

Mondatok nyelvtani elemzése rekurzív analógiakereséssel

Lagos Mátyás
HUN-REN Nyelvtudományi Kutatóközpont

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MANYEK

Az analógia-képzésre nem úgy érdemes tekinteni, mint a [tudatos] gondolkodás egy fajtájára [...]

[...] az analógia *minden*, vagy majdnem minden [ami az emberi gondolkodás].



forrás ↗

Hofstadter (2001): Analogy as the core of cognition



[forrás ↗](#)



[forrás ↗](#)



[forrás ↗](#)

Hofstadter (2001): Analogy as the core of cognition

Természetesen van valami ami ezekben mind közös, mégis megkülönböztethető régiókat alkotnak a fogalmi térben.

És kiterjesztjük a fogalmunkat [...] úgy,
ahogy egy fonál sodrásakor
a szálakat a szálakkal egymásba tekerjük.

És a fonál ereje nem abból származik
hogy végigfut rajta egyetlen szál,
hanem abból ahogy a sok szál átfedi egymást.



[forrás ↗](#)

Wittgenstein (1953): Filozófiai vizsgálódások §67.



[forrás ↗](#)

Wittgenstein (1953): Filozófiai vizsgálódások §67.



[forrás ↗](#)



[forrás ↗](#)



[forrás ↗](#)

János tud biciklizni

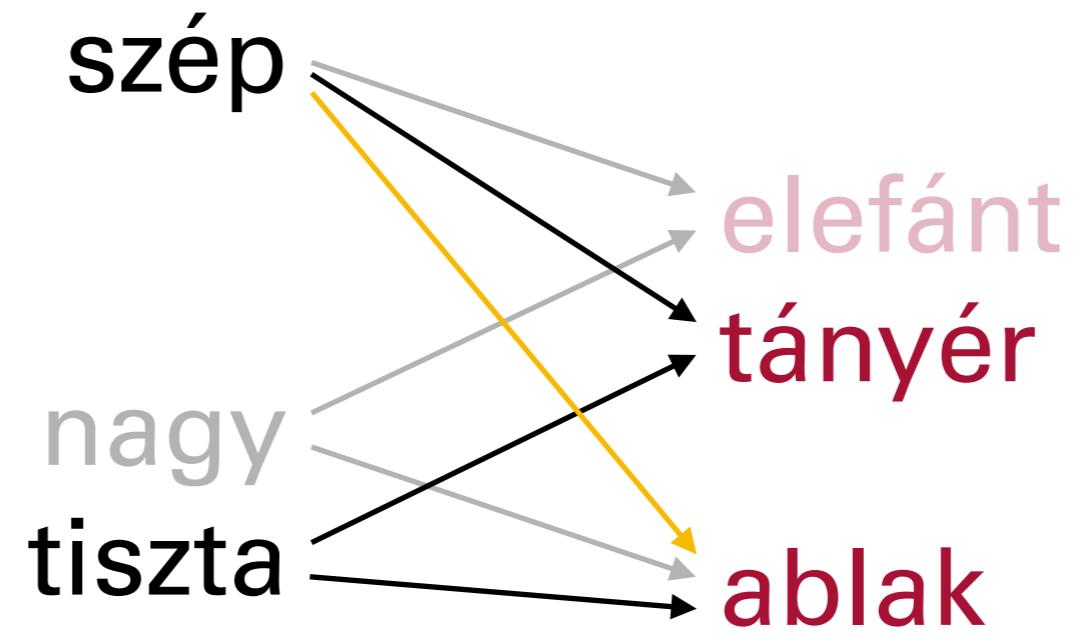
Juli tud korcsolyázni

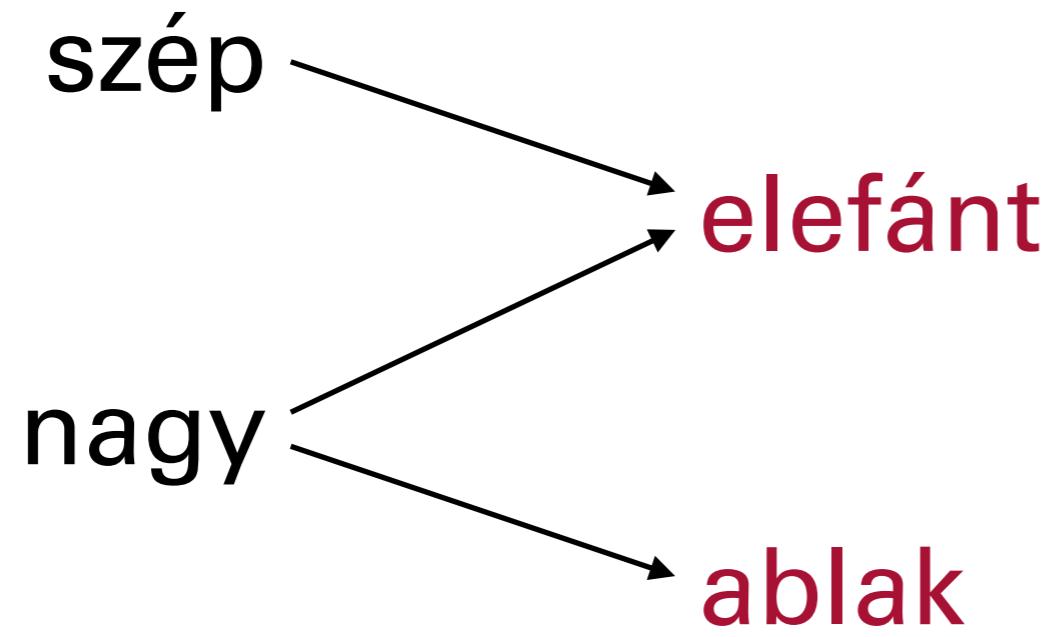
Tegnap láttam Julit

Károlyt is láttam

Károly szeret futni

Mari szeret úszni





$P(\text{elefánt} \mid \text{szép } _)$
•
 $P(\text{nagy} \mid _ \text{ elefánt})$
•
 $P(\text{ablak} \mid \text{nagy } _)$

your geese
of life
's hat
their father
my father
's head
my life
of bread
their enemies
's daughter
the father

her journey
their father
his own
his head
his father
their own
his hand
his face
his eyes
their mother
their hair

my hat
's son
's daughter
his wife
's head
his father
's house
your father
your life
's heart
's wife

your geese

of life

's hat

their father

my father

's head

my life

of bread

their enemies

's daughter

the father

her journey

their father

his own

his head

his father

their own

his hand

his face

his eyes

their mother

their hair

my hat

's son

's daughter

his wife

's head

his father

's house

your father

your life

's heart

's wife

your geese
of life
's hat
their father
my father
's head
my life
of bread
their enemies
's daughter
the father

her journey
their father
his own
his head
his father
their own
his hand
his face
his eyes
their mother
their hair

my hat
's son
's daughter
his wife
's head
his father
's house
your father
your life
's heart
's wife

your geese

of life

's hat

their father

my father

's head

my life

of bread

their enemies

's daughter

the father

her journey

their father

his own

his head

his father

their own

his hand

his face

his eyes

their mother

their hair

my hat

's son

's daughter

his wife

's head

his father

's house

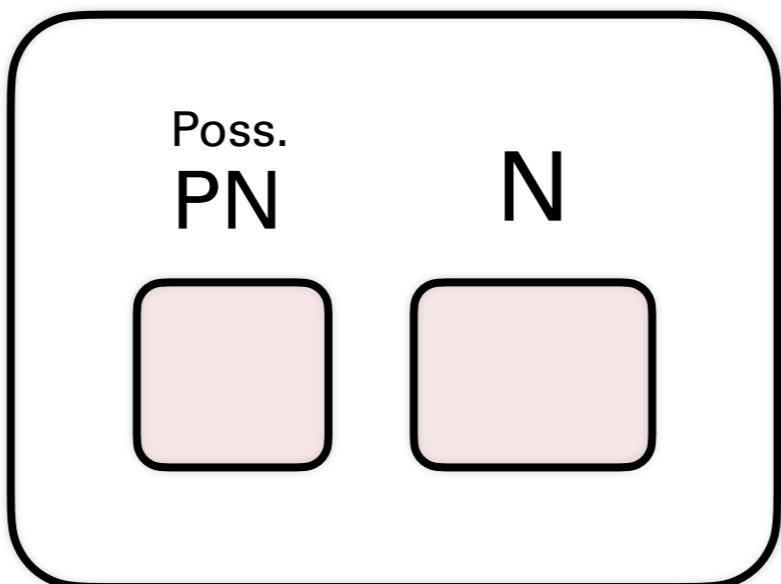
your father

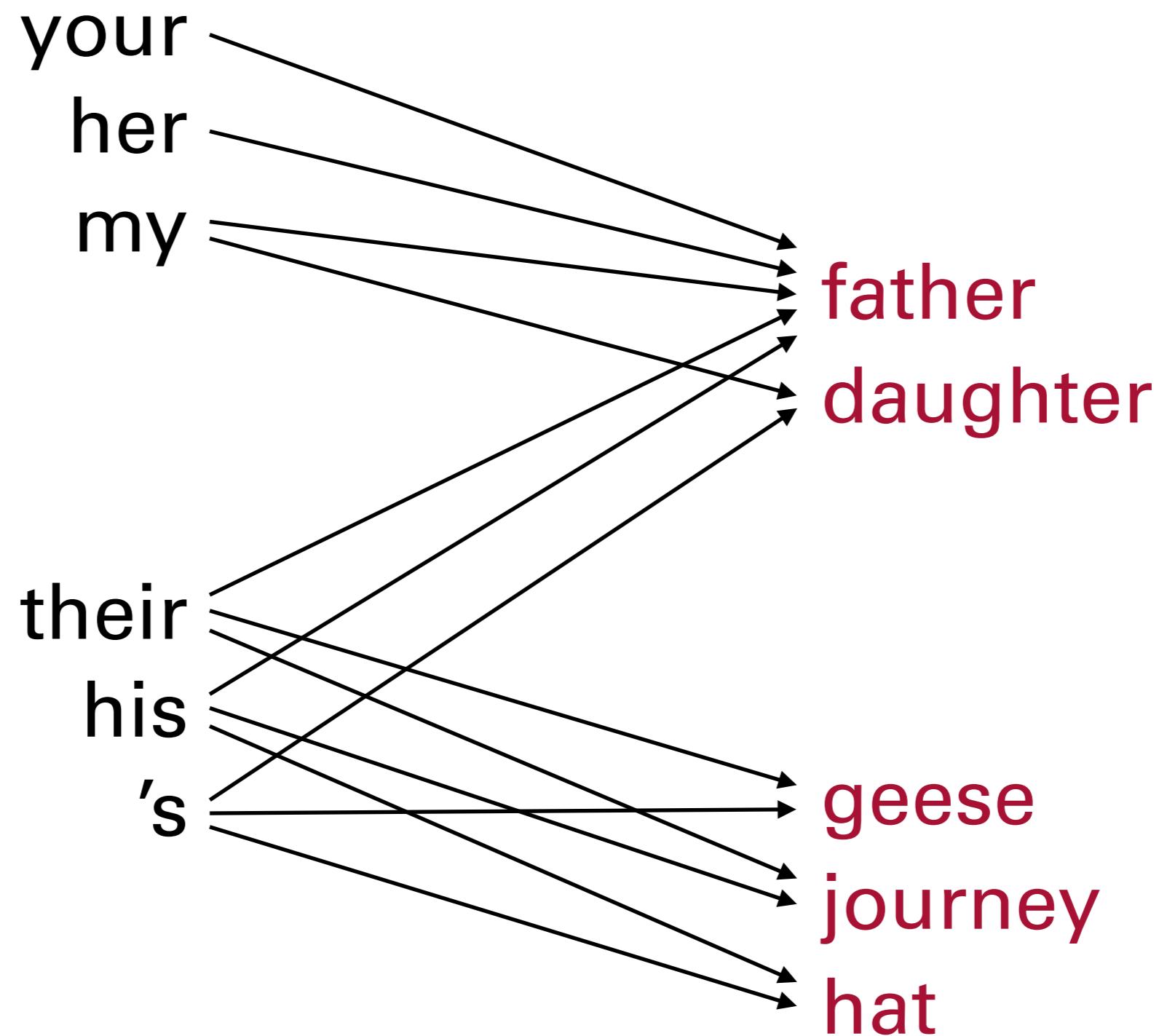
your life

's heart

's wife

possessive-cx





did the critic →
→ like my movie

did →
→ the critic

like →
→ my movie

the →
→ critic

my →
→ movie

did the critic →
→ like my movie

did →
→ the critic

like →
→ my movie

the → teacher
this → critic

my →
→ movie

did the critic →
like my movie

did →
the critic
this teacher

like →
my movie

the →
critic

my →
movie

did the critic →
→ like my movie

did → she
will → the critic
this teacher
like →
→ my movie

the →
→ critic
my →
→ movie

will she
did the critic →
like my movie

did →
the critic →
this teacher

like →
my movie

the →
critic

my →
movie

will she
did the critic →
like my movie

did →
the critic →
this teacher

like →
my movie

the →
critic

my → paper
their → movie

will she
did the critic →
like my movie

did →
→ the critic
this teacher

like →
→ my movie
their paper

the →
→ critic

my →
→ movie

will she
did the critic →
like my movie

did →
→ the critic
this teacher

like → it
read → my movie
their paper

the →
→ critic

my →
→ movie

will she
did the critic →
like my movie
read it

did →
the critic
this teacher

like →
my movie
their paper

the →
critic

my →
movie

will she
did the critic →
like my movie
read it

did →
the critic
this teacher

like →
my movie
their paper

the →
critic

my →
movie

will she
did the critic → run
should he → like my movie
read it

did →
→ the critic
this teacher

like →
→ my movie
their paper

the →
→ critic

my →
→ movie

```
[ (he) [ (the) — my  
      [ (fox) — fox  
[ (went towards it) [ (went towards) [ (went) — ran  
                           [ (towards) — towards  
                           [ (it) [ (the) — your  
                                 [ (forest) — forest
```

“my fox ran towards your forest”

```
[ (the fisherman) [ (the) — my  
          [ (fox) — fox  
[ (crept towards the sea) [ (crept towards) [ (crept) — ran  
          [ (towards) — towards  
          [ (the sea) [ (the) — your  
          [ (forest) — forest
```

“my fox ran towards your forest”

```
[└ (what shall i) [└ (what shall) [└ (what) — what  
[└ (shall) — would  
[└ (i) [└ (the) — our  
[└ (fox) — fox  
└ (do) — see
```

“what would our fox see”

[— (what did she) [— (what did) [— (what) — what
[— (did) — would
[— (she) [— (the) — our
[— (fox) — fox
[— (see) — see

“what would our fox see”

will she _
did the critic _ → run
to _ tomorrow → like my movie
read it

will she _
did the critic _ → run
_ later → like my movie
read it

Szintagmatikus feltételes valószínűség:
“Béla látott egy Śrhajót”

$$P(\text{űrhajót} \mid \text{egy}) \approx \frac{\text{freq(egy Śrhajót)}}{\text{freq(egy)}}$$

Paradigmatikus feltételes valószínűség:
“Béla **hallott** egy madarat”
néz

$$P(\text{hallott} \mid \text{néz}) \approx$$

$$\sum_{\text{ctxt}} P(\text{ctxt} \mid \text{néz}) \cdot P(\text{hallott} \mid \text{ctxt})$$

Az előadás az NKFI K-139271 “*A paradigma-szerkezet szerepe a magyar fonológiában és alaktanban nyelvtipológiai szempontból*” projekt keretében készült.