

CONSTRUING INFERENCE: AN EMPIRICAL STUDY OF GROUNDING PREDICATIONS WITH THE VERB *GONDOL* 'THINK'¹

NÓRA KUGLER

Abstract

This paper reports on an empirical study of epistential (epistemic-inferential) predicates. In the corpus compiled by the author (Corpus for the study of inferentiality), the marking of the speaker's vantage point is more frequent, and subjectification is more common in dialogue turns profiling inferences and beliefs than in narrative accounts of observations.

*Three constructions of *gondol* 'think' are distinguished, each is characterized by the fact that the situation being construed as possible is elaborated in a separate (subordinate) clause. The negative patterns *nem gondolom/gondolnám* 'I don't/wouldn't think' express 1) a belief that the target situation has a low degree of probability; 2) a discarded possibility as the speaker is providing access to the building up and decay of her inferences; 3) the discarding of what is known or inferred to be the discourse partner's belief in a polite, indirect way (*litotes*).*

Keywords: cognitive verb, epistemic-inferential (epistential) modality, grounding predication, inferentiality, subjectification

1. Aims and methods

In this paper, I am going to report on an empirical study of epistemic-inferential modality. I will also call it „epistential” for short, since the two aspects, epistemic and inferential, are closely intertwined. The functioning of epistential modality can be defined like this: the speaker, on the basis of her prior knowledge or information from the ongoing discourse, communicates her inference about the possibility or probability that a given situation holds.

An epistential predicate is an expression functioning as reference point (cf. Langacker 1991: 207, 2008: 83, Pelyvás 1998, 2006). It highlights the fact that the situation in the target structure is accessed through the mental operations (inferences, beliefs) of the speaker as a vantage point. Therefore, the situation is interpreted as possible or probable (only).

- | | | | | | | |
|-----|---|--|-----------------------------------|--------------------------------|---------------------------------------|---------------------------------|
| (1) | <i>gondolom</i>
<i>think</i> .1SG | <i>valami</i>
INDF.PRON | <i>irodai</i>
office.ADJ.DERIV | <i>munkája</i>
job.POSS.3SG | <i>lehet</i>
<i>be</i> .POT.3SG | (I ₃₂) ² |
| | ‘I think _[obj] he may have _[s ubj] | | some kind of office job.’ | | | |
| (2) | <i>Hát</i>
well | <i>valószínűleg</i>
<i>probably</i> | <i>ismeri</i>
know.3SG | <i>a</i>
DEF.ART | <i>helyszínt</i> , [...]
place.ACC | (I ₂₈) |
| | ‘Well, probably _[subj] he is familiar with the place.’ | | | | | |

¹ The research reported here was sponsored by the Bolyai János Research Grant (BO/00584/10/1) and the Hungarian Scientific Research Fund (OTKA, K100717).

² Informant, with her/his number

In the subscripts, [obj] and [subj] refer to the objectivized or subjectivized nature of construal in the sense of Langacker (2006: 18, 2008) (cf. Pelyvás 2006). The mental process of the speaker goes 'onstage' in the first example, and remains 'offstage' in the second one.

To investigate epistential modality, I created a corpus (Corpus for the study of inferentiality, abbreviated as Kivi in Hungarian). A key element of corpus design was the requirement that each informant observe the same event. To achieve this, I devised a simple scenario with a single character and a time span of 32 seconds, and recorded it with a digital camera.

From the recording, it is not clear

- whether or not the small-size white envelope belongs to the young man
- whether or not the search is being conducted in his own room/flat
- whether the envelope was indeed what he was looking for, or finding the envelope merely interrupted or ended the search without success.

The film gives no clue whatsoever as to the motive behind the search, the reason for the hurry, or what the young man needs the envelope for, etc.

After playing the recording, I first asked informants to narrate the events they have just observed. In the second phase, I inquired about the inferences and beliefs they have shared, asking them to back up their claims.

There was a total of 45 informants, of whom 43 were university students, one was a teacher with a university degree, and one worked in the university's administration. The participants included 38 women and 7 men. The recordings I made had a full running time of 74 minutes and 21 seconds (4461 seconds), with an average share of 1.5 minutes (99 seconds) for each informant. The corpus consists of 8658 word tokens, of which a sample of 8326 word tokens was put to analysis (3130 word tokens of narrative and 5196 word tokens of dialogue, mostly inferences).

The main questions are the following: 1) Is there a difference between the discourse types as to whether or not the speaker explicitly marks her inference-making? 2) What do the tokens of *gondol* 'think', the most general and most frequent mental verb in the corpus, show about the linguistic construal of this mental process?

2. The two discourse types

Two types of signals or markers have been considered:

a) first person singular forms (personal pronoun, suffix) anchored to the speaker; in this group, special attention was paid to *szerintem* 'in my opinion'. *Szerintem* is the most frequent Hungarian expression marking a mental vantage point anchored to the speaker.

- (3) – Kinek a szobája ez?
'Whose room is this?'
– *Szerintem*_[obj] a fiúé. (A₃)
accordingly.1SG DEF.ART boy.POSS

'In my opinion it is the boy's.'

b) I checked the frequency of epistential/modal adverbs. The epistential operation anchored to the speaker is subjectively construed by the modal adverb (e.g. *valószínűleg* 'probably'; *feltehetőleg* 'presumably', *talán* 'perhaps').

Table 1 and Figure 1 show the number of first person singular forms in the narratives and the informants' turns in the dialogues.

	pc	frequency (pc/million words)
narratives	74	23642
dialogues	187	35989

Table 1: First person singular forms in narratives and dialogues

The narratives include 74 forms referring to the speaker (which translates into a frequency of 23642 tokens / million words), whereas the dialogues contained 187 such occurrences (35989 tokens / million words). That is, the frequency of such forms was 50% higher in dialogues.

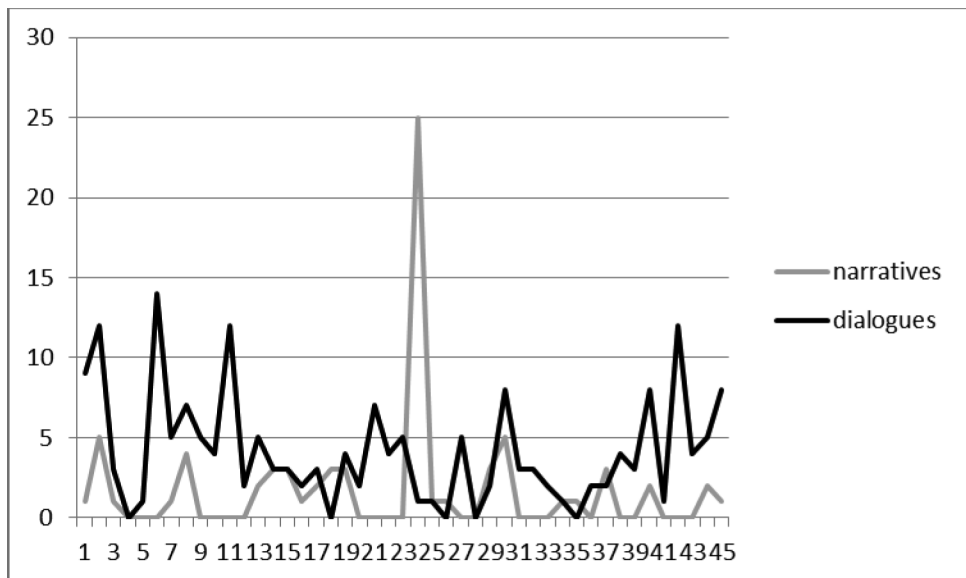


Figure 1: First person singular forms in narratives and dialogues

Informant A₂₄ was highly self-conscious. In her narrative, she kept monitoring herself and reflecting on her vantage point as an observer.

Overall, what is striking about the data is that dialogues have a higher frequency of forms referring to the speaker, highlighting her inferences and beliefs.

Even more spectacular is the difference between discourse types in terms of the frequency of *szerintem* 'in my opinion':

	tokens	frequency (pc/million words)
narratives	3	958
dialogues	26	5004

Table 2: The frequency of *szerintem*

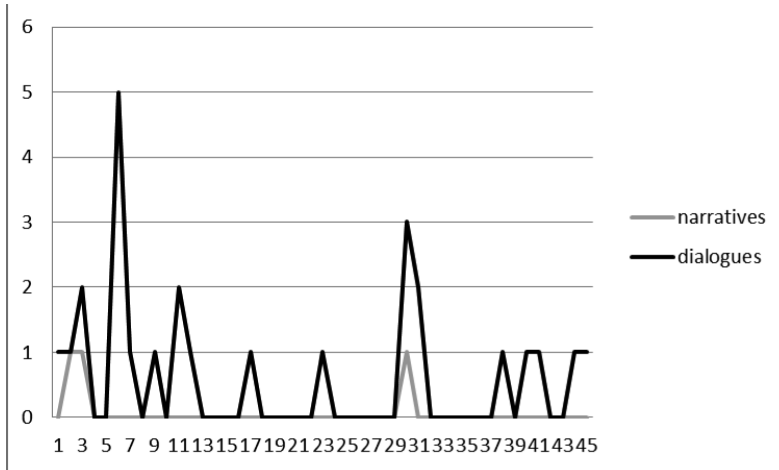


Figure 2: The frequency of occurrence of *szerintem* in narratives and dialogues

Compared to the narrative discourse type, *szerintem* 'in my opinion' has a 5.2 times higher frequency of occurrence in dialogues.

The higher degree of subjectification in dialogues is also shown by the frequency of epistential modal adverbs.

	tokens	frequency pc/million words
narratives	23	7348
dialogues	51	9815

Table 3: Epistential adverbs

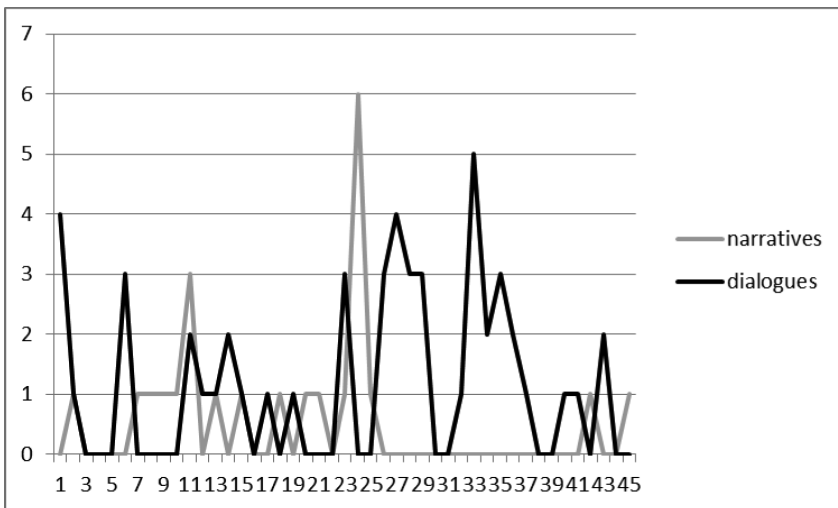


Figure 3: Epistential modal adverbs in narratives and dialogues

The data provide clear evidence for a difference between the two discourse types in terms of the markedness of the speaker’s vantage point, with regard to both objectively and subjectively construed mental processes. The marking of the speaker’s vantage point is more frequent, and subjectification is more common in dialogue turns profiling inferences and beliefs than in narrative accounts of observations.

3. The occurrences of *gondol* ‘think’

Based on my Kivi corpus, the cognitive verb *gondol* ‘think’ is the prototypical, central verb for profiling the mental processes associated with inference (Bybee 2010: 18–19, 24–25, 75). In the corpus, its first person singular inflected form has a total of 33 occurrences. This makes it the most frequent verb form anchored to the speaker, accounting for 41.25% of all verbs in first person singular.

The most common meaning of *gondol* ‘think’, with 31 occurrences, is the following: ‘the speaker makes an inference from her (evaluated) experience, creating some mental content’, or ‘the speaker builds a mental construct based on unspecified prior knowledge’.

The meaning can surface in various constructions (for data on occurrences, see Table 4). In Table 4 three types of constructions are distinguished. Each is characterized by the fact that the situation being construed as possible is elaborated in a separate (subordinate) clause.

semantic domain	syntactic structure	pc	informant
INFERENCE-MAKING, ASSESSMENT OF PROBABILITY	<i>gondol</i> .1SG + subordinate clause	31	
Type 1: with reference to the base of inference	<i>ezért/azért gondolom</i> ‘this/that is why I think’	9	I ₁ , I ₁₀ , I ₁₃ , I ₁₆ , I ₂₃ , I ₂₇ , I ₃₈
	<i>ebből/abból/miből gondolom</i> ‘from this/that/which I think’	5	I ₃ , I ₁₉ , I ₄₃ , I ₁₉ , I ₂₅

Type 2: without reference to the base of inference	<i>ezt/azt (úgy) gondoltam</i> 'I thought this/that'	3	I ₂ , I ₁₆ , I ₄₅
	<i>erre/arra gondolok</i> 'I am thinkin of this/that'	4	I ₁ , I ₃₀ , I ₃₃
	<i>gondolom(, hogy)</i> 'I think (that)'	7	I ₂₃ , I ₂₉ , I ₃₂ , I ₃₇ , I ₄₃ , I ₄₄ , I ₄₅
	<i>úgy gondolom</i> 'I think'	3	I ₅ , I ₃₆ , I ₃₉
Type 3: SIMULATION OF HYPOTHETICAL SITUATION	<i>nem gondolnám, hogy</i> 'I wouldn't think that'	1	I ₁₉
in total:		32	

Table 4: Occurrences of *gondol* 'think' anchored to the speaker

One occurrence of *gondol* belongs to the semantic domain QUALIFICATION-EVALUATION (*gondol valaminek* 'consider as'). This will not be discussed in this paper.

semantic domain	syntactic structure	pc	informant
CATEGORIZATION, QUALIFICATION-EVALUATION	<i>gondol valaminek [valamit]</i> 'consider [something] as something'	1	I ₃₂
	<i>Hát inkább ilyen dolgozószobának gondolom</i> 'Well, I'd rather consider it as a study room'		

Table 5: Occurrence of *gondol* 'consider' anchored to the speaker

3.1. Constructions of *gondol*-1SG expressing inference and assessment of probability: Type 1

Type 1 is characterized by the linguistic elaboration of the base of inference (anaphorically/ by discourse deixis in the examples). The base can be conceptualized in either of two ways (pattern A, pattern B).

Pattern A)

ezért/azért gondolom, hogy (9 occurrences)

PRON.CAUS think.1SG CONJ

'this/that is why I think that'

In pattern A), the base is construed as a reason prompting the mental subject to conceptualize the situation expressed in the subordinate clause. Its underlying image schema is the BILLIARD BALL MODEL (for a force dynamic account of the operation, see Pelyvás 2006).

- (4) – És megtalálta, amit kerestett?
 'And did he find what he was looking for?'
 – [...] az asztalon volt ugye az a doboz, amit kiöntött, vagy kiöntötte a tartalmát, és ilyen dobozban nem papírokat tart általában az ember, hanem kisebb tárgyakat. *És én ezért gondolom_[obj] hogy talán_[subj] nem azt a papírdarabot kereste.* (I₁)
 'on the table there was this box you know, which he poured out, I mean he poured out its content, and in a box like this you don't normally store paper but rather small objects. *And that's why I think_[obj] that maybe_[subj] he wasn't looking for that piece of paper.'* (I₁)

In pattern B), the base is a point of departure, the mental process adopts the image schema of TAKING SOMETHING OUT OF A CONTAINER (a specific version of the SOURCE-PATH-GOAL schema).

Pattern B)

ebből/abból/miből *gondolom,* *hogy* (5 occurrences)

PRON.ELAT think.1SG CONJ

'from this / from that / from which I think that'

- (5) – Megtalálta, amit kerestett?
 'Did he find what he was looking for?'
 – Hát szerintem igen, [...] azt a papírt megtalálta, és akkor egyből el is hagyta a szobát, *ebből gondolom_[obj] hogy* hogy azt kereste. (I₃)
 'Well in my opinion he did, [...] he found that paper and then left the room right away, *from this I think_[obj] that* that's what he was looking for.'

When other constructions are employed, the base of inference can also be elaborated by the speaker but only externally to the structure under examination.

3.2. Type 2

The operation at work in Type 2: putting the mental process on stage as a reference point for accessing the target situation (the result of inference) in the subordinate clause. It is characterized by the fact that the base of inference remains in the background, it is not elaborated linguistically, and the result of inference (the potential event) is foregrounded instead.

Pattern A)

[azt] gondolom, hogy (10 occurrences)

PRON.DIST.ACC think.1SG CONJ

'I think that'

Pattern B)

arra	gondolok,	hogy	(4 occurrences)
PRON.DIST.LAT	think.1SG	CONJ	
'I am thinking of [the fact] that'			

Pattern C)

úgy	gondolom,	hogy	(3 occurrences)
PRON.DIST.MANNER	think.1SG	CONJ	
that way		think.I	
'I think that'			

- (6) – Milyen viszony van a fiatalember és a helyszín között?
 'What is the relation between the young man and the place?'
 – *Hát úgy gondolom, hogy* ő ez egy ilyen irodajellegű szoba lehetett, de akár lehetett a saját lakószobája is. (I₃₉)
 'Well I think that... eeer... this room was possibly some kind of office, but it may also have been his own room.'

The ordering of patterns A, B and C illustrates the continuum in the polysemy of *gondol* 'think' which ranges from 'conceiving of something, coming up with a thought' (Pattern A) and more subjective meanings (cf. Traugott 1995, Tolcsvai Nagy 2013: 165–168). The complement with lative case (Pattern B) suggests less complete control over the object of conceptualization. Collocating with cognitive verbs, the word *úgy*, which originally meaning 'so, in that way, like that', has developed an abstract attitude marking function, namely the expression of mental distance ('way of thinking; nature of one's attitude to something') (Pattern C).

Incidentally, the expression *úgy látom* 'I see that way, I see like that' is also used to provide access to a belief (in 11 out of 12, i.e. 92% of cases in the Hungarian National Corpus). Thus, it also profiles attitude rather than the way in which something is visually perceived.

3.3. Type 3

The operation at work in Type 3: as a result of a mental process, the speaker creates a mental construct of a hypothetical situation which she does not believe to be probable.

nem	gondolnám,	hogy	(1 occurrence)
NEG	think.COND.1SG	CONJ	
'I wouldn't think that'			

Conceptualizing situations which are unlikely or impossible may help in assessing the probability of alternative scenarios, and thus in convincing the discourse partner.

Negative construal, however, is a marked phenomenon, compared to positive which represents the unmarked default: in general, we are talking about what we do believe to be

probable rather than the opposite. Negative construal as a departure from what is typical may have a range of functions.

- (7) – Azt mondtad, hogy vagy a saját lakásában volt, vagy nem. Miért?
 ‘You’ve said [the guy] was either in his own flat or not. Why?’
 – Igazából úgy nézett ki mint egy iroda. *És nem gondolnám*, hogy ennek a fiúnak volt egy saját irodája vagy egy dolgozószobája otthon, és abból gondoltam, hogy talán nem is a saját szobájában kutatott, vagy ott, ahol ahol az ő dolgai vannak. Hát vagy másnak keresett valamit, vagy vagy magának, de nem a saját dolgai között. Vagy csak túl sok krimi néztem? (A₁₉)
 ‘Actually it looked like an office. And I wouldn’t think that this guy had an office of his own or a study room at home, and from that I thought (concluded) that maybe he wasn’t searching in his own room or wherever he was keeping his belongings. So he was either doing the search for somebody else, or for himself, but not where his own stuff was. Or have I watched too many thrillers?’ (I₁₉)

Speaker I₁₉ is reporting on her own inference-making, attempting to reconstruct the path leading to her conclusion. As an observer and interpreter of events, she is trying to construct a meaning representation that is coherent and makes sense (cf. Tátrai 2011: 172). In the creation of this meaning representation, a key role is played not only by ongoing observation but also such factors as schemas abstracted from experience and the processes of inference. As suggested by (Vonk–Noordman 2001: 7430), inferences are built up and decay over time. In assessments of probability, speakers often construe multiple scenarios as possible (e.g. the place may have been a room in somebody’s home or in an office). These assessments of probability are generally not made simultaneously, but rather possibility is extended from one situation to another (when further factors are considered, e.g. previous experience gets activated). For example, the inference that the place may be an office becomes the base for further inferences: if the person in the film is a young boy, he cannot have an office of his own. The building up and decay of inferences is made accessible by the speaker when she is reflecting on these processes. Reporting on her beliefs, she contrasts the situation regarded as probable with a less probable or unlikely one, excludes the latter, and thereby strengthens her inference.

The discourse situation of asking for an explanation for beliefs elicits an account about the discarding of possibilities, as well as arguments supporting that decision. The reinforcement of a previous inference, or its adjustment and weakening (cf. the last sentence of (7)) primarily depends on whether or not the situation being assessed for probability fits into the story (world representation) being constructed. The significance of negative construal is in the speaker adding coherence to her world representation by discarding possibilities which might challenge the integrity of the story.

A similar function is fulfilled by negative construal when the pattern *nem gondolnám* ‘I wouldn’t think’ frames a belief that was voiced by the discourse partner, or one that may be attributed to her through inference. The synonymous expression *nem feltételezném* ‘I wouldn’t suppose’ serves as an example in (8).

- (8) – Miért gondolod, hogy a sajátja volt [a szoba]?
 'Why do you think that [the room] was his own?
 – Ez csak olyan megézés vagy feltételezés._[subj] Tehát hogy *nem feltételezném*_[obj]
 róla, hogy ő betört volna valaki máshoz, hogy valamit ellopon. (I₇)
 'This is just intuition or a hypothesis_[subj]. I mean *I wouldn't suppose*_[obj] about him
 that he would have broken into somebody's home in order to steal something.

In Hungarian, the event in the target structure can be construed either positively or negatively; in both cases, the main clause profiles the mental activity leading up to it.

- (9) Azt gondolom, hogy van saját szobája.
 that.ACC think.1SG CONJ be.3SG own room.PX.3SG
 'I think he has a room of his own.'
- (10) Azt gondolom, hogy nincs saját szobája.
 that.ACC think.1SG CONJ be.NEG.3SG own room.PX.3SG
 'I think he does not have a room of his own.'
- (11) Nem gondolom/gondolnám, hogy van/volna saját szobája.
 NEG think.IND.1SG/think.COND.1SG CONJ be.3SG/be.COND.3SG
 own room.PX.3SG
 'I don't/wouldn't think that he has/would have a room of his own.'
- (12) Nem gondolom/gondolnám, hogy nincs/ne volna
 NEG think.IND.1SG/think.COND.1SG CONJ be.NEG.3SG/NEG be.COND.3SG
 saját szobája.
 own room.PX.3SG
 'I don't/wouldn't think that he doesn't/wouldn't have a room of his own.'

The use of conditional forms in main and subordinate clauses marks increased epistemic distance (Niemeier n.d.). In the main clause, this distance is motivated by the effort inherent in simulation, whereas in the subordinate clause it has a dubitative function (expressing doubt). Among the patterns in (9)–(12), the first one is the simplest with regard to semantic complexity, and the last one is the most complex. In (12), both clauses involve negation, which makes this sentence the most difficult to comprehend (cf. Osgood 1980). The main clauses in (11) and (12) are not used to negate the mental process (literally) expressed by the verb, as the speaker does conceptualize the target structure. Rather, these negative main clauses mark the discarding of a possibility, or an assessment that the target event has very low probability.

4. Summary

Epistential predicates typically mark the fact that the mental subject (which is the same as the speaker by default) is performing some kind of inference or assessment of probability. This operation provides access to the target structure. In cases of negative construal, first person singular occurrences of *gondol* 'think' suggest that the speaker does not regard the target situation as probable. Therefore, the negative patterns *nem gondolom/gondolnám* 'I

don't/wouldn't think' do not mean that the speaker fails to perform the cognitive operation in question. Nor does it imply in Hungarian that the operation being performed applies to a negatively contextualized situation. Under an adequate interpretation, negative construal may express

- a) a belief that the target situation has a low degree of probability, which may be a way of avoiding direct negation (litotes);
- b) a discarded possibility as the speaker is providing access to the building up and decay of her inferences;
- c) the discarding of what is known or inferred to be the discourse partner's belief in a polite, indirect way (again a case of litotes).

References

- Kugler, Nóra 2014. The dynamic construal of epistential meaning. *Argumentum* 10: 403–420. (http://argumentum.unideb.hu/2014-anyagok/angol_kotet/kuglern.pdf)
- Langacker, Ronald W. 1991. *Foundations of cognitive grammar. Volume II. Descriptive application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 2006. Subjectification, grammaticization, and conceptual archetypes. In: Athanasiadou, Angeliki – Canakis, Costas – Cornillie, Bert (eds.): *Subjectification. Various paths to subjectivity*. Berlin, New York: Mouton de Gruyter. 17–40.
- Langacker, Ronald W. 2008. *Cognitive grammar: A basic introduction*. Berlin: Walter de Gruyter.
- Langacker, Ronald W. 2009. *Investigations in cognitive grammar*. Berlin, New York: Mouton de Gruyter.
- Niemeier, Susanne (n.d.) A Cognitive Grammar perspective on tense and aspect. In: Salaberry, Rafael – Comajoan, Llorenc (eds.): *Research design and methodology in studies on second language tense and aspect*. Berlin: Mouton de Gruyter. (<http://userpages.uni-koblenz.de/~niemeier/en/?Publications:Pre-Publications>)
- Osgood, Charles E. 1980. *Lectures on language performance*. New York, Heidelberg, Berlin: Springer Verlag.
- Pelyvás, Péter 1998. A magyar segédigék és kognitív predikátumok episztemikus lehorgonyzó szerepéről [Epistemic grounding functions of Hungarian auxiliaries and cognitive predicates]. In: Büky, László – Moleczki, Márta (eds.): *A mai magyar nyelv leírásának újabb módszerei* 3. Szeged: JATE. 117–132.
- Pelyvás, Péter 2006. Subjectification in (expressions of) epistemic modality and the development of the grounding predication. In: Athanasiadou, Angeliki – Canakis, Costas – Cornillie, Bert (eds.): *Subjectification. Various paths to subjectivity*. Berlin, New York: Mouton de Gruyter. 121–150.
- Tátrai, Szilárd 2011. *Bevezetés a pragmatikába. Funkcionális kognitív megközelítés* [Introduction to pragmatics. Functional cognitive perspective]. Budapest: Tinta Könyvkiadó.
- Tolcsvai Nagy, Gábor 2013. *Bevezetés a kognitív nyelvészetbe* [Introduction to cognitive linguistics]. Budapest: Osiris Kiadó.
- Traugott, Elizabeth Closs 1995. Subjectification in grammaticalisation. In: Stein, Dieter – Wright, Susan (eds.): *Subjectivity and subjectification*. Cambridge: Cambridge University Press. 31–52.
- Vonk, Wietske – Noordman, Leo G. M. 2001. Inferences in discourse. In: Smelser, Neil J. – Baltes, Paul B. (eds.): *International encyclopedia of the social & behavioral sciences*. Amsterdam, New York: Elsevier. 7427–7432.

