Negative Concord Without Lexical Ambiguity

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Motivation

- In many NC languages, n-words are perceived as inherently negative by native speakers.
- NC readings are very natural;

  even in many non-NC languages, NC dialects/contexts exist.

? How can several inherently negative words express a single negation?

! They contribute **the same** negation.

Overview

1. Data
   - Evidence for negative n-words in Polish
   - Evidence for non-negative n-words in Polish
2. Lexical Resource Semantics (LRS)
   - Introduction
   - An analysis
3. Discussion

Data

Negative N-Words

(1)a. Kogo widziałeś? Nikogo.GEN/ACC.
Who have you seen? Nobody.

b. Ile przeczytałeś książek?
How many books have you read?

Żadnej.GEN./Żadną.ACC.
None.

(2) Chcę poślubić albo Piotra, albo nikogo.
I will marry either Piotr or nobody

(3) Kocham ją jak [żadną inną].
I love her.ACC as [no other].ACC

? Kocham ją jak [żadnej innej].
I love her.ACC as [no other].GEN

'I love her more than (I love) any other (girl).'

Non-negative N-Words?

(4) Janek *(nie) pomaga nikomu.
Janek NM helped nobody

'Janek didn't help anybody.'
$ 'Janek didn't help nobody.'

(5) Nikt *(nie) pomaga nikomu.
Nobody NM helped nobody

'Nobody helped anybody.'

(6) Zaczął bez czekania na nikogo.
he-started without waiting for nobody

'He started without waiting for anybody.'

(7) * Widziałeś nikogo?
you-saw nobody

$ 'Did you see anybody?'

. . . but!

1. All these examples are interpreted as negative.

2. There is no non-negative polarity use of n-words in Polish.

Conclusion

There EXISTS evidence for the inherently negative character of Polish n-words.

There is NO evidence for an inherently non-negative character.

A Discontinous Semantic Framework

(8)a. Nikt nie przyszedł
nobody NM came

‘Nobody came.’

b. $\neg\exists x[\text{human}'(x) \wedge \text{come}'(x)]$

c. $\boxed{1}$ $\neg\exists x[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{2}$ $\exists x[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{3}$ x

$\boxed{4}$ $[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{5}$ $\text{human}'(x)$

$\boxed{6}$ human'

$\boxed{7}$ $\text{come}'(x)]$

$\boxed{8}$ come'

d. $$\begin{bmatrix} \textit{lrs} & \\ \textsc{top} & \boxed{1}\ \neg\exists x[\text{human}'(x) \wedge \text{come}'(x)] \\ \textsc{main} & \boxed{7}\ \text{come}'(x) \\ \textsc{parts} & \langle \boxed{1}, \boxed{2}, \boxed{3}, \boxed{4}, \boxed{5}, \boxed{6}, \boxed{7}, \boxed{8} \rangle \end{bmatrix}$$

Lexical entry of *nie przyszedł*

$$(9)\quad \left[\begin{array}{ll} \textit{word} & \\ \textsc{phon} & \langle \textit{nie przyszedł} \rangle \\ \textsc{syns loc cont} & \left[\begin{array}{ll} \textit{lrs} & \\ \textsc{top} & \textit{me} \\ \textsc{main} & \mathsf{come}'(x) \\ \textsc{parts} & \left\langle \neg\exists x\alpha, \exists x\alpha, \mathsf{come}'(x), \mathsf{come}' \right\rangle \end{array}\right] \end{array}\right]$$

$$\& \ \mathsf{come}'(x) \triangleleft \alpha$$

Lexical entry of *nikt*

$$(10)\quad \left[\begin{array}{ll} \textit{word} & \\ \textsc{phon} & \langle \textit{nikt} \rangle \\ \textsc{syns loc cont} & \left[\begin{array}{ll} \textit{lrs} & \\ \textsc{top} & [\gamma \wedge \delta] \\ \textsc{main} & \mathsf{human}'(x) \\ \textsc{parts} & \left\langle \neg\beta, [\gamma \wedge \delta], \mathsf{human}'(x), \mathsf{human}', x \right\rangle \end{array}\right] \end{array}\right]$$

$$\& \ [\gamma \wedge \delta] \triangleleft \beta$$
$$\& \ \mathsf{human}'(x) \triangleleft \gamma$$

An example

(11)

$$\begin{bmatrix} \text{TOP} & \boxed{1} \\ \text{MAIN} & \boxed{7} \\ \text{PARTS} & \langle \boxed{1}, \boxed{1}, \boxed{2}, \boxed{3}, \boxed{4}, \boxed{5}, \boxed{6}, \boxed{7}, \boxed{8} \rangle \end{bmatrix}$$

Nikt

$$\begin{bmatrix} \text{TOP} & \boxed{4} \\ \text{MAIN} & \boxed{5} \\ \text{PARTS} & \langle \boxed{1}, \boxed{3}, \boxed{4}, \boxed{5}, \boxed{6} \rangle \end{bmatrix}$$

nie przyszedł

$$\begin{bmatrix} \text{TOP} & \boxed{1} \\ \text{MAIN} & \boxed{7} \\ \text{PARTS} & \langle \boxed{1}, \boxed{2}, \boxed{7}, \boxed{8} \rangle \end{bmatrix}$$

$\boxed{1}$ $\neg\exists x[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{2}$ $\exists x[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{3}$ x

$\boxed{4}$ $[\text{human}'(x) \wedge \text{come}'(x)]$

$\boxed{5}$ $\text{human}'(x)$

$\boxed{6}$ human'

$\boxed{7}$ $\text{come}'(x)]$

$\boxed{8}$ come'

The Negation Complexity Constraint

(for Polish):

For each sign, there may be at most **one** negation that is a subterm of the TOP value and that has the MAIN value as one of its subterms.

(12) Poślubię albo tę dziewczynę.ACC z
I will marry either this girl from
Poznania, albo żadnej dziewczyny.GEN z
Poznan or no girl from
żadnego miasta.
no city.

'I will either marry this girl from Poznan or no girl from any city.'

(13) Tomek nie może nie znać Marii.
Tomek NM may NM know Maria

'It is not the case that it is possible that Tomek does not know Maria.'

The Neg Criterion

(for Polish):

For every verb, if there is a negation in the TOP value of the verb that has scope over the verb's MAIN value, then that negation must be an element of the verb's PARTS list.

(14)a. * Nikt przyszedł.
Nobody came

b. $$\begin{bmatrix} \textit{word} & \\ \textsc{phon} & \langle \textit{przyszedł} \rangle \\ \textsc{syns loc cont} & \begin{bmatrix} \textit{lrs} & \\ \textsc{top} & \textit{me} \\ \textsc{main} & \mathsf{come}'(x) \\ \textsc{parts} & \left\langle \mathsf{come}'(x), \mathsf{come}' \right\rangle \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \textsc{top} & \boxed{1} \\ \textsc{main} & \boxed{7} \\ \textsc{parts} & \langle \boxed{1}, \boxed{2}, \boxed{3}, \boxed{4}, \boxed{5}, \boxed{6}, \boxed{7}, \boxed{8} \rangle \end{bmatrix}$$

Nikt

$$\begin{bmatrix} \textsc{top} & \boxed{4} \\ \textsc{main} & \boxed{5} \\ \textsc{parts} & \langle \boxed{1}, \boxed{3}, \boxed{4}, \boxed{5}, \boxed{6} \rangle \end{bmatrix}$$

przyszedł

$$\begin{bmatrix} \textsc{top} & \boxed{1}\ \neg\exists x[\mathsf{human}'(x) \wedge \mathsf{come}'(x)] \\ \textsc{main} & \boxed{7}\ \mathsf{come}'(x) \\ \textsc{parts} & \left\langle \mathsf{come}'(x), \mathsf{come}' \right\rangle \end{bmatrix}$$

Evaluation

- Our analysis avoids mechanisms such as *negative absorption*:

  $$\forall x_1 \neg \forall x_2 \ldots \neg \forall x_n \neg \phi \Longrightarrow \forall x_1 \forall x_2 \ldots \forall x_n \neg \phi$$

- instead, it uses *identities*:
  - identities are the primary explanatory device of HPSG
  - identities arise wherever possible, so NC languages are predicted to be the unmarked case.

- The Negation Complexity Constraint and the Neg Criterion are adaptations of standard principles.