

Interpreting multiple sluicing: Experimental evidence from Hungarian

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Main goals and claims



Fake English!

- (1) a. Someone invited someone, but I don't know who whom.
b. Who invited whom?
c. Who whom invited?

multiple sluicing
single wh-fronting
multiple wh-fronting

What is the source of (1-a): (1-b) or (1-c)?

No interpretive difference among the structures in (1).

- ▶ Based on novel experimental data.
- ▶ Contra existing claims in the literature.

Answerhood conditions: not sufficient to determine source of Hungarian multiple sluicing.

Roadmap



1. Background
2. Experiment 1: Acceptability rating task
3. Experiment 2: Forced choice task
4. Theoretical implications
5. Conclusions



The properties of **non-elliptical** sentences should **predict** the properties of **elliptical** ones.

- ▶ Availability of multiple sluicing:
 - Languages that allow multiple wh-movement allow multiple sluicing.
e.g. Bulgarian, Hungarian, Polish, and Russian

- ▶ Parallel extends to possible interpretations:
 - Answers licensed by **multiple wh-fronting questions** = scenarios in which **multiple sluicing** is allowed.
e.g. Hungarian (van Craenenbroeck & Lipták, 2013)

Parallel in interpretation



Check what interpretations single vs. multiple wh-fronting questions allow for.

Check which one the interpretations of multiple sluicing aligns with.

→ Whichever type of question it parallels = the source.



► Single wh-fronting questions must have a single-pair (SP) answer:

(2) A: János **kit** mutatott be **kinek**? (É. Kiss, 2002, ex.68)

John whom introduced VM who-to
'Whom did John introduce to whom?'

B: Pétert mutatta be Marinak.
Peter.ACC introduced.he VM Mary-to
He introduced Peter to Mary.



- ▶ Multiple wh-fronting questions must have a pair-list (PL) answer:

(3) A: János **kit** **kinek** mutatott be? (É. Kiss, 2002, ex.69)

John whom who-to introduced VM

‘Whom did John introduce to whom?’

B: Pétert Marinak és Évának, Zoltánt Évának és Júliának, Istvánt
Peter.ACC Mary-to and Eva-to Zoltan.ACC Eva-to and Julia-to Istvan.ACC

pedig Júliának és Marinak mutatta be.

on the other hand Julia-to and Mary-to introduced-he VM

‘He introduced Peter to Mary and Eva, Zoltan to Eva and Julia, and Istvan to Julia and Mary.’



- ▶ Single wh-fronting questions license both a PL and a SP answer:

(4) A: **Ki** nézett rá **kire**? (Surányi, 2006, ex.28)
who looked on who-on
'Who looked at who?'

B: János nézett rá Marira, Pali Gabira,...
John looked on Mary-on Paul Gaby-on
'John looked at Mary, Paul looked at G...'

B': János nézett rá Marira.
John looked on Mary-on
'John looked at Mary.'



- ▶ Multiple wh-fronting questions must have a PL answer:

(5) A: **Ki melyik tárgyat** tanítja? (Surányi, 2006, ex.27)

who which subject.ACC teaches

‘Who teaches which subject?’

B: Pál a szintaxist tanítja, Márk a szintaxist és a morfológiát,...

Paul the syntax.ACC teaches Mark the syntax.ACC and the morphology.ACC

‘Paul teaches syntax, Mark teaches syntax and morphology,...’

B’: #Pál a szintaxist tanítja.

Paul the syntax.ACC teaches

‘Paul teaches syntax.’



- ▶ Multiple wh-fronting questions must have a PL answer (also É. Kiss, 1993).

(6) Ki kinek hagyott egy üzenetet? (van Craenenbroeck & Lipták, 2013, ex.66)
who.NOM who.DAT left a message.ACC
'Who left a message for whom?'

- a. Everyone left a message for someone. I wonder who each person left a message for.
- b.*A single person left a message for someone. I wonder who the person was and for whom he left a message.



- ▶ Multiple sluicing is only compatible with a PL scenario (promoted by *everyone*, (7-b)):

- (7) a. **Mindenki** hagyott egy üzenetet valakinek. Nem tudom, hogy ki kinek.
everyone.NOM left a message.ACC someone.DAT not I.know that who.NOM who.DAT
'Everyone left a message for someone. I don't know who for whom.'
- b. ***Valaki** hagyott egy üzenetet valakinek. Nem tudom, hogy ki kinek.
someone.NOM left a message.ACC someone.DAT not I.know that who.NOM who.DAT
'Someone left a message for someone. I don't know who for whom.'

(van Craenenbroeck & Lipták, 2013, exs.67-68)

- ▶ Assumption: Strict parallel between ellipsis and non-ellipsis.
- ▶ Multiple sluicing derives from multiple wh-fronting.



Existing literature:

- ▶ **Single wh-fronting** questions: disagreement as to whether they **only** license **SP** answers, or **both SP and PL** answers.
- ▶ **Multiple wh-fronting** questions: allow for **only a PL** reading.
- ▶ **Multiple sluicing**: is claimed to also **only** be available in **PL** contexts.
- ▶ **Multiple sluicing is derived from multiple wh-fronting.**



- ▶ None of the reported judgements have been subjected to rigorous experimental testing.

- ▶ No minimal pairs → potential **confounding factors** in reported judgements:
 - *Which NP* vs. *who* in the question.
 - Transitives vs. ditransitives.
 - Presence vs. absence of verb in the answer.
 - Position of verb in the answer (VO vs. OV).
 - Presence vs. absence of verbal particle: indexes focus movement.

Experiment 1: acceptability rating



- ▶ 45 native speakers of Hungarian.
- ▶ Rate on a 1-7 scale how acceptable an (SP/PL) answer is to the relevant question in a dialogue.
- ▶ Methodology has been used successfully to test the answerhood conditions of questions in English (Achimova, Deprez, & Musolino, 2013).

Experiment 1: acceptability rating



3×2 design:

- ▶ 3 Constructions: multiple sluicing—8a, single wh-fronting questions—8b, multiple wh-fronting questions—8c
- ▶ 2 Readings: **SP** and **PL**, promoted by a preceding sentence (*Someone...* for **SP** and *Everyone...* for **PL**) + a matching explicit **SP/PL** answer.

Experiment 1: stimuli



(8) A: {Valaki / Mindenki} meghívott valakit. Tudod, hogy...

A: {Someone / Everyone} invited someone.ACC you.know that...

a. ...ki kit?

who.NOM who.ACC

b. ...ki hívott meg kit?

who.NOM invited PRT who.ACC

c. ...ki kit hívott meg?

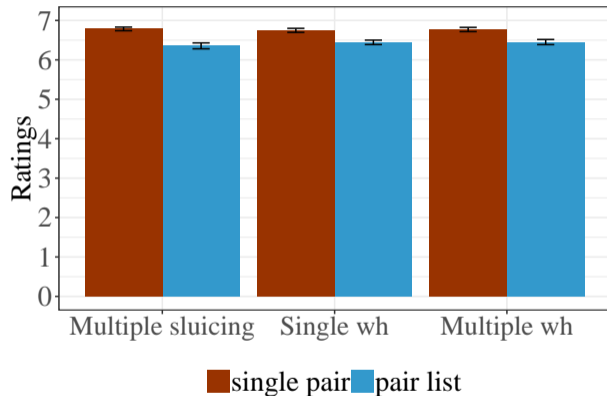
who.NOM who.ACC invited PRT

‘A: Someone/Everyone invited someone. Do you know who (invited) who?’

(9) B: {Mari Jánost. / Mari Jánost, Péter Zsuzsit, Ádám pedig Évát.}

B: Mary John.ACC / Mary John.ACC Peter Susie.ACC Adam and Eva.ACC

Experiment 1: results



High acceptability ratings.

SP rated higher than PL:

- ▶ Reading main effect ($p < 0.001$)
- ▶ Construction n.s.
- ▶ Interaction n.s.

Experiment 2: forced choice



- ▶ 39 native speakers of Hungarian.
- ▶ Forced choice task: participants had to choose between a **SP** and a **PL** answer in response to a question in a dialogue context.
- ▶ 3 conditions = 3 Constructions:
 - multiple sluicing—10a, single wh-fronting questions—10b, multiple wh-fronting questions—10c

Experiment 2: stimuli



(10)A: Valaki, vagy valakik meghívtak valakit. Tudod, hogy...

A: Someone.SG or someone.PL invited someone.ACC you.know that...

a. ...ki kit?

who.NOM who.ACC

b. ...ki hívott meg kit?

who.NOM invited PRT who.ACC

c. ...ki kit hívott meg?

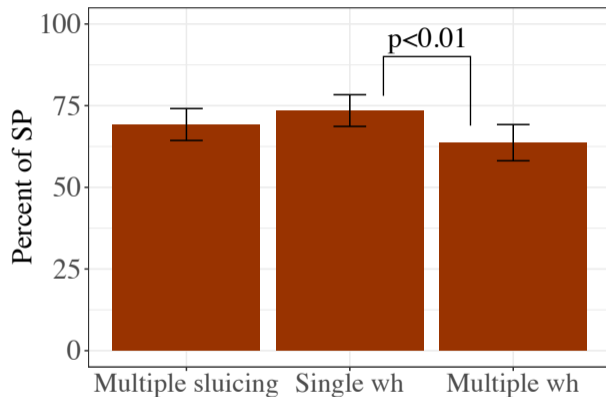
who.NOM who.ACC invited PRT

‘A: Someone, or some people invited someone. Do you know who (invited) who?’

(11)B: {**Mari Jánost.** / **Mari Jánost,** **Péter Zsuzsit,** **Ádám pedig Évát.**}

B: Mary John.ACC / Mary John.ACC Peter Susie.ACC Adam and Eva.ACC

Experiment 2: results



Uniform preference for SP.

Significant difference between:
single (74% SP) and multiple (64%)
wh-fronting questions ($p < 0.01$).

Multiple sluicing (70% SP) doesn't
differ from either.



- ▶ Previously reported judgements not confirmed by our findings.
 - ✗ Multiple sluicing and multiple wh-questions: only compatible with PL.
- ▶ Hungarian multiple sluicing, single and multiple wh-fronting questions pattern alike with respect to their answerhood conditions:
 - **SP answers are preferred** over PL ones across the board, though **both** answer types are **generally available**.
- ▶ Exp. 2: multiple sluicing does not clearly align with either type of question in how strong the SP preference is.
 - Representing a “middle ground” when it comes to interpretation?



- ▶ These findings complicate our view of the syntax of multiple sluicing.
- ▶ Assuming that properties of non-elliptical sentences predict properties of elliptical ones: **no reason** *in principle* to prefer analyzing multiple sluicing as **deriving from either question type**.



12a: both wh-phrases are moved, and thus both escape deletion, triggered by feature [E] on C (i.a. van Craenenbroeck & Lipták, 2013).

12b: one of the wh-phrases escapes deletion without needing to move (i.a. Abe, 2015, 2016).

(12) Valaki/Mindenki meghívott valakit. De nem tudom, ki kit.
someone/everyone invited someone.ACC but not I.know who.NOM who.ACC
'Someone/Everyone invited someone. But I don't know who whom.'

a. ... De nem tudom, ki kit [E_[E] hívott meg]. → move-and-delete approach
... but not I.know who.NOM who.ACC invited PRT

b. ... De nem tudom, ki [E_[E] hívott meg [F kit]]. → in-situ approach
... but not I.know who.NOM invited PRT who.ACC



Investigate potential factors uncontrolled in earlier theoretical work, which may have led to generalizations incompatible with our experimental findings:

- ▶ Transitives vs. ditransitives.
- ▶ Presence vs. absence of verb in the answer.
- ▶ Position of verb in the answer (VO vs. OV).
- ▶ Presence vs. absence of verbal particle: indexes focus movement.

Individual/dialect variability?



- ▶ Claims about the answerhood conditions of Hungarian multiple sluicing and single/multiple wh-fronting questions were made on the basis of **heterogeneous examples**.
- ▶ **Novel, controlled experimental data:**
 - **All relevant structures pattern alike:** license both SP and PL answers, with a preference for SP.
 - **Multiple sluicing is in between the two types of questions** in terms of how strong a preference it has for SP.
- ▶ **Answerhood conditions cannot distinguish** between the two possible sources for the ellipsis site.
→ No longer have an argument for multiple sluicing deriving from multiple wh-fronting.

Thank you!

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