On backward and forward binding in experiencer constructions

György Rákosi
http://ieas.unideb.hu/rakosi
http://nevmasblog.wordpress.com

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1. *aims and claims*

- *"... experiencer-objects have been shown to display non-canonical object properties (or even subject properties) concerning word order, binding and scopal relations, clitic doubling, etc."*
- aims:
  - focus on stative object experiencer verbs and dative experiencer verbs, which have been argued to be the core locus of psych-behaviour (see Pesetsky 1995, Landau 2010, and Verhoeven 2014 for overviews)
  - revisiting binding data - often questioned or dismissed as non-reliable: *"... backward binding perhaps should be more aptly called a pseudo-psych-property ..."* (Landau 2010: 65)
  - focus on Hungarian data, mostly collected from the Hungarian National Corpus (Váradi 2002) and the web

stative object experiencer verb
forward binding: NOM > ACC/DAT

(1) *Én* *nem* *érdekl-em* *magam-at*.
I.NOM not interest-1SG myself-ACC
'I do not care about myself.'

dative experiencer verb
backward binding: ACC/DAT > NOM

(2) *Hogy* *tetszik* *neki* *önmaga*!
how appeals DAT.3SG himself.NOM
'How he likes himself.' (*baby watching his mirror image*)

claims:

- *true binding* data are reliable indicators of underlying structural relations in the psych-domain, too

  assuming the logical-syntax based definition of argument-binding of Reinhart (2006), which entails c-command between binder and bindee
- the two arguments of stative object experiencer verbs and datives show a symmetric behaviour - each can bind the other
- analysis in terms of the Theta System (Reinhart 2000, 2002)
  - these experiencer verbs are two-place unaccusatives (see also Pesetsky 1995 and Landau 2010)
  - the two arguments can be merged in either of the two respective base orders (see Preminger 2006, Horvath & Siloni To appear, Rákosi Submitted)

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3. *experiencer verbs in Hungarian*: syntax and binding

- recent work on clause structure in Hungarian
  - Hungarian is configurational at the base
  - the base order is subject to scrambling (Surányi 2006a,b) or free linearisation due to phase flattening in the postverbal domain (É. Kiss 2008)
  - the left periphery is discourse configurational
- some remarks on coargument binding
  - coargument binding is determined at the base, and is not affected by A- or A'-movements (i.e., bindee > binder surface order is grammatical in the coargument domain)
  - unless they carry discourse functions, subject and object pronouns are regularly *pro*-dropped (with no affect on coargument binding relations)

3. *experiencer verbs in Hungarian: the universal scene*

- object experiencers are subject to aspectual variation
  - strongly stative: *interest/depress*
  - neutral: *frighten, worry*
  - strongly eventive: *shock, surprise*

    (see, a.o., Pesetsky 1995, Tenny 1998, Landau 2010, Verhoeven 2014)
- stative ACC/DAT experiencer verbs are
  - non-agentive (and no external argument)
  - non-dynamic/non-eventive
  - stage-level predicates (see Marín & McNally 2011, Fábregas & Marín To appear)

strongly stative object experiencers:

(3) *aggaszt* 'worries', *érdekel* 'interests', *vonz* 'attracts', etc.

dative experiencers (see Rákosi 2006 for an overview):

(4) *nem akaródzik* 'does not feel like', *bejön* 'likes' or 'works well for', *derogál* 'it is beneath one's dignity', *jól/rosszul esik* 'feels good/bad', *imponál* 'impresses', *sikerül* 'succeeds', *tetszik* 'appeals', etc.

contrastive minimal pairs:

(5) subject experiencers: *szeret* 'likes'
(6) non-stative OE: *bosszant* 'annoys'
(7) agentive/causative dative: *segít* 'helps'

3. *verbs in Hungarian: causatives*

Productive causative morphology in Hungarian (see Bartos 2011 and Horvath & Siloni 2011 for two different approaches):

- V+ -(*t*)*Vt*
- *input*: verbs with external arguments

(8) a. *János vacsorá-t főz*.
John.NOM dinner-ACC cooks
'John cooks dinner.'

b. Kati *vacsorá-t főz-et János-sal*.
Kate.NOM dinner-ACC cook-CAUS.3SG John-with
'Kate gets John to cook dinner.'

(9) a. *János szeret-i az olvasás-t*.
John.NOM like-3SG the reading-ACC
'John likes reading.'

b. *Kati meg-szeret-tet-i az olvasás-t János-sal*.
Kate.NOM PRT-like-CAUS-3SG the reading-ACC John-with
'Kate gets John to like reading.'

agentive/eventive object experiencer verbs

(10) *Nero a szolgái-val bosszant-tat-ta az anyjá-t.*
Nero the servants.POSS.3SG-with annoy-CAUS-PAST.3SG the mother-POSS.3SG-ACC
'Nero got his servants to annoy his mother.'

stative object experiencer verbs

(11) **Nero a szolgái-val aggaszt-tat-ta az anyjá-t.*
Nero the servants.POSS.3SG-with worry-CAUS-PAST.3SG the mother-POSS.3SG-ACC
'Nero got his servants to worry his mother.'

dative experiencer verbs

(12) **Nero a szolgái-t tetsz-et-te az anyjá-nak.*
Nero the servants.POSS.3SG-ACC appeal-CAUS-PAST.3SG the mother-POSS.3SG-DAT
'*Nero got his servants to appeal to his mother.'

3. *experiencer verbs in Hungarian: telic particles*

- verbal particles are regularly employed in Hungarian to telicize verbs
- most subject experiencers can combine with telic particles (13, see also Eszes 2008), and eventive object experiencers can also take them (14)

(13) *János 1 perc alatt meg-szeret-te az olvasás-t.*
John.NOM 1 min. under PRT-like-past.3SG the reading-ACC
'John got to like reading in a minute.'

(14) *János 1 perc alatt fel-bosszant-otta Kati-t.*
John.NOM 1 min. under PRT-annoy-past.3SG Kate-ACC
'John annoyed Kate up in a minute.'

- stative object experiencer verbs do not take such particles:

(15) a. **meg-aggaszt* 'PRT-worries'
b. **meg-érdekel* 'PRT-interests'

- dative experiencer verbs are aspectually more varied

(16) a. **meg-imponál* 'PRT-impresses'

b. *János-nak* *1 percig* *be-jött* *Kati*.
John-DAT 1 minute.for in-came Kate.NOM
'John liked Kate for a minute.'

c. *János-nak* *1 perc* *alatt* *meg-tetszett* *Kati*.
John-DAT 1 minute under PRT-appealed Kate.NOM
'John got to like Kate in a minute.'

- incompatibility with adverbials modifying the dynamic aspect of an event/activity

(17) *Kati egyre csak bosszantotta János-t.*
Kate.NOM continually annoyed John-ACC
'Kate was continually annoying John.'

(18) **Kati egyre csak érdekelte János-t.*
Kate.NOM continually interested John-ACC
'*Kate was continually interesting John.'

(19) **Kati egyre csak tetszett János-nak.*
Kate.NOM continually interested John-DAT
'*Kate was continually appealing to John.'

3. *experiencer verbs in Hungarian: summary*

- stative object experiencer verbs and dative experiencer verbs in Hungarian

- lack external arguments (and have no agentive uses)
- are incompatible with dynamic modification
- typically do not combine with telic particles (though the dative class is more varied in this respect)

4. *binding data: forward binding*

- no uniform agreement on the judgements, but tendencies are noted in the literature
- the more stative the predicate, the worse forward binding is in English (see Landau 2010 for an overview, (20a) from Jackendoff and Cullicover 2005)
- reciprocals give better results than reflexives (Roberts 1991, see (21a,b))
- complex reflexives are better than monomorphemic ones (**si* vs ?* *se stesso*, see Belletti & Rizzi 1988)

(20) a ??*John appeals to himself*.
b. *How can I stop annoying myself*?

(21) a.??*John irritates himself*.
b. *We irritate each other.*

- thematic/structural asymmetry
- conceptual issues (Jackendoff 1991, Jackendoff & Cullicover 2005), cf. their Mme Tussaud example:

(22) *Ringo fell on himself*.

(i) 'The actual Ringo fell on the statue of Ringo.'

(ii) *'The statue of Ringo fell on the actual Ringo.'

(23) a. *I'm so in love I'm annoying myself*.

b. *The children are annoying each other and behaving badly.*

the Hungarian scene

- *dative experiencers*:

  forward binding is not degraded (É. Kiss 1994b, Rákosi 2006)

- *stative object experiencers*:

  variable judgements for forward reflexive binding (√/? /??/*), but better judgements on the whole than in English (É. Kiss 1987, 1991, 1994a,b, 2002; Kenesei et. al 1998, Rákosi Submitted)

4. *binding data: forward binding*

- two reflexives (see Rákosi 2009, 2011, 2013)

  maga 'himself'

  - historically a possessive body part reflexive
  - functions roughly like English *himself*

  önmaga 'himself'

  - the basic reflexive plus the prefix *ön-* 'self'
  - more nominal structure (e.g.: possibility of modification)
  - increased referentiality

  (24) *Újra* *(*ön*)*magam* *vagyok*.
  again myself am
  'I am myself again (i.e., what I used to be).'

- fully grammatical forward binding data are available on closer inspection

(25) *Kati tetszik* (*ön*)*magá-nak*.
Kate.NOM appeals herself-DAT
'Kate appeals to herself.'

(26) *Én nem érdekl-em* (*ön*)*magam-at*.
I.NOM not interest-1SG myself-ACC
'I do not care about myself.'

(27) **Yet again, L, as a human, is suffering, but L, as a detective, may be happy.**
És L, az ember, nem érdekli önmagá-t.
and L.NOM the human.NOM not interests himself-ACC
'And L, the human being, does not care about himself.'

(28) *Mindenki* *tetszik* (*ön*)*magá-nak*.
everybody.NOM appeals himself-DAT
'Everybody appeals to himself.

(29) *Csak* *János* *aggasztja* (*ön*)*magá-t*.
only John.NOM worries himself-ACC
(i) 'John is the only person who worries self.' binding
(ii) 'John is the only person who worries John.' coreference

(30) *Hogy tetszik neki *(ön)maga*!
how appeals DAT.3SG himself.NOM
'How he likes himself.' (*baby watching his mirror image*)

(31) *Jobban érdekel *(ön)magam, mint bárki más*.
better interests myself.NOM than anybody.NOM else
'*Myself interests me better than anybody else.'

(33) **Hogy segít neki önmaga*!
how helps DAT.3SG himself.NOM
'*How himself helps him.'

(34) **János-t szándékosan bosszantja önmaga.*
John-ACC on.purpose annoys himself.NOM
'*Himself annoys John on purpose.'

(35) *Mindenki-nek tetszik önmaga*.
everybody-DAT appeals himself.NOM
'*Himself appeals to everybody.'

(36) *Csak János-t aggasztja önmaga*.
only John-ACC worries himself.NOM
(i) 'John is the only person who is worried by self.' binding
(ii) 'John is the only person who is worried by John.' coref.

4. *binding data: possessor binding*

- non-coargument binding is indeed not always a reliable indicator of underlying structural relations:
  possessor anaphora is often licensed by discourse factors (Pollard & Sag 1992, Reinhart & Reuland 1993, and subsequent literature)
- that logophoricity renders non-coargument backward binding data non-reliable has been pointed out by, a.o., Cançado & Franchi (1999) and Landau (2010)
- Hungarian:
  - reciprocal possessors seem to require c-command at the base (or at the surface, see É. Kiss 2008)
  - reflexive possessors are marked, logophoricity is one factor that licenses them (Rákosi To appear)

(37) *Egymás szülei* *tetszenek* *a* *gyerekek-nek.*
each other's parents.NOM appeal the kids-DAT
'Each other's parents appeal to the kids.'

(38) *Egymás szülei-nek* *tetszenek* *a* *gyerekek.*
each other's parents-DAT appeal the kids.NOM
'The kids appeal to each other's parents.'

(39) ??/* *Egymás szülei* *segítenek* *a* *gyerekek-nek.*
each other's parents.NOM help the kids-DAT
' ??/* Each other's parents help the kids.'

(40) *Egymás szülei-nek* *segítenek* *a* *gyerekek.*
each other's parents-DAT help the kids.NOM
'The kids help each other's parents.'

(41) a. *János szereti a feleség-ét.*
John.NOM loves the wife-POSS.3SG.ACC
'John loves his wife.'

b. *János szereti a maga kis feleség-ét.*
John.NOM loves the himself.NOM little wife-POSS.3SG.ACC
'John loves his little wife.'

(42) a. *János-nak tetszik a maga kis feleség-e.*
John-DAT appeals the himself.NOM little wife-POSS.3SG.NOM
'His little wife appeals to John.'

b. ??*János tetszik a maga kis feleség-ének.*
John.NOM appeals the himself.NOM little wife-POSS.3SG.DAT
'John appeals to his little wife.'

→ (42) only attest to the logophoric nature of possessor reflexives, but it does not reflect an underlying structural difference

4. *binding data: summary*

- straightforward binding data provide support for the claim that both arguments of stative object experiencer verbs and dative experiencer verbs can asymmetrically c-command each other at the base in Hungarian

5. *Reinhart's analysis and Hungarian*

- Experiencers in Reinhart's (2000, 2001, 2002) Theta System (see also Rákosi 2006 for a Hungarian-centred overview)
- argument structure is lexically coded
- two thematically relevant binary features:

  [+/–c] (causally relevant)

  [+/–m] (mentally involved)
- the three types of experiencer predicates are thematically distinguished (*like*, *worry*, *appeal to*)

(43) Lexicon marking

Given an n-place verb-entry, n> l,

a. Mark a [–] cluster with index 2.
b. Mark a [+] cluster with index 1.
c. If the entry includes both a [+] cluster and a fully specified cluster [/α/–c], mark the verb with the ACC feature.

[+] clusters:	[+c+m], [+c], [+m]
[–] clusters:	[–c–m], [–c], [–m]
[/α/–c] clusters:	[–c+m], [–c–m]

(44) Merging instructions

a. When nothing rules this out, merge externally.
b. An argument realizing a cluster marked 2 merges internally;
   An argument with a cluster marked 1 merges externally.

(45) *appeal to* < $[\text{-c-m}]_2$ $[\text{-c}]_2$ >

a. *The picture*$_{[\text{-c-m}]}$ *appeals to her*$_{[\text{-c}]}$.

b. [$_{VP}$ *to her*$_{[\text{-c}]}$ [$_{V'}$ *appeals the picture*$_{[\text{-c-m}]}$]]

- by (43a), both arguments receive the merging index 2
- thus by (44b), they are both merged internally (using a Landau-type structure, but nothing crucial hinges on that)

(46) *worry* < $[+c]_1$ $[-c+m]_{ACC}$ $[-m]_2$ >

a. *His*$_i$ *health* $_{[-m]}$ *worries every patient* $_{[-c+m]}$.

b. [$_{VP}$ *every patient*$_{[-c+m]}$ [$_{V'}$ *worries his health*$_{[-m]}$]]

- these verbs have three arguments, but the *cause* $[+c]_1$ and the subject *matter* $[-m]_2$ cannot be co-realized (see Pesetsky 1995)
- object experiencer constructions are of two sorts:

(47) a. ?? *His doctor*$_{[+c]}$ *worries every patient* $_{[-c+m]}$. causative

b. *His health*$_{[-m]}$ *worries every patient*$_{[-c+m]}$. unaccusative

- Reinhart (2002: 171): some (stative) object experiencers may have a *frozen* cause argument, which cannot be syntactically realized (but does license the accusative case on the experiencer), compare *inquiéter* and *préoccuper* in French

see Fadlon (2012) for psycholinguistic evidence for the existence of frozen entries/roles

5. *Reinhart's analysis and Hungarian: summary*

- Hungarian stative object experiencers are like *préoccuper*: they do not realise a cause role in syntax, and they only have an unaccusative derivation
- the two arguments of dative experiencer verbs are lexically specified to be internal
- the two arguments of stative object experiencer verbs are lexically specified to be internal: the subject matter receives a merging index, the experiencer is accusative-marked (and experiencers are not quirky in Hungarian, see Rákosi 2006)

→ since nothing in the Theta System dictates a specific merging order for the two internal arguments, they can be merged in either of the two possible base orders
see Preminger (2006) and Horvath & Siloni (To appear) for the general claim in Theta Theoretic work (as well as Fanselow 2001, 2003), and Rákosi (Submitted) on Hungarian experiencer constructions

5. *Summary and outlook*

- binding data support an analysis in which the two arguments of stative object experiencer verbs and dative experiencer verbs can be merged VP-internally in Hungarian in both of the possible base orders
- this possibility naturally follows from the core assumptions of Reinhart's Theta System
- the binding data also tie in well with topicalisation facts: each of the two arguments of these verbs is an equally likely candidate for topichood (see Temme & Verhoeven Submitted for experimental data and discussion, as well as É. Kiss 2005 and Rákosi 2006)

- but this sort of bidirectionality is not always attested in the relevant binding data in other languages ...

(48) a. *John appeals to himself*. (whatever the judgement)

b. **Himself appeals to John*.

(49) a. *Tis Marias tis aresi o eaftos tis*.
the Mary.DAT CL.DAT likes the self.NOM her
'Mary likes herself.'

b. **I Maria tu aresi tu eaftu tis*.
the Mary.NOM CL.DAT likes the self.DAT her

(Landau 2010: 114, 155, quoting Anagnostopoulo 1999 & p.c.)

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