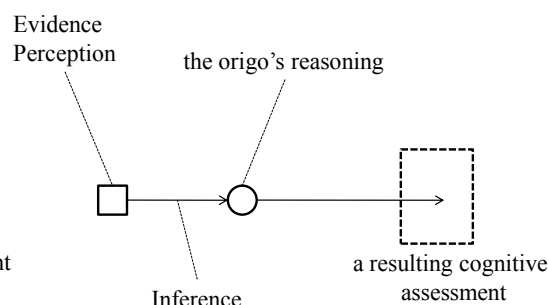


Figure 4. Epistemic Modal

In Figure 3, the deontic modal is very similar to the causal event structure represented in Figure 2 except that CAUSEE is mapped onto the participant of the focal event in the sociophysical world domain. In Figure 4, however, it is worthwhile to take a look at how the frame elements are mapped onto those in EM domain. First, CAUSE is corresponding to the speaker's perception of evidence. As mentioned earlier, without the implicit or explicit perception of evidence, EMs are not construed. CAUSEE corresponds to the origo's reasoning on the focal event. Since the origo has perceived directly/indirectly relevant evidence, he/she begins to reason on the focal event in the given context and thus, reaches the stage where he/she can draw a conclusion. The FORCE exertion portion which is represented by the left arrow in the figure is bound to the origo's inference. The degree of the strength of the origo's inference is closely related to the semantics of the speaker's assessment, which in turn, is closely related to EM meaning.

The image schema of causal event structure of EM has significant implications. In fact, I propose the third view based on them regarding the debate on whether the two functional categories, EVs and EMs, are conflated or not. First, EVs are crucial part for our understanding of EMs: without the speaker's perception of accessible evidence, the speaker would hardly employ EMs in utterance.

Second, EM semantics is a natural consequence which can be given rise to in the causal event chain: if the origo perceives some evidence, it will naturally lead the origo to reason about its implication. This is not saying that there should be conventionalized ways that a certain kind of EM is paired with a certain kind of EV, but saying that since EVs and EMs are contiguously located in the causal event chain, it is natural that their functions overlap with each other.

Third, the debate is an unfortunate consequence of concentrating only on each one of the functional categories within a certain theoretical assumption and of not

considering it within the causal event chain. I argue that the overall causal event chain provides a more comprehensive explication of meanings/ functions of EVs and EMs.

In the following section, this paper will elaborate the view that utilizes the causal event structure in characterizing EVs and EMs and further in providing motivation for typological variance of encodability of EVs and/or EMs.

3 The Third View: a Broader Picture

Not taking either conflationist’s or non-conflationist’s view, this section proposes another view that EVs and EMs are, in fact, concepts that are dependent of each other. Thus, in order to characterize the functional categories, we need to consider either of the categories within the causal event structure that embeds EVs and EMs. The assumption that this view takes lies in the same vein as those who argue that modal judgment is based on evidence:

“If one does not have any kind of evidence pertaining to a state of affairs, one cannot evaluate its probability” (Nuyts 2001).

“Modal judgments are generally made based on some type of evidence, and one can often infer the speaker’s modal judgment from the type of information source indicated” (Roo-ryck 2001).

Furthermore, as discussed in the previous section, the variety of encoding patterns of EVs and/or EMs in languages will not be a problematic issue in this view. They merely result from various language-specific ways of profiling EVs and/or EMs. In a nutshell, what this paper proposes can be shown as follows:

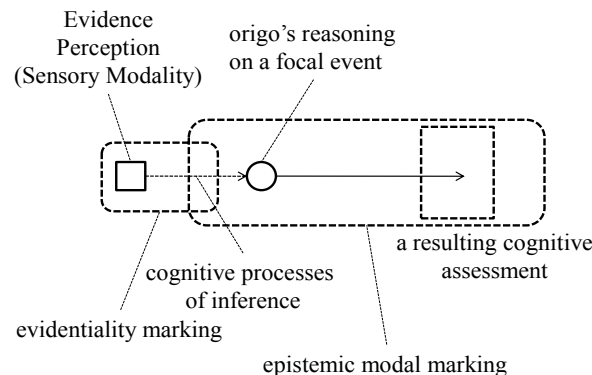


Figure 5. Overlap between EVs and EMs

As represented in Figure 5, EVs are licensed when the speaker tries to profile the portion of perception of evidence, for sure, and/or that of the origo’s cognitive

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processes of inference. In contrast, if EMs are in use, then the speaker tries to necessarily profile the portion of the origo’s cognitive processes of inference and the origo’s reasoning process, possibly with the speaker’s perception of evidence implied. Putting it differently, among the various events involved in EV/EM constructions such as the speaker’s evidence perception, the speaker’s reasoning etc., evidence perception and inference are conceptually packaged and profiled by prototypical EVs. In contrast, what EMs signal is that inference and the speaker’s reasoning or assessment of the evidence are profiled.

Once we acknowledge that which portion of the causal event structure is profiled and coded by linguistic cues of EVs and EMs varies upon languages, the various patterns of coding EVs-EMs in grammars can also be explained. In fact, within the causal structure, the three types of languages that have been discussed above (Korean, Nanti, and Imbabura Quechua) can be accounted for as shown below. First, the Korean example shows that EVs encode both the speaker’s perception of the evidence and the origo’s assessment, and it is represented in Figure 6. Semantics of EV and EM is not distinguished in the grammar and thus, the causal structure is profiled as a whole. The Nanti example where EV and EM are reflected separately into its grammar is represented in Figure 7. It shows that EVs only involve the speaker’s perception of the evidence and only a part of the origo’s belief is involved in the given context. Lastly, Figure 8 represents the case of Imbabura Quechua, where EV licensing condition is determined on context-by-context basis. The flexibility of condition is represented in terms of potential overlaps in the figure.

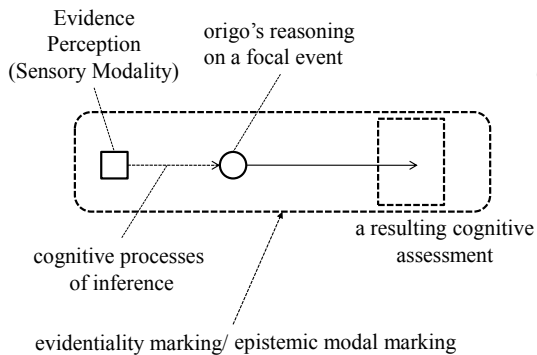


Figure 6. EV and EM in Korean

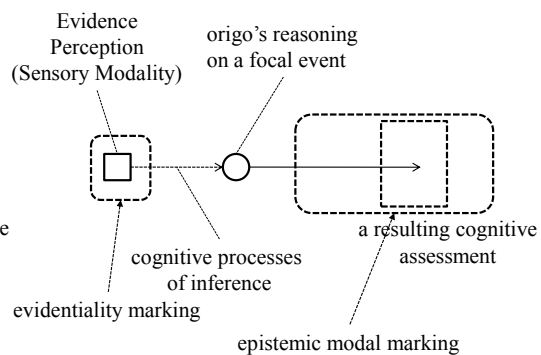


Figure 7. EV and EM in Nanti

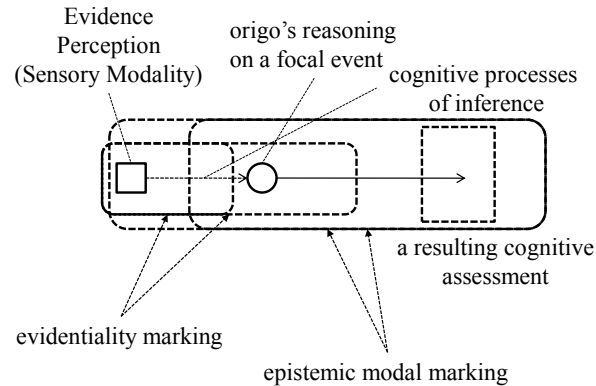


Figure 7. EV and EM in Imbabura Quechua

The fundamental motivation underlying this view is actually endorsed by more than a few researchers (Rooryck 2001a, b, Izvorski 1998, Speas 2008, Matthewson et al. 2006, *inter alia*). They observed that modal judgments are generally made based on some type of evidence, and one can often infer the speaker's modal judgment from the type of information source indicated (Speas 2008: 951). Furthermore, Speas (2008: 953) noted that EVs do not express epistemic necessity or possibility, but they do express information about the modal base, from which possibility or necessity can be inferred in conjunction with contextual information (Speas 2008: 953). What they have observed confirms to this paper's main claim: EVs and EMs are dependent of each other and without either of the two, the other cannot be properly construed.

Thus, on the one hand, conflationists are right in that the two functional categories are entangled and thus, it is never clear at which point the boundary should be demarcated, as we have seen the overlap in Figure 5. On the other hand, non-conflationists are also right from their perspective in that in some cases, EMs are not encoded, but rather be implicated in the context, represented as non-overlapped portions in Figure 6. However, from our view, the grammatical separability is an epiphenomenon of construal of EMs and/or EVs in the causal event structure.

4 Concluding Remarks

This paper explored the ongoing debate between so-called 'conflationists' and 'non-conflationists' with regard to whether EVs and EMs are to be conflated or not. I claimed that as a third view, the debate is not a matter of separability of the two functional categories, but a matter of which portion of the causal event structure, which embeds both of the categories, is profiled, and becomes salient in the construal. In order to prove that the third view is plausible, this paper discussed that either of the approaches is not satisfactory and that the debate is an unfortunate consequence of theoretical assumption of clear-cut distinction be-

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tween semantics and pragmatics.

In order to better grasp the functional categories, we need to consider the whole event structure that necessarily embeds both EVs and EMs. In order to provide motivated accounts of the interdependence of EVs and EMs as a conceptual 'package,' this study revisited Sweetser's (1990) schematic structure of EM and reanalyzed the causal event chain that embeds both EVs and EMs in a more fine-grained sense. Based on the broad picture of event structure where EVs and EMs are embedded, this paper proposed a third view that we should consider the whole causal event structure in order to better grasp the interdependence, providing conceptual schematic model for EVs and EMs.

The follow-up question should be an empirical question: which language profiles which portion of the overall causal structure, being influenced by its own way of entrenching and conventionalizing inferential patterns? This paper will leave the question to future research.

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