Verbs of creation in Hungarian

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1. Introduction

Examples of verbs of creation (bare and with a preverb):

(1) (meg)csinál [salátát] 'make [salad]', (meg)épít [házat] 'build [house]', (meg)farag [szobrot] 'sculpt [statue]', (meg)fest [képet] 'paint [picture]', (meg)főz [csésze kávét] 'make [cup of coffee]', (meg)hajtogat [papírcsónakot] 'fold [paper boat]', (meg)ír [levelet] 'write [letter]', (meg)köt [harisnyát] 'knit [pair of stockings]', (meg)rajzol [fát] 'draw [tree]', (meg)süt [süteményt] 'bake [pastry]', (meg)sző [hálót] 'spin [web]', (meg)tervez [épületet] 'design [building]' ki·gondol [receptet] 'invent [recipe]'

Examples of sentences with verbs of creation:

(2) a. Dániel (meg)csinált egy salátát.
Daniel *meg*-made a salad.ACC
'Daniel made a salad.'

b. Rebeka (meg)épített egy házat.
Rebecca *meg*-built a house.ACC
'Rebecca built a house.'

c. Sára (meg)írt egy levelet.
Sarah *meg*-wrote a letter.ACC
'Sarah wrote a letter.'

d. Márton (meg)sütött egy süteményt.
Martin *meg*-baked a pastry.ACC
'Martin baked a pastry.'

e. Eszter (meg)tervezett egy épületet.
Esther *meg*-designed a building.ACC
'Esther designed a building.'

This talk addresses the following question:

- What is the semantic contribution of the preverb *meg* with verbs of creation?

To bear in mind: Bare verbs of creation are so-called definiteness effect verbs, which means that their internal argument cannot be realized by a definite noun phrase on a perfective reading in a neutral clause (Szabolcsi 1986). Although the definiteness effect looms in the background, this talk is more directly concerned with the contribution of *meg*.

2. Empirical background

A firm intuition about verbs of creation is that they describe the coming into existence of the referent of their internal argument:

(3) a. *Rebeka (meg)épített egy házat* (= (2b)) implies that there was a house which existed when Rebecca finished building and which did not exist before she finished building
b. *Sára (meg)írt egy levelet* (= (2c)) implies that there was a letter which existed when Sarah finished writing and which did not exist before she finished writing

The problem is how to reconcile this intuition with the following three sets of data:

Negation What do the definite object noun phrases in the following negative sentences refer to? (For example, if Daniel did not make the salad, then there was no salad that he made.)

(4) a. Dániel nem csinálta meg a salátát.
Daniel NEG made *meg* the salad.ACC
'Daniel didn't make the salad.'
b. Rebeka nem építette meg a házat.
Rebecca NEG built *meg* the house.ACC
'Rebecca didn't build the house.'
c. Sára nem írta meg a levelet.
Sarah NEG wrote *meg* the letter.ACC
'Sarah didn't write the letter.'

The same kind of question arises with indefinite object noun phrases that take scope over negation (e.g., which salad, if no salad?):

(5) a. Dániel nem csinált meg egy salátát.
Daniel NEG made *meg* a salad.ACC
'There's a salad that Daniel didn't make.'
b. Rebeka nem épített meg egy házat.
Rebecca NEG built *meg* a house.ACC
'There's a house that Rebecca didn't build.'
c. Sára nem írt meg egy levelet.
Sarah NEG wrote *meg* a letter.ACC
'There's a letter that Sarah didn't write.'

Bare verbs of creation do not allow a definite object because of the definiteness effect. However, although they allow an indefinite object, they do not allow it to take scope over negation:

(6) a. #Dániel nem csinált egy salátát.
Daniel NEG made a salad.ACC
b. Dániel nem csinált egy salátát sem.
Daniel NEG made a salad.ACC neither
'Daniel didn't make any salad.'

(7) a. #Rebeka nem épített egy házat.
Rebecca NEG built a house.ACC
b. Rebeka nem épített egy házat sem.
Rebecca NEG built a house.ACC neither
'Rebecca didn't build any house.'

Anaphora What do the pronominal direct objects in the following sentences refer to? (For example, in (8a) it cannot be to the house that Rebecca built, since that came into existence.)

(8) a. Eszter tervezett egy házat, és Rebeka meg·építette.
Esther designed a house.ACC and Rebecca *meg*-built.it
'Esther designed a house and Rebecca built it.'
b. Márton kigondolt egy salátát, és Dániel meg·csinálta.
Martin invented a salad and Daniel *meg*-made.it
'Martin invented a salad and Daniel made it.'

Since the (pronominal) objects in (8) are definite, bare verbs of creation are excluded from this context. Nevertheless, it is possible to construct minimal pairs with the help of relative clauses, in two versions:

(9) a. Eszter tervezett egy házat, amit Rebeka meg·épített.
Esther designed a house.ACC which.ACC Rebecca *meg*-built
'Esther designed a house which Rebecca built.'
b. #Eszter tervezett egy házat, amit Rebeka épített.
Esther designed a house.ACC which.ACC Rebecca built

(10) a. Rebeka meg·épített egy házat, amit Eszter tervezett.
Rebecca *meg*-built a house.ACC which.ACC Esther designed
'Rebecca built a house which Esther designed.'
b. #Rebeka épített egy házat, amit Eszter tervezett.
Rebecca built a house.ACC which.ACC Esther designed

(11) a. Márton kigondolt egy salátát, amit Dániel meg·csinált.
Martin invented a salad.ACC which.ACC Daniel *meg*-made
'Martin invented a salad which Daniel made.'
b. #Márton kigondolt egy salátát, amit Dániel csinált.
Martin invented a salad.ACC which.ACC Daniel made

(12) a. Dániel meg·csinált egy salátát, amit Márton kigondolt.
Daniel *meg*-made a salad.ACC which.ACC Martin invented
'Daniel made a salad which Martin invented.'
b. #Dániel csinált egy salátát, amit Márton kigondolt.
Daniel made a salad.ACC which.ACC Martin invented

Questions with *melyik?* 'which?' Why are questions with *melyik?* 'which?' acceptable with verbs of creation with a preverb but unacceptable with bare verbs of creation? (For example, in (13) I cannot be asking about about which salad Daniel will make, because that does not exist yet.)

(13) *én*: Dániel, mit fogsz csinálni ma délelőtt? ('Daniel, what will you do this morning?')

D: Meg fogok csinálni egy salátát. ('I will *meg*-make a salad.')
én: Melyik salátát? ('Which salad?')
D: A cézár salátát ('The Caesar salad.')
(Alternatively: *D*: Azt a cézár salátát. ('That Caesar salad.') [no pointing])

(14) *én*: Dániel, mit fogsz csinálni ma délelőtt? ('Daniel, what will you do this morning?')
D: Csinálni fogok egy salátát. ('I will make a salad.')
én: #Melyik salátát? ('Which salad?')
(OK: *én*: Milyen salátát? ('What kind of salad?'))

(15) *én*: Sára, mit fogsz csinálni ma délelőtt? ('Sarah, what will you do this morning?')
S: Meg fogok írni egy levelet. ('I will *meg*-write a letter.')
én: Melyik levelet? ('Which letter?')
S: A levelet az apámnak. ('The letter to my father.')
(Alternatively: *S*: Azt a levelet az apámnak. ('That letter to my father.') [no pointing])

(16) *én*: Sára, mit fogsz csinálni ma délelőtt? ('Sarah, what will you do this morning?')
S: Írni fogok egy levelet. ('I will write a letter.')
én: #Melyik levelet? ('Which letter?')
(OK: *én*: Milyen levelet? ('What kind of salad?'))

3. Previous intuitions

Kiefer (1983, p. 235) comments on the following examples (cf. (4)):

(17) a. Anna meg·főzte a levest.
Anna *meg*-cooked the soup.ACC
'Anna cooked the soup.'
b. Anna nem főzte meg a levest.
Anna NEG cooked *meg* the soup.ACC
'Anna didn't cook the soup.'

At first he writes (with respect to (17b)) that

> if Anna did not cook the soup, there is no soup. Therefore, the object of the verb *megfőz* does not always refer, thus [(17a)] is not associated with a presupposition of existence.[1]

However, he immediately concedes that even in the case of (17b)

> there is some kind of assumption in connection with the soup, namely, that the soup had been mentioned, its preparation had been planned, or something similar. Thus we can say that a presupposition of existence is tied to

[1] '[H]a Anna nem főzte meg a levest, nincs leves. A *megfőz* ige tárgyának tehát nincs mindig vonatkozása, tehát az [(17a)] nem jár egzisztenciális előfeltevéssel.'

> [(17a)], only that in this case the presupposition does not refer to the actual world but rather to an imagined, planned world.[2]

Commentary: So the soup in (17a) is presupposed to exist not in the actual world but in some other world? But if (17a) is true, then surely the soup exists in the actual world!

Kálmán (1995, p. 237) discusses the following contrast (the translation in (18a) is his; cf. (4)–(7)):

(18) a. Nem írtam meg egy levelet.
NEG wrote.I MEG a letter.ACC
'I haven't written one of the letters.'
b. *Nem írtam egy levelet.
NEG wrote.I a letter.ACC

He writes that the negation is acceptable in (18a) because 'the eventuality denoted is itself discourse-linked and thus grounded in the previous context instead of constituting a ground on its own', whereas (18b) 'is anomalous because a negative assertion is incompatible with the ground-setting function of prefixless verbs, and indefinite noun phrases do not occur as arguments of ungrounded (e.g., generic) predicates in Hungarian.'

Commentary: But this does not address the question of which letter is at issue in (18a) if I did not write a letter. It is also doubtful that the *eventuality* described in (18a) has to be discourse-linked, because there need not be any writing eventuality at all.

É. Kiss (2004, p. 25) touches upon the following examples (cf. (2c)):

(19) a. Írtam egy verset.
wrote.I a poem.ACC
'I wrote a poem.'
b. Meg·írtam egy verset.
meg-wrote.I a poem.ACC
'I wrote a poem.'

She writes that

> [b]ased on the literature (e.g., Bende-Farkas [(1995)] and Kálmán [(1995)]) we can infer that we use (19b) with the preverb only if poems—at least in some previous form, e.g., as a plan or a conception—have already arisen in the universe of discourse, or if some sort of preparation for or activity connectable to poem-writing has already been mentioned. Thus (19b) cannot serve as the opening sentence of a conversation, whereas (19a) can.[3]

Commentary: Admittedly, it is hard to disagree with this, but how to proceed?

It seems fair to say that although there is no shortage of intuitions, there is a shortage of concrete proposals.

[2] '[...] létezik valamiféle feltevés a levessel kapcsolatban, ti. az, hogy szó volt a levesről, tervbe volt véve az elkészítése vagy ehhez hasonló. Azt is mondhatjuk tehát, hogy az [(17a)]-hez is kapcsolódik egzisztenciális előfeltevés, csakhogy ebben az esetben az előfeltevés nem a való világra vonatkozik, hanem egy elgondolt, tervbe vett világra.'

[3] 'A szakirodalom (például Bende-Farkas [(1995)] és Kálmán [(1995)]) alapján arra következtethetünk, hogy az igekötős [(19b)-t] akkor használjuk, ha versek – legalábbis valamilyen előzetes formában, például tervként, koncepcióként – már felmerültek a társalgási univerzumban, vagy ha valamiféle versírást előkészítő, versíráshoz köthető tevékenységről már volt szó. A [(19b)] tehát nem szolgálhat például egy beszélgetés nyitómondatául, a [(19a)] viszont igen.'

4. A new analysis

4.1. Existence and templates

The initial assumption is a domain of discourse D with subdomains of *physical objects* (x, y, ...), *times* (i.e., instants or intervals) (t, t', ...), and *events* (e, e', ...).

Existence The first step is say what verbs of creation (with or without a preverb) have in common. This requires distinguishing between presence in D ($\exists$) and existence at a given time in D ($\mathsf{E!}$, a two-place relation between times and physical objects):

(20) a. $\exists x[x = \mathsf{rebeka}]$ ('There is a physical object identical with Rebecca')
b. $\mathsf{E!}(\mathsf{1995}, \mathsf{rebeka})$ ('Rebecca exists throughout 1995')

The formula in (20b) entails the one in (20a) but not vice versa.

Let vc be the translation of a bare (transitive) verb of creation *vc*. Three principles for such verbs of creation are the following:

(21) a. $\forall e \forall x \forall y[\mathsf{vc}(e, x, y) \rightarrow \mathsf{E!}(\mathsf{end}(\tau(e)), y)]$
(existence of physical object at end of event)
b. $\forall e \forall x \forall y[\mathsf{vc}(e, x, y) \rightarrow \forall t[t \sqsubseteq \tau(e) \wedge t \prec \mathsf{end}(\tau(e)) \rightarrow \neg \mathsf{E!}(t, y)]]$
(no existence of physical object prior to end of event)
c. $\forall e \forall x \forall y[\mathsf{vc}(e, x, y) \wedge \mathsf{vc}(e', x, y') \wedge e' \sqsubseteq e \wedge y' \sqsubseteq y \rightarrow$
$\forall t[t \sqsubseteq \tau(e) \wedge \mathsf{end}(\tau(e')) \prec t \rightarrow \mathsf{E!}(t, y')]]$
(parts of physical objects persist to exist in event)

In (21), 'end' determines the final instant of a time, 'τ' determines the time of an event, '$\sqsubseteq$' designates the part relation, and '$\prec$' designates temporal precedence. The purpose of these principles is to capture the firm intuition regarding (transitive) verbs of creation described at the outset of section 2.

A sample derivation with a bare verb of creation:

(22) Rebeka épített egy házat. 'Rebecca built a house.' (see (2b))

(23) a. épít ('build') $\rightsquigarrow \lambda y \lambda x \lambda e[\mathsf{build}(e, x, y)]$
b. egy házat ('a house') $\rightsquigarrow \lambda R \lambda e[\exists y[\mathsf{house}(y) \wedge R(e, y)]]$
c. Rebeka ('Rebecca') $\rightsquigarrow \mathsf{rebecca}$
d. PAST $\rightsquigarrow \lambda P \lambda e[\exists t[t \prec \mathsf{now} \wedge \tau(e) \sqsubseteq t \wedge P(e)]]$
e. POS $\rightsquigarrow \lambda P[\exists e[P(e)]]$
f. LF for (22):
[POS [PAST [egy házat [λ_5 [Rebeka épít t_5]]]]] $\rightsquigarrow$
$\exists e \exists t[t \prec \mathsf{now} \wedge \tau(e) \sqsubseteq t \wedge \exists y[\mathsf{house}(y) \wedge \mathsf{build}(e, \mathsf{rebecca}, y)]]$
g. (Intermediate step:
[λ_5 [Rebeka épít t_5]] $\rightsquigarrow \lambda y' \lambda e[\mathsf{build}(e, \mathsf{rebecca}, y')]$)

Together with the principles in (21a)–(21b), the meaning of the statement in (23f) entails that y, which is a house, begins to exists only at the end of the time of e.

Templates We now enlarge D with a subdomain of *templates*. Templates are abstract objects that are typically created or designed by people and that may have physical

instantiations. For example, an architect produces designs of buildings (or 'templates of buildings'), a writer creates stories (or 'templates of histories'), a cook designs new recipes (or 'food templates'), a composer creates new musical scores (or 'templates of musical performances'), and a linguist devises new analyses (or 'partial templates of language'). In the subdomain of templates we accordingly draw a further distinction between *templates for physical objects* (**x**, **y**, ...) (e.g., a design of a building) and *templates for events* (**e**, **e′**, ...) (e.g., a story).

An *instantiation* relation connects templates to physical objects or events: $\leftsquigarrow$; e.g., $x \leftsquigarrow \mathbf{x}$ 'x instantiates **x**'. Templates should be physically instantiable:

(24) a. $\forall \mathbf{x} \Diamond \exists x[x \leftsquigarrow \mathbf{x}]$
(possible instantiation of templates for physical objects)
b. $\forall \mathbf{e} \Diamond \exists e[e \leftsquigarrow \mathbf{e}]$
(possible instantiation of templates for events)

A template may stand in a *subtemplate* relation to another template: $\trianglelefteq$; e.g., $\mathbf{y} \trianglelefteq \mathbf{x}$ '**y** is a subtemplate of **x**'. Subtemplates of templates are mapped to parts of physical objects or events that instantiate the templates:

(25) a. $\forall \mathbf{y} \forall \mathbf{x} \forall x[\mathbf{y} \trianglelefteq \mathbf{x} \wedge x \leftsquigarrow \mathbf{x} \rightarrow \exists y[y \sqsubseteq x \wedge y \leftsquigarrow \mathbf{y}]]$
(subtemplates of templates to parts of physical objects)
b. $\forall \mathbf{e}' \forall \mathbf{e} \forall e[\mathbf{e}' \trianglelefteq \mathbf{e} \wedge e \leftsquigarrow \mathbf{e} \rightarrow \exists e'[e' \sqsubseteq e \wedge e' \leftsquigarrow \mathbf{e}']]$
(subtemplates of templates to parts of events)

My proposal for *meg* with (transitive) verbs of creation (meg_1) is that it applies to a bare verb of creation C and yields a three-place relation between events e, physical objects x (agents), and templates for physical objects **y** such that x stands in relation C in e to a physical object y that instantiates **y**:

(26) $\text{meg}_1 \rightsquigarrow \lambda C \lambda \mathbf{y} \lambda x \lambda e[\exists y[C(e, x, y) \wedge y \leftsquigarrow \mathbf{y}]]$
Condition: C is the translation of a (transitive) verb of creation (cf. (21))

Another sample derivation (making use of (26), (23a), and (23c)–(23e)):

(27) Rebeka meg_1·épített egy házat. 'Rebecca built a house.' (see (2b))

(28) a. meg_1·épít ('build') $\rightsquigarrow \lambda \mathbf{y} \lambda x \lambda e[\exists y[\textsf{build}(e, x, y) \wedge y \leftsquigarrow \mathbf{y}]]$
=: BUILD
b. EGY HÁZAT ('a house') $\rightsquigarrow \lambda S \lambda e[\exists \mathbf{y}[\textsf{HOUSE}(\mathbf{y}) \wedge S(e, \mathbf{y})]]$
c. LF for (27):
[POS [PAST [EGY HÁZAT [λ_6 [Rebeka meg_1·épít t_6]]]]] $\rightsquigarrow$
$\exists e \exists t[t \prec \textsf{now} \wedge \tau(e) \sqsubseteq t \wedge \exists \mathbf{y}[\textsf{HOUSE}(\mathbf{y}) \wedge \textsf{BUILD}(e, \textsf{rebecca}, \mathbf{y})]]$
d. (Intermediate step:
[λ_6 [Rebeka meg_1·épít t_6]] $\rightsquigarrow \lambda \mathbf{y}' \lambda e[\textsf{BUILD}(e, \textsf{rebecca}, \mathbf{y}')]$)

4.2. Back to the data

Happily, the new analysis sheds light on the data from section 2. In brief:

Re: negation If the negative sentences in (4) are true, then the definite object noun phrases refer to templates for physical objects, e.g.:

(29) Dániel nem csinálta meg a salátát. ('Daniel didn't make the salad.') (= (4a))

(30) a. $\text{meg}_1\cdot\text{csinálja} \rightsquigarrow \lambda\mathbf{y}\lambda x\lambda e[\exists y[\textsf{make}(e, x, y) \wedge y \leftsquigarrow \mathbf{y}]]$
=: MAKE

b. A SALÁTÁT ('the salad') $\rightsquigarrow \iota\mathbf{y}[\textsf{SALAD}(\mathbf{y})]$

c. nem ('not') $\rightsquigarrow \lambda P[\neg\exists e[P(e)]]$

d. LF for (29):
[nem [PAST [Dániel $\text{meg}_1\cdot$csinálja A SALÁTÁT]]] $\rightsquigarrow$
$\neg\exists e\exists t[t \prec \textsf{now} \wedge \tau(e) \sqsubseteq t \wedge \textsf{MAKE}(e, \textsf{daniel}, \iota\mathbf{y}[\textsf{SALAD}(\mathbf{y})])]]$

Re: anaphora The pronominal direct objects in (8) refer to the just introduced templates for physical objects. To treat the contrasts in (9)–(12), we need to assume that the verbs *tervez* 'design' and *ki·gondol* 'invent' are verbs of creation which describe the coming into existence of a template for physical objects. The contrasts are then due to a sortal clash between templates for physical objects and physical objects, e.g.:

(31) tervez 'design' $\rightsquigarrow \lambda\mathbf{y}\lambda x\lambda e[\textsf{DESIGN}(e, x, \mathbf{y}]$

(32) a. egy házat, amit Rebeka meg·épített $\rightsquigarrow$
('a house which Rebecca built'; see (9a))
$\lambda S\lambda e[\exists\mathbf{y}[\textsf{HOUSE}(\mathbf{y}) \wedge \textsf{BUILD}(e, \textit{rebecca}, \mathbf{y}) \wedge S(e, \mathbf{y})]]$

b. egy házat, amit Rebeka épített $\rightsquigarrow$
('a house which Rebecca built'; see (9b))
$\lambda R\lambda e[\exists y[\textsf{house}(y) \wedge \textsf{build}(e, \textit{rebecca}, y) \wedge R(e, y)]]$

Re: *melyik?* 'which?' The questions with *melyik?* 'which?' in (13)–(16) ask about which template from a set of templates under discussion. Since verbs of creation with *meg* take a template for physical objects as their internal argument, they are compatible with *melyik?*. Since bare verbs of creation take a physical object as their internal argument, they are not.

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