

Epistemic marking and reliability judgments: Evidence from Bulgarian[☆]

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Abstract

Most linguists contend that epistemic markers for source-of-information also encode the speaker's assessment of the reliability of that information. Their claim tacitly questions the utility of source-of-information marking and its validity, which depends on the ability to distinguish source-of-information from speaker-attitude marking. I argue that the source of information has a distinct function in the conversational exchange and that it is possible to distinguish source-of-information from speaker-attitude marking. The former does not have consistent implications about the evaluation of the reliability of the information while the latter represents such an evaluation. I use this criterion to assess competing claims about the meaning of grammatical epistemic markers in Bulgarian. The results from two studies suggest that epistemic marking in Bulgarian characterizes the source of information rather than the speaker's attitude. © 2001 Elsevier Science B.V. All rights reserved.

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1. Introduction

Speakers of different languages can qualify the reliability of information they express in two ways. First, they can signal its source, e.g., (1) direct perception, (2)

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hearsay, or (3) inference. Second, they can express their degree of certainty in its truth, e.g., (4) their confidence or doubt.

- (1) I *heard* John cursing.
- (2) *Someone said* that John failed the class.
- (3) I therefore *conclude* that John has failed the class.
- (4) John *must* have failed the class,
John *may* have failed the class.

They can qualify the reliability of information using a variety of devices: *lexical*, as in examples (1), (2), and (3), *intonational*, as the slightly rising intonational contour in English sentences expressing surprise (DeLancey, 2001), or *grammatical*, as closed class words and grammatical inflections (on evidential inflections in Tuyuca verbs, see Barnes, 1984). In various ways, these devices characterize the origin, nature, and limits of the knowledge expressed by the speaker. Hence, they are all classified as ‘epistemic devices’ and the information they convey as ‘epistemic information’. Depending on their use, I will refer to epistemic devices as speaker-attitude or source-of-information markers.

The prevailing view of the semantic contribution of epistemic devices is that they all serve to express the attitude (i.e., certainty or degree of commitment) of the speaker to what is said, and are thus properly treated within the domain of epistemic modality (Lyons, 1977; Kratzer, 1981, 1991; Palmer, 1986). Epistemic modality is defined as the expression of “the speaker’s opinion or attitude toward a proposition that the sentence expresses or the situation that the proposition describes” (Lyons, 1977: 452), or equivalently, “the degree of commitment by the speaker to what he says” (Palmer, 1986: 51). Palmer (1986) furthermore argues that “the whole purpose [of source-of-information markers] is to provide indication of the degree of commitment of the speaker: he [sic] offers a piece of information, but qualifies its validity for him in terms of the type of evidence he has” (1986: 54). In other words, speakers convey their degree of confidence in the information not only by using markers that directly express confirmation, certainty, or doubt, but also by using markers that reveal source of information, that is, the mode of creation and acquisition of the information (hearsay, perception, deduction, etc.). Source-of-information markers have even been formally analyzed as epistemic modals (Izvorski, 1997).

In this paper, I challenge this view for two reasons. First, as hearers, we cannot always be passive receptacles of speakers’ opinions. Sometimes we need an indicator like source-of-information that allows us to make judgments ourselves about the reliability of what is said. Second, source of information does not have consistent implications for the reliability of information. These arguments are formulated having in mind grammatical epistemic marking (whose basic meaning is debated) but I suspect that they can be applied to lexical devices as well and I use examples from English. The discussion, furthermore, emphasizes the hearer’s interpretation of what is said and thus crucially assumes that this interpretation is the same as the speaker’s.

I use the second argument to evaluate claims about the information encoded by grammatical epistemic markers in Bulgarian. The debate over the meaning of these

markers has lead to a clear formulation of the speaker-attitude and source-of-information positions. I tested the two theories by measuring Bulgarian children's judgments of the reliability conveyed by the markers. I chose to work with children rather than adults because of a more general interest in how young children are able to use epistemic information (of either source-of-information or speaker-attitude kind) in their judgments.

2. Is the attitude of the speaker enough?

In qualifying the reliability of information, epistemic markers help us filter the informational flow in our environment and separate reliable and useful information from 'noise'. This generally agreed-upon statement poses a key question about who does the job: Do hearers filter out what they hear or do they rely on speakers to do this for them? The answer to this question is determined by whether hearers' can maximize the quality of information they accept based on the speaker's assessment of the reliability of that information.

Du Bois (1986) argues that in evaluating the reliability of an utterance, hearers are also concerned with the reliability of speakers. He points out four factors that might be considered by hearers with regard to speakers: their evidence for what they say, their interests and how these might lead to distortion of the information, their sincerity, and their fallibility. If speakers' interests and sincerity are suspect, everything they say would be judged as untrustworthy and filtered out. Assuming that this is not the case (Grice's 1975 model of communication requires that speakers be truthful) is not enough. Speakers have to be trustworthy, or competent, as well.

If speakers are truthful and trustworthy, the hearer would conserve cognitive resources by relying on the speaker's evaluation of the information. Under this hypothesis, hearers would seek speaker-attitude information and speakers would not be informative (which is another Gricean requirement) if they simply pointed to the source of information. If, on the other hand, speakers' ability to judge the reliability of information is questionable, their attitude to the information, i.e., their evaluation of it, would be discarded. Since hearers need to know the reliability of information, this situation entails that they evaluate the information themselves. To do this they need cues allowing them to assess the reliability of the information. One such cue is source of information.

Thus, speaker attitude does not always provide hearers with adequate qualification of the information. Absorbing source-of-information markers into speaker-attitude markers would leave hearers empty-handed on the occasions when they have to tackle the task of evaluating the information themselves. There is a clear need for epistemic information different from speaker-attitude, and the absorption of source-of-information markers into speaker-attitude markers is not functionally justified from the hearer's point of view.

3. The implications of the source of information for reliability judgments

The absorption of source-of-information markers into speaker-attitude markers is not functionally justified from the speaker's point of view either. The theory that markers for source-of-information also mark the speaker's certainty assumes (1) that individuals agree on the degree of reliability associated with different sources of knowledge and (2) that one person judges the relative reliability of different sources across occasions consistently. These tenets imply that the sources of information can be ordered on a reliability scale. However, they do not hold under close scrutiny.

The source of information can lead different people to divergent assessments of the information. Givón (1982) argues that the evidentiary (i.e., source of information) is the basis of the speaker's certainty in a piece of information. But there are many factors that affect the formation of a particular attitude. Abundant evidence from psychological research illustrates how stereotypes, prejudices, and expectations determine not only *how strongly* we believe or disbelieve a piece of information but also *what* we believe and what not (and thus what becomes represented in one's mind and what is said) (e.g., Gilovich, 1991). For example, the strength of certainty in the validity of an inference depends on the number of previous exposures to the same problem or situation and on how often that inference proved right or useful; this is a basic property of inductive reasoning. Thus source of information by itself is unlikely to determine the reliability of a piece of information. Since the speaker and the hearer can hardly have the same previous experience in qualitative and quantitative terms, source of information could have differential effect on their reliability judgments. Speakers are better off directly expressing their attitude rather than pointing to the source of information factored in it if their goal is to present their assessment of the information.

The idea of a hierarchy of sources of information is itself untenable. While speaker-attitudes are (partially) 'graded', the reliability conveyed by a particular source of information varies by context. 'Graded modality' is the idea that some attitudes of the speaker are stronger than other attitudes, i.e., when we are presented with two utterances, one with *must*, the other with *might*, we know which information the speaker thinks is more reliable (Kratzer, 1991). Even preschool children appreciate differences in the force of the modals (Herst and Weil, 1982; Byrnes and Duff, 1989). Sources of information cannot be abstractly graded on a reliability scale. For example, second-hand information can be considered more reliable than personally acquired information if the source is sacred or expert. A well-attested example is that children (as well as adults) incorporate false information of events that they have themselves perceived into their memories of the events (for a review, see Ceci and Bruck, 1993). Similarly, there is no intrinsic reason why perceptual information should be trusted more than inferred information: when travelers see an oasis in the desert, they rely on logic to correct what they know to be a perceptual error.

While it might be impossible to come up with an abstract reliability hierarchy, particular contexts might impose an ordering on sources of information. The reliability conveyed by source-of-information markers varies depending on the regularity

with which different types of information are acquired through the different pathways. The same utterance (e.g., *I think John must have gone home*) can be a description and an explanation depending on the question it answers (e.g., *Where is John?* or *Why is John not here?*). Perceptual and cognitive (reasoning) processes play different roles when we are coming up with descriptions of scenes than they do when we are coming up with explanations.

No matter whether we describe dreams or a beautiful corner of the countryside, our stories are based on what we see, hear, smell, and feel. Descriptions seem to result from direct perception and there is no obvious role for reasoning. Thus, *I think John must have gone home* (an utterance emphasizing reasoning) might not have the weight of *I saw John going to school* (an utterance emphasizing perceptual access to the information). A question asking for an explanation, on the other hand, shows that the causes or workings of the events are not evident. The speaker must go beyond the observable and connect the situation with existing knowledge in order to find an answer. This search necessarily involves mental processes, like inferential reasoning, although the explanation might refer to perceived events (e.g. *John went home*). In this case, an inference might carry as much weight as a report of a directly perceived event.

If the reliability conveyed by the markers of source of information can vary for the hearer and the speaker and from one context to another, then we have to separate the expression of speaker attitude from the marking of source of information.

What, then, is the purpose of communicating source of information if the speaker and hearer cannot agree on its implications? Using source of information as an epistemic marker implies that both hearer and speaker are in a position to evaluate the information. This is consistent with the view of knowledge as ‘co-constructed’ by speaker and hearer in their dialogue (Du Bois, 1986; Duranti, 1993). Unlike speaker attitude, source of information provides hearers with an independent basis for assessing the reliability of the information and allows them to actively participate in finding out what is to be trusted. Since evidence is often inconclusive, speakers have an interest in providing source information and getting input in determining what is reliable. The formation of two opinions allows the speaker and hearer to debate and negotiate the meaning and significance of the information. If the goal of the speaker in providing the evidence for a statement is to solicit the opinion of the hearer, then this is another reason to reject the claim that the speaker, through the use of source-of-information markers, asserts an evaluation of what is said. In other words, there is no need to assume that the marking of source of information expresses the speaker’s attitude toward the information. Doing so would be equivalent to attributing to the speaker intentions that are not necessarily there.

To sum up, both source of information and speaker attitude qualify the reliability of information, but their use suits different circumstances. Speaker attitude is used when the speaker is in a position to competently decide on the reliability of information; source of information is used when the speaker-hearer dyad is better off to negotiate the reliability of the information. Since the relative (‘modal’) force of speaker-attitude markers stays the same while the reliability conveyed by source of information changes, we can use an experimental paradigm to test whether an

epistemic marker denotes source of information or speaker attitude. In the latter case, a stable pattern of reliability judgments should emerge for sentences containing these markers.

In section 5, I will describe the speaker-attitude and source-of-information interpretations of Bulgarian epistemic markers and the studies I did to distinguish between the two. I will also examine the discourse status of source of information in Bulgarian more closely and argue that the data used to support the speaker-attitude hypothesis is inconclusive. For this purpose, in the next section I will focus on the concept of source-of-information marking.

4. The concept of source of information

It is important to clarify the organization of the various sources of information. Willett (1988) reviews the research on evidentiality (grammatical source-of-information marking) and argues that the distinction between direct and indirect information, a distinction drawn upon the type of evidence considered, understates the variability in evidential marking. He proposes a tripartite system: information can be attested, reported, and inferred, the last two being types of indirect information. The speaker acquires attested information through the senses, e.g., vision, hearing, etc. Reported information can be obtained from hearsay or folklore. Inferential information can be specifically marked as involving observable evidence (results) or mental constructs (logic, intuition, or dream).

There are two dimensions running through the typology proposed by Willett (1988). The first one is the speaker's relation to the acquisition of the information. Both attested and inferential information are expressions of knowledge acquired or created by the speaker, while reported information is acquired by the speaker in previous discourse or from other external sources. This is a distinction between first-hand and second-hand information. The second dimension is how the information is created. Attested information critically involves the senses while inferences are carried out in the mind.¹ Reported information seems not to be differentiated according to whether the speaker's informant has acquired it perceptually or cognitively. However, such differentiation is neither impossible nor implausible: for example, Kutzarov (1984) makes such a claim for Bulgarian. In this sense, the two parameters are independent of each other. They define a two-dimensional model of people's 'theory' of the acquisition of information.

'Source-of-information' should not be interpreted absolutely though. Perceptual information is processed and molded in the mind, so there is some cognitive or inferential process involved. Conversely, inferential information starts with a perceptual stimulus. A better way to think about the linguistic markers for source of information

¹ These components correspond to the rationalist and empiricist views on the origin of knowledge. Rationalism, as we know it from Descartes, espoused the idea that the only thing that we know for sure is that we think; therefore thinking was conceived as the only way in which we can arrive at truth and knowledge. The empiricists, on the other hand, argued that perceptual experience is the major way to acquire knowledge.

is that they emphasize *an aspect* of the acquisition of the information. There is a fuzzy boundary between perception and cognition that might or might not be codified in language. Similarly, information acquired via a report can be considered the speaker's in that it is represented in his or her mind and then introduced into the discourse. This allows presentation of second-hand information as first-hand. On the other hand, when there are no restrictions on the access to the information, the same event can be observed by many. This permits the speaker to present information that she could attest as coming from someone else. Such use is well documented in Bulgarian: "The report forms can be used for actions not only observed by us but also done by us when we emphasize something that another person has said about them"² (Andrejcin, 1944: 379). Pointing to one source of information does not imply that other sources have played no role in the acquisition of the information. Thus, source-of-information markers specify not what evidence the speaker has for making the assertion but what she links is the relevant evidence for evaluating the information.

Second, how does the grammatical marking of source of information enter into the interpretation of sentences? One way to think of grammatical source-of-information markers is that they introduce presuppositions into the discourse. Presuppositions refer to the common ground between the speaker and the hearer, i.e., the knowledge they share. They are 'off-record' information because they are backgrounded and taken for granted (Stalnaker, 1974; Chierchia and McConnell-Ginet, 1990). But information does not have to be explicitly agreed upon by the interlocutors in order to be presented as a presupposition by the speaker (Lewis, 1979). Rather, the speaker can use presuppositions to redefine (or confirm) the common ground and 'speed up' the conversation. The hearer can accept or object to the definition thus suggested.

Grammatically marked source of information seems to share these properties of presuppositions and I will illustrate this claim later within Bulgarian. Evidential systems show great variability though, and this claim might not be empirically valid for all languages.³

5. Bulgarian evidentiality

Bulgarian became known in the literature on epistemic information through Jakobson, who defined his evidential grammatical category as expressing the relation between the speech event, the narrated event, and the source of -information about the narrated event (Jakobson, 1957). As an example of the category, he gave the distinction between 'direct narration' expressed by the simple past and 'indirect narration' expressed by the use of the past participle as a main verb (in the third person) in Bulgarian: if someone has seen a ship sail away, they will say (5) and if they have heard from someone that the ship has sailed away, they will say (6):

² My translation.

³ John Haviland for example suggested that the second-hand evidentials in Tzotzil have a person deictic character (personal communication).

- (5) *Zamina*.
Left-SIMPLE PAST
'I bear witness; it sailed'
- (6) *Zaminala*.
Left-PAST PARTICIPLE
'It is claimed to have sailed.'

Besides the two forms pointed out by Jakobson, there are two other verb paradigms involved in Bulgarian evidentiality.⁴ Table 1 shows the four: (1) simple, or definite, past; (2) perfect, or indefinite, past composed of the auxiliary *sam*, 'be', and the past participle of the main verb; (3) a paradigm which omits the auxiliary in the third person forms of the perfect; and (4) a paradigm composed of the present tense of the auxiliary *sam*, its past participle, and the main verb's past participle, which omits the conjugated auxiliary in the third person forms. The contrast between all four paradigms is evident in the third person forms. To avoid biasing the interpretation of the sentences, I will use the terms [+BE] perfect, [-BE] perfect, and [-BE] past perfect to refer to the last three paradigms respectively.⁵ For the same reason, in Table 1 I provide only the English morpheme-by-morpheme glosses of the Bulgarian sentences, and in the examples that follow I refrain from giving the interpretation of the epistemic markers. Although my argument has implications for the interpretation of the Bulgarian epistemic markers, it rests on the structural relations between them.

Table 1
Past tense paradigms implicated in Bulgarian evidentiality

	First person 'I departed'	Third person 'He departed'
simple past	<i>Az zaminah.</i> I departed	<i>Toj zamina.</i> He departed
[+BE] perfect	<i>Az sam zaminal.</i> I am departed	<i>Toj e zaminal.</i> He is departed
[-BE] perfect	<i>Az sam zaminal.</i> I am departed	<i>Toj zaminal.</i> He departed
[-BE] past perfect	<i>Az sam bil zaminal.</i> I am been departed	<i>Toj bil zaminal.</i> He been departed

⁴ Present and future tenses in Bulgarian also carry evidential information (e.g., Gerdjikov, 1982) but they will not be discussed here.

⁵ The labels are a compromise between avoiding bias and being informative. For example, the past perfect in Bulgarian is actually composed of the past tense of *sam* 'be' and the past participle of the main verb.

5.1. Bulgarian encoding source-of-information

Jakobson's example illustrates the traditional epistemic distinction in Bulgarian between perception and report as sources of knowledge (Andrejcin, 1944; Gerdjikov, 1982; Kutzarov, 1984, among others). Jakobson contrasted simple past and [–BE] perfect. Another contrast is drawn between [+BE] perfect and [–BE] perfect. Tzonev (1910–1911) notes that when speakers do not see something but others tell them about it and they believe the words, they would use a [–BE] perfect (7) to report it. If, on the other hand, they have some indirect evidence from which the event can be inferred but do not see the event, they will use a [+BE] perfect (8).

- (7) *Rekata pridoshla.*
 river-THE risen
 '(Someone said that) The river has risen.'
- (8) *Rekata e pridoshla.*
 river-THE is risen
 'The river (must have) risen.'

Thus Tzonev distinguishes between reported and inferential meanings of the [–BE] perfect and the [+BE] perfect respectively. Interestingly, he insists that the speaker expresses more confidence in the information by using the report form rather than the form indicating personal inference.

Kutzarov (1994) furthermore proposes that Bulgarian possesses a 'conclusive' (or better, 'conclusional')⁶ mood denoting information acquired through mental activity, e.g., inference, deduction, or generalization. The [+BE] perfect and the [+BE] past perfect fall into this category.

These distinctions in source of information are analogous to the cross-linguistic distinctions attested by Willett (1988). The distinction between witnessed or inferential information on the one hand and reported information on the other follows the dimension of type of involvement of the speaker in the acquisition of the information. The distinction matches the two levels of this dimension: first-hand and second-hand. The distinction between witnessed simple past and inferential [+BE] perfect and the analogous distinction in second-hand information (defended by Kutzarov, 1994) follows the dimension of mode of acquisition of the information. Again, it matches the two levels of this dimension: perceptual and cognitive. Table 2 presents the interaction of the two dimensions. According to this model, every form carries two types of source-of-information qualifications, one on each dimension.

⁶ The term *conclusive* comes from French and should be interpreted as 'related to conclusion' rather than as 'definite'. E. Wayles Browne (personal communication) suggested 'conclusional' as better rendering its meaning in English.

Table 2
Source-of-information in Bulgarian

How the information was acquired	How the speaker is related to the acquisition of the information	
	First-hand	Second-hand
Perceptually	<i>Toj zamina.</i> Simple past	<i>Toj zaminal.</i> [–BE] perfect
Cognitively	<i>Toj e zaminal.</i> [+BE] perfect	<i>Toj bil zaminal.</i> [–BE] past perfect

5.2. Bulgarian encoding speaker-attitude

Following Aronson (1977), Victor Friedman suggests that what is taken for marking of ‘reportedness’ in Bulgarian is not marking of source of information but rather marking of the speaker’s subjective evaluation of the narrated event (Friedman, 1978, 1982, 1986, 1988, 1997).⁷ The following citation is an example of his argument that the core meaning of the epistemic markers in Bulgarian is that of confirmation, that the source of information is implied by the context, and his explanation why the two have been conflated:

“Due to the ontological nature of confirmation and nonconfirmation, markedly confirmative forms are often based on firsthand (witnessed) information, while forms not marked for this feature will, in the absence of any indication to the contrary, be assumed to be based on second-hand (reported) information. These are contextually variant meanings, however, not invariant meaning.” (Friedman, 1988: 125)

Table 3 illustrates how Friedman organizes the epistemic markers in Bulgarian. He argues that the simple past has a marked confirmative meaning and that the non-confirmative meaning of the [+BE] perfect and the [–BE] perfect has developed in opposition to the meaning of the simple past. The last two forms are essentially the same in his framework. Since the omission of the auxiliary in the perfect tense is a general phenomenon for the Slavic languages, he maintains that the [–BE] perfect is an artifact of language change and no special meaning is associated with the presence or absence of the auxiliary: “The auxiliary tends to occur most often when the past indefinite is functioning like the simple past, less often when it is a perfect and least often when it is reported” (Friedman, 1982: 160). But these tendencies in the distribution of the auxiliary are not sufficient, according to Friedman, to define differences in the meanings of the [+BE] and the [–BE] perfect. Because of their unmarked status, the two forms of the [+BE] and [–BE] perfect appear as the default expression of past tense. Finally, the [–BE] past perfect has developed a marked non-confirmative meaning.

⁷ Friedman (e.g., 1997) uses the category ‘status’ for the confirmation of the speaker; the subjective evaluation of the truth value of the event according to him is “not based on actual evidence of the event but on the speaker’s attitude toward the source of information” (1997: 189). His proposal illustrates the point that the speaker’s evaluation is not solely based on the source of information. I do not distinguish between status and mood because both categories express speaker-attitude.

Table 3
Confirmativity in Bulgarian (Friedman)

Marked confirmative	Non-confirmative	Marked non-confirmative
<i>Toj zamina.</i> Simple past	<i>Toj zaminal.</i> [–BE] perfect <i>Toj bil zaminal.</i> [–BE] past perfect	<i>Toj e zaminal.</i> [+BE] perfect

Friedman challenges the claims about source-of-information marking in Bulgarian in two ways: first, he claims that there is no grammatical difference between witnessed and reported information, and second, he claims that the [+BE] and [–BE] perfect express the same meaning. The latter claim assumes the former, since the [+BE] and [–BE] perfect convey first-hand and second-hand information respectively in the source-of-information framework. Thus the interpretation of the [+BE] and [–BE] perfect constitutes the critical difference between the source-of-information and speaker-attitude interpretations of the set of epistemic markers in Bulgarian.

5.3. An experimental test

To test the source-of-information and speaker-attitude theories, I applied an experimental design often used to study the understanding of the epistemic content of modals and mental verbs (e.g., Herst and Weil, 1982; Moore and Davidge, 1988; Byrnes and Duff, 1989). Six- and nine-year-old children participated in the experiments. In the context of a story, a protagonist A asked the characters B and C about their friend D. B and C gave different information and, crucially, their statements were worded using different verb endings. The children's task was to say whom they think A believed. Excerpt 1 gives an example of the stories used in the first study. Thirty-four and thirty children participated respectively in the two studies.

To distinguish between the evidential and speaker attitude theories, in the stories used in the first study, A asked about D's whereabouts; in the stories used in the second study, A asked what D did. The prediction was that asking about a location should strongly bias children to seek perceptually acquired information; and how the information was acquired will be more important than whether it was the speaker or someone else who acquired it, i.e., the [–BE] perfect will be judged as more reliable than the [+BE] perfect. This need not be the case when people ask about actions. Friedman's theory, on the other hand, predicts that in both cases the [+BE] and [–BE] perfect will be judged equally reliable, because the two forms are equivalent in expressing the non-confirmation of the speaker.

In the first study, the children from both groups chose information expressed using the [–BE] perfect form as more reliable than information expressed with the [+BE] perfect (58% of the younger children and 75% of the older children made this choice). While the older children's performance was statistically above chance, the younger children just showed a trend in this direction. Contrary to these results, in the second study the children judged the information in the [+BE] perfect as more

Excerpt 1. Example of the stories used in the first experiment. (The critical sentences are given in Bulgarian and with glosses. The translation is biased toward a source-of-information interpretation.)

The turtle and the hedgehog are the rabbit's best friends. One day they decided to go to a movie. On the way, they met the snail.

'Ako nyakoy znae, neka da mi kazhe kade da namerya Zayo!'

if someone knows let to me tell-3p-SG where to find-1p-SG Rabbit

'If you know, please tell me where to find the rabbit!' he said.

The turtle and the hedgehog stopped.

'Zayo e otishal da si pochine pod stariya dab'.

Rabbit is gone to REFL. rest under old-THE oak

'The rabbit *must have gone* to take a nap under the old oak', said the turtle.

'Zayo otishal da risuva pri golemite skali.'

Rabbit gone to draw by big-THE rocks

'The rabbit, *someone said*, went to paint by the big rocks', said the hedgehog.

Na kogo li e povyarval ohlyuvat?

to whom PARTICLE is believed snail-THE

Whom did the snail believe?

reliable than information expressed in the [-BE] perfect. The younger children exercised this choice 54% of the time and older children 67% of the time. The younger children's reliance on the [+BE] perfect did not differ from chance and the performance of the nine-year olds was a bit short of reaching statistical significance. Not only did the result of this study not replicate the results of the first experiment but they were in the opposite direction (see Fig. 1).

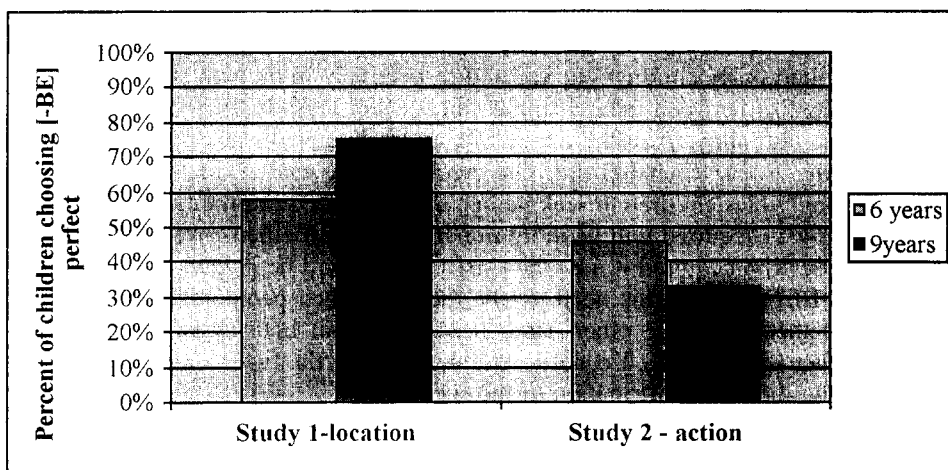


Fig. 1. Children's preference for [-BE] perfect information when choosing between [+BE] perfect and [-BE] perfect.

The results suggest that Bulgarian children distinguish [+BE] perfect from the [–BE] perfect in terms of epistemic value. For the older children, in neither of the studies was the reliability conveyed by the forms the same. The younger children showed preference tendencies similar to those of the older children, though very fragile. This finding is incompatible with Friedman's theory, which implies that the reliability of the two forms should be the same. The fact that the reliability conveyed by the forms changed depending on the question asked further undermines the claim that the forms express the attitude of the speaker toward what is said. If speaker-attitude were what is encoded in Bulgarian grammar, the relative reliability of the two markers should have come out the same in the two studies.

The source-of-information theory, on the other hand, handles these results well. It explains children's reliability judgments by the source-of-information content of the epistemic markers. The change in the second study is induced by a change in the reliability ordering of the sources due to the new question. The finding that the hearer's evaluation of the reliability of the information is contextually differentiated rather than formally marked by the linguistic forms in Bulgarian supports their source-of-information interpretation.

5.4. The concept of source of information: evidence from Bulgarian

I suggested that grammatically marked source of information is introduced into the discourse in the form of presupposition. Presuppositions, in contrast to assertions, represent information that is backgrounded and taken for granted. Negation and the transformation of a declarative sentence into an interrogative one are traditional tests for such properties of information (Kiparsky and Kiparsky, 1970). Examples (9)–(12) show the four renditions of *Ivan departed* in Bulgarian together with their negated (b) and interrogative (c) transformations.

- | | | |
|------|--|-------------------------|
| (9) | a. <i>Ivan zamina.</i>
Ivan departed-SIMPLE PAST
'Ivan departed.' | First-hand, perceptual |
| | b. <i>Ivan ne zamina.</i>
Ivan not departed-SIMPLE PAST
'Ivan did not depart.' | |
| | c. <i>Zamina li Ivan?</i>
departed-SIMPLE PAST PART Ivan
'Did Ivan depart?' | |
| (10) | a. <i>Ivan zaminal.</i>
Ivan departed-PAST PARTICIPLE | Second-hand, perceptual |
| | b. <i>Ivan ne zaminal.</i>
Ivan not departed-PAST PARTICIPLE | |
| | c. <i>Zaminal li Ivan?</i>
departed-PAST PARTICIPLE PARTICLE Ivan | |
| (11) | a. <i>Ivan e zaminal.</i>
Ivan is departed-PAST PARTICIPLE | First-hand, cognitive |

- b. *Ivan ne e zaminal.*
Ivan not is departed-PAST PARTICIPLE
- c. *Zaminal li e Ivan?*
departed- PAST PARTICIPLE PARTICLE is Ivan
- (12) a. *Ivan bil zaminal.* Second-hand, cognitive
Ivan been departed- PAST PARTICIPLE
- b. *Ivan ne bil zaminal*
Ivan not been departed- PAST PARTICIPLE
- c. *Zaminal li bil Ivan?*
departed- PAST PARTICIPLE PARTICLE been Ivan

The transformations do preserve the backgrounded information of source of knowledge. The negation in (9b), (10b), (11b), and (12b) affects the proposition asserted in the declarative sentences, i.e., *Ivan departed*. All (b) examples say that Ivan did not depart. However, they differ in the speaker's tacit statement of how the information that Ivan had not departed has been acquired. The questions in (9c), (10c), (11c), and (12c), on the other hand, are all about whether Ivan has left. The inquirer does not question but presupposes how the addressee might have acquired information relevant to the question. For the observer, the conversational background of the interlocutors often remains opaque, and questions like (10c) and (12c) might seem bizarre.

If the hearer possesses evidence other than the evidence specified in the question, the answer would not just be *Yes* or *No*. Consider, for example, the case when the hearer has not seen Ivan leaving but has seen that Ivan's room is empty, allowing an inference about Ivan's departure. In this situation, the hearer would answer (11c) saying *Yes* but (9c), saying (the Bulgarian equivalent of) *He must have left* rather than *Yes*. In the latter case, the hearer would challenge the presupposition in the speaker's question that there is direct evidence of Ivan's actions.

Other common tests of presupposition are embedding the sentence that is tested under a modal verb and in a *if ... then* construction. However, embedding some of the evidential forms in this context leads to infelicitous sentences.⁸ Thus these tests cannot be applied to Bulgarian evidentials.

The assumption that source-of-information marking triggers a presupposition leads to a number of hypotheses. For example, it suggests that the source of information is conversationally or contextually specified prior to the use of the markers.⁹ This assumption also allows a reconsideration of the data used to argue for speaker-attitude interpretation of the Bulgarian epistemic markers. To start with, the [-BE] perfect forms are widely used to indicate doubt and surprise (Friedman, 1982, 1988; Guéntcheva, 1990). Friedman (1988) has exploited this relation to argue that the [-BE] perfect forms express the non-confirmation of the speaker. Doubt is obviously non-confirmative. Surprise is non-confirmative because "it refers to a state whose

⁸ The semantics of the modal phrase and the conditional seems to constrain the form of the embedded sentence. The limits of the interaction still have to be determined.

⁹ The discussion of example (17) supports this hypothesis.

veracity the speaker would have been unwilling to confirm before the moment of discovery” (Friedman, 1988: 127). Thus, non-confirmation emerges as an overarching meaning of these (and other) uses of the [–BE] perfect form. Treating source of information as a presupposition suggests a derivation of the relation between the use of [–BE] perfect and the expression of doubt and surprise based on the fact that the use of the forms implicates another (conversational) situation.

Intonation notwithstanding, the [–BE] perfect forms can only conversationally imply doubt or surprise. In order for the hearer to *hear* doubt in (10a), the conversational context must carry information that the speaker’s informants are not dependable. The presupposition trigger allows such information to be recovered by pointing to the relevant situation in which the information was acquired. But the hearer would not *hear* surprise in (10a) if intonation were controlled and he or she knew that the speaker had not witnessed the event reported. Surprise is ‘elicited’ though in some cases when the speaker has observed the reported event. In (13), for example, the speaker expresses surprise/compliment to the mother whose daughter played the piano. Necessarily, the speaker has heard the daughter play. How can second-hand marking conduct to ‘hearing’ surprise in this situation and why does the speaker use the [–BE] perfect form?

- (13) *Dashterya Vi svirela hubavo na piano!*
 daughter your played-PAST-PARTICIPLE well on piano
 ‘Your daughter plays the piano well!’
 (‘Someone said that ...’)

The presupposition of the [–BE] perfect forms should lead the mother to look for formulation of information in another situation. If the mother thinks that her daughter plays well, one possibility is that the speaker’s utterance is attached to a statement that the mother herself could have made. If the speaker is a good acquaintance, the mother is very likely to take the utterance as an expression of a pleasant surprise. If the speaker is a stranger (who cannot know and refer to the mother’s thoughts), the utterance will probably be rejected as flattery. The dependence of the expression of surprise on the social context attests to its status as a conversational implicature. This interpretation of [–BE] perfect also suggests that its use in example (13) does not contradict its status as a second-hand source-of-information marker.

Other examples containing evidential endings and used to challenge their source-of-information interpretation can be similarly questioned. Friedman presents abundant data to illustrate how the four evidential forms in Bulgarian express the attitudes of the speaker (e.g., doubt) as well as to document that Bulgarian speakers use them independently of how they have acquired the information. He argues that [+BE] perfect forms are used to report directly experienced events (14) as well as in the context of report (15), while the simple past is used to report non-witnessed events (16), and [–BE] forms can be used for non-reported events (17) and (18).¹⁰

¹⁰ The examples contain the interpretations offered in the cited papers. I added the morpheme-by-morpheme glosses.

- (14) *Ami az pomnja maika mu, bre, tja mi e*
 but I remember mother his, man, she me is
splitala kosite na plitki,
 braided-PAST PARTICIPLE hair-THE in braids,
uchela me e pesni da peja ...
 taught-PAST PARTICIPLE me is songs to sing
 ‘Well, but I remember his mother, man, she used to braid my hair in braids, she taught me songs to sing ...’ (Stankov, 1967: 341, as cited in Friedman, 1982: 155)
- (15) *Ivan kaza, che si e kupil nova stihosbirka.*
 Ivan said that REFL is bought-PAST PARTICIPLE new poetry-book
 ‘Ivan said that he bought himself a new collection of poetry.’ (Stankov, 1969: 89, as cited in Friedman, 1982: 155)
- (16) *Beshe tamo.*
 was there
 ‘She was there.’ [Said of someone who was at a conference the speaker did not attend.] (Friedman, 1988: 122)
- (17) *Baj Ganjo se varnal ot Evropa!*
 Baj Ganjo REFL returned-PAST PARTICIPLE from Europe
... az go vidyah, govorih s nego ...
 ... I him saw, talked with him
 ‘Baj Ganjo has returned from Europe! ... I saw him, I spoke with him ...’ (*Baj Ganjo* by A. Konstantinov, as cited in Friedman, 1982: 153)
- (18) *Sto na sto bili pokaneni.*
 100% been-PL. invited-PASSIVE PARTICIPLE
 ‘Absolutely, they were invited.’ [The speaker was convinced of this in principle, not due to any report or other evidence] (Friedman, 1988: 125)

If one takes ‘reported’ and ‘witnessed’ literally, these examples are indeed devastating for the hypothesis that Bulgarian marks source-of-information. However, if the markers are taken to suggest the type of evidence the speaker has and considers relevant for the evaluation of the sentence, the use of epistemic markers in the above examples has a plausible interpretation.

- Friedman points out that in (14) the woman is reporting personal, i.e., witnessed, experience, which entails the use of the simple past form. Therefore, he argues, the use of the [+BE] perfect in (14) is unexpected for proponents of the source-of-information view. (In Table 2, the [+BE] perfect is defined as a first-hand cognitive information maker.) However, (14) contains an explicit pointer to memory: the woman *remembers* something she has *experienced*. Thus both the [+BE] perfect and simple past are appropriate. The use of the [+BE] perfect suggests that the woman wants to emphasize the influence of cognitive processes (memory) on her report.
- In (15), a sentence formulated with the [+BE] perfect is embedded under a verb of report. Embedded sentences can be treated either as direct quotes of what

someone else believes or says or as interpretative renditions of their words (Larson and Segal, 1995). If we entertain the latter possibility, the [+BE] perfect in the embedded sentence is appropriate: it marks the speaker's (cognitive) interpretation of what Ivan said. Friedman ignores this possibility.

- We do not have to see someone at a conference in order to say that they were there: we might just see a travel itinerary or their empty desk at work. My interpretation of the speaker's use of the simple past in (16) is that it emphasizes his or her direct perception of evidence for the event. The [+BE] perfect, which seems to be the appropriate form according to Friedman if we follow a source-of-information approach, would have foregrounded the inferential process leading from the evidence to the conclusion that the event has taken place. This, however, might not have been the speaker's goal.
- Although Friedman uses (17) to argue that [–BE] perfect forms are used for non-reported events, strictly, we do not know whether the speaker has seen Baj Ganjo returning from Europe (e.g., that he has met him at the train station or entering the country). The speaker has first-hand evidence that Baj Ganjo is back but that evidence is irrelevant for the first sentence. Consulting the story in fact shows that the speaker precedes the first sentence by the question *Did you hear the news?*¹¹ which suggests hearsay as the source. Moreover, he had met Baj Ganjo in a small inn close to Sofia and when exactly Baj Ganjo has returned from Europe is not specified.
- It is difficult to interpret Friedman's claim that in (18) the speaker was convinced about the invitation 'in principle', not on the basis of any evidence or a report. In the course of normal social interaction, speakers cannot be expected to be very cooperative informants. Since the sentence expresses the ultimate certainty of the speaker, a question about the evidence for the statement might have been taken as a challenge to his or her ability to judge and its direct meaning never considered. While this is a speculation on my part, note that the verb form, which is non-confirmative on Friedman's view, is part of a remarkably strong assertion. It is not clear what and how it contributes to the expression of speaker attitude.

6. Conclusion

While agreeing on the universal expression of epistemic information and on the diversity of its encoding, linguists still explore the exact contribution of particular epistemic devices to the meaning of utterances (e.g., Chafe and Nichols, 1986). Diachronic and typological considerations illuminate the debates, providing evidence about the origin and development of certain meanings (e.g., Traugott, 1980, 1989) and about structural and semantic regularities across languages (e.g., Comrie, 1976; Anderson, 1986; Willett, 1988). In this paper, I argued that source-of-information markers should and can be distinguished from speaker-attitude markers. They play a distinctive role in the process of evaluating the reliability of information,

¹¹ My translation.

and the influence of source of information on the assessment of an utterance depends on the personal characteristics of the evaluator and the type of information it qualifies. The experiments in Bulgarian show that even elementary school children can flexibly factor source of information into their judgments of reliability. The data also suggest that the organization of the sources of information changes with age and probably with experience.

The idea of separating source of information from speaker attitude is not new (e.g. Oswald, 1986; DeLancey, this volume). However, it needs further theoretical development and empirical testing. Acknowledging the fluidity of the construct 'source-of-information' leads to abandoning the traditional way of figuring out what the content of grammatical epistemic markers is, viz. looking at the context of the utterance and inferring, or sometimes asking the speakers themselves what they have seen and what they have overheard from others. Our utterances are results of complex processes and experience. Not only might the researcher not be able to document them from observation but speakers themselves might not be aware of them and unable to identify them through introspection. We can gain additional understanding of the function of epistemic, in particular source-of-information, markers by looking closer at the speaker-hearer interaction at the discourse and behavioral level: What questions do the utterances answer? What does the hearer do after hearing the information?

A number of hypotheses spring from the separation of source-of-information from speaker-attitude. For example, the use of source-of-information in communication assumes that both the speaker and the hearer are involved in determining what is reliable. However, not all situations prompt hearers to actively assess the information they receive. The goals of the speaker in face-to-face interaction, e.g., persuasion, can be very salient to the hearer, but are the goals of the writer equally salient to the reader? Children learn with effort to read critically and to take TV commercials with a pinch of salt. Mastering these skills continues through adulthood. Books and scientific writings are replete with speaker attitude and source-of-information markers (Chafe, 1986) but these tend to escape even the eye of college students. This suggests not only that the receiver of information might be perceiving books and the media as highly authoritative but also that when we are not active participants in the communicative act, we might absorb information without exercising discretion.

In this paper, I compared the epistemic value of speaker attitude and source of information with regard to the reliability of what is said. Reliability is a critical notion for the informative function of language, i.e., the role of language in conveying and receiving information about things, people, and our surroundings – in one word, knowledge. In particular, my discussion emphasized the place of source of information in reliability judgments. Speaker attitude, however, probably more so than source of information, is relevant to the 'expressive' function of language. It allows people to express their identity and to define social situations and roles. This suggests an interesting and still unexplored way in which the marking of source of information and speaker attitude can complement each other.

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