

Variations for Factive Verbs

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Summary In this paper I argue that Hungarian provides evidence for the view that factivity is not a lexical property, but the result of a combination of factors. These factors are focus structure, event structure (aspect) and the probability of veridical inference in context. I further propose that the projection of factive inference under an entailment canceling context is the by-product of the context-dependence of natural language operators.

Focus Kiefer (1978) observed that focus and information structure in general makes a difference in the interpretation of (semi-)factive verbs: If focus is on the embedded clause or its pronominal associate as in (1a,b) a factive inference is not necessary. However, when stress is on the verb of the main clause, a factive interpretation follows.

- (1) a. Rájött Péter, hogy HIBÁT követett el?
b. ARRA jött rá Péter, hogy hibát követett el?
c. RÁJÖTT Péter, hogy hibát követett el?
'Has Peter realized that he has committed a mistake?'

Similar examples were observed in Hungarian in Ürögdi (2008) and Abrusán (2011) not only with semi-factives but also with other types of factive verbs. In English, the focus-sensitivity was observed by Beaver (2010) and confirmed experimentally by Tonhauser et al. (2018).

Event structure Kiefer (1986) observed that perfective versions of communicative verbs in Hungarian are often factive. The pattern is productive with the perfective prefix *el*, as shown in (2c):

- (2) a. Kétlem, hogy Mari elmondta Jancsinak, hogy el akar válni tőle.
'I doubt that Mari told Jancsi that she wants to divorce him'
b. Elmondta 'tell', megírta 'write', megjósolta 'predict', elárulta 'reveal'
c. elénekelt 'sing', elszuttogta 'whisper', elkrákogta 'croak', elkuruttyolta 'caw', etc.

Attitude verbs with perfective prefixes often invoke a factive inference in Hungarian, while their imperfective counterparts do not, cf. below: (Similar examples were observed in Polish in Zuchewicz 2020)

- (3) találgatta vs. kitalálta 'guess'; érezte vs. megérezte 'sense'; érezte vs. ráérezett 'feel, sense'; fejtegette vs. megfejtette 'explain/solve'
(4) a. Kétlem, hogy Mari megérezte/ráérezett/megfejtette, hogy Jancsi fél a szellemektől.
b. Kétlem, hogy Mari érezte/ fejtegette, hogy Jancsi fél a szellemektől.
'I doubt that Mari sensed/explained that Jancsi is afraid of ghosts.'

Probability of a veridical inference Many attitude verbs that are not necessarily factive often imply the truth of their complement in entailment canceling contexts provided that the main verb is stressed and that the context makes the truth of the complement likely:

- (5) Nem igaz, hogy Mari érezte/ mutatta/ bizonyította, hogy Jancsi hibát követett el.
'It is not true that Mari felt/showed/proved that Jancsi made a mistake.'

Proposal The conclusion of Kiefer (1978) was that factivity is a lexical phenomenon; at the same time, for non-factive verbs, the interplay of context and information structure can

result in apparent factivity. In contrast, I propose that there are no lexically factive verbs, factive inference is always the result of pragmatic processes. (cf. Degen & Tonhauser 2022)

Since the Prague School, we know that the information conveyed in a sentence is not all equivalent, some is foregrounded and some is not. What is foregrounded, we pay attention to, what is not, we don't. In Hungarian, the foregrounded information is in the PredP: it contains the main proposition of the sentence (É. Kiss 2002, 2008). PredP shows what we need to pay attention to. I argue that negation and other operators combine with the main proposition conveyed by the sentence, whatever else the sentence also conveys is left untouched: this is the phenomenon of projection. [Here I focus on negation, in the full paper I also look at other operators.]

More precisely, I follow Berto (2015) in assuming that negation denotes a modal, compatibility negation. I assume further that negation takes scope over what is in PredP, while information that is conveyed by the sentence but is independent from the information in PredP will be part of the modal base of negation: i.e. it projects.

(6) Compatibility Negation:

$\neg p$ is true in w_1 iff for every w_2 such that $w_1 R_N w_2$, p is false in w_2

($w_1 R_N w_2$ means that w_1 is *compatible* with w_2 : i.e. neither rules out the occurrence of the other)

(7) Kétlem, hogy Mari

a. [_{PredP} ARRA_i [_{Pred'} jött_j [_{VP} rá _{t_j} _{t_i}]], [_{CP} hogy hibát követett el]_i]

b. [_{PredP} rá [_{Pred'} jött_j [_{VP} _{t_j} (arra_i)]]], [_{CP} hogy hibát követett el]_i]

In (7a) the associate of the subordinate clause is focused, hence it is in the scope of negation, i.e. does not project. In (7b) the main stress is on the verb of the main clause; the embedded clause is independent from it and is entailed: it is part of the modal base of negation, i.e. it projects. Communicative verbs are not factive (8a), though they may be so optionally (8b) and become factive with a perfective prefix (8c):

(8) Kétlem, hogy Mari

a. [_{PredP} AZT_i [_{Pred'} mondt_j [_{VP} _{t_j} Jancsinak _{t_i}]], [_{CP} hogy el akar válni tőle]_i]

b. [_{PredP} [_{Pred'} mondt_j [_{VP} _{t_j} Jancsinak (azt_i)]]], [_{CP} hogy el akar válni tőle]_i]

c. [_{PredP} el [_{Pred'} mondt_j [_{VP} _{t_j} Jancsinak (azt_i)]]], [_{CP} hogy el akar válni tőle]_i]

When the associate of the subordinate clause is in focus, it is in the scope of negation, as above and no factivity arises. When the bare verb is in PredP and the context does not support a veridical reading in the positive case, the truth of the embedded sentence is not part of the modal base of negation (or other operators), since this base is inherited from the content and context of the positive sentence. But when the context makes a veridical inference likely in the positive case and the truth of the complement is independent from the matrix predication, a factive inference may arise. Communicative verbs with a perfective prefix *el* or *meg* are DE-verbs (cf. Szabolcsi 1986) and they require that the object, i.e. the embedded sentence, be specific. In this case, specificity means that the situation described existed before the utterance of the sentence, i.e. is independent of it. The sentence in (7c) is veridical in a positive context, and factive in the scope of a negative operator.

Selected references Berto, F. (2015) A Modality Called 'Negation', *Mind*, 124(495) 761–793. Degen, J & Tonhauser, J. (2022). Are there factive predicates? *Language* 98(3), 552-591. É. Kiss, K. (Ed.) (2008). *Event structure and the left periphery*. Springer. Kiefer, F. (1978). Factivity in Hungarian. *Studies in Language* 2(2), 165-197. Kiefer, F. (1986). Some semantic aspects of indirect speech in Hungarian. *Direct and indirect speech*, 31, 201.