Non-Lexical vs. Lexical Accounts for UDCs: The case of Negative Polarity Items in Polish

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1 Theories of Environment Sensitive Entities (ESE)

Binding

(1) a. *Mary*$_i$ likes **herself**$_i$

b. * *Bill*$_i$ likes **herself**$_i$

c. * *Mary*$_i$ thinks that Bill likes **herself**$_i$

Extraction

(2) a. (I wonder) which book Mary thinks that you like *t*

b. * (I wonder) whether Mary thinks that you like *t*

c. * (I wonder) which book Mary thinks that you like movies

d. * which book do you wonder whether Mary thinks that you like *t*

Negative Polarity Items

(3) a. hij **hoeft** *geen* melk met de koffie
he needs no milk with the coffee

b. * hij **hoeft** veel melk met de koffie
he needs a lot of milk with the coffee

(Dutch)

Polish n-words:

(4) a. Marysia **niczego** * (*nie*) dała Jankowi
Mary nothing not gave John
Mary didn't give John anything

b. Jan * (*nie) sądzi, żeby Marysia **nikogo** lubiła
John not believes that Mary nobody liked

The basic components of the theories:

- Bottom: an element that has to be licensed
- Top: an element that licenses the bottom
- Method: a relation between the bottom and the top element
- Structure: (locality) restrictions on where licensing is possible

3 **Accounts** of UDCs in HPSG:

	(Pollard and Sag 1994, Ch. 4)	(Pollard and Sag 1994, Ch. 9) (Sag 1996)	(Richter 1997)
Bottom	trace	lexical rule	trace
Top	filler	filler	filler
Method	identities TO-BIND SLASH passing	identities no further percolation SLASH passing amalgamation	identities structural requirements
Structure	SLASH requirements	SLASH requirements	Island constraints

Polish n-Words: the Lexical Approach
Przepiórkowski and Kupść (1997a) show: Polish n-words are ESE:

Bottom	:	*nikt* (*nobody*), *nigdy* (*never*), ...	(n-word)
Top	:	*nie*-V, *bez* (*without*), ...	(negation)
Method	:	NC value requirements, amalgamation, percolation	
Structure:		NC-requirements	

Polish n-Words: the Non-Lexical Approach

Bottom	:	*nikt* (*nobody*), *nigdy* (*never*), ...	(n-word)
Top	:	*nie*-V, *bez* (*without*), ...	(negation)
Method	:	licensing requirements of the n-word, d*-command	
Structure:		island constraints	

2 Bottom and Top

- **Binding:** The CONTENT value of a *nominal-object* provides information about
  - the information which is identical to that of the binder,
  - information about the kind of ESE (anaphor, personal pronoun, etc.).
- **Extraction:** The LOCAL value of the trace provides
  - the information that is identical to that of the filler.

– information about the kind of ESE (wh-trace, non-wh-trace)

Negative Polarity Items/ n-Words

- There is no obvious information that should be structure-shared between the NPI and its licenser:

(5) a. In situations like these, *nobody* will **lift a finger**/ do **anything**
    b. I really *doubt* that Peter would **lift a finger**/ do **anything**
    c. Did John do **anything** *?*

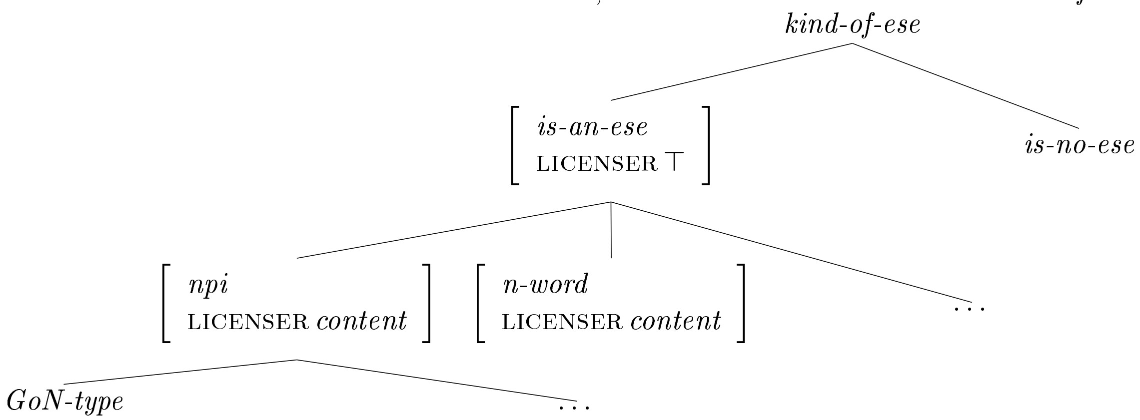
- NPIs/n-words fall in different classes which can hardly be distinguished on the basis of their syntactic or semantic information (examples from (Progovac 1994)).

(6) a. Marija * (*ne*)poznaje **ni(t)ko-ga**
    Mary not knows no-one-ACC
    Mary doesn't know anyone
    b. Milan * (**ne*) tvrdi [da Marija poznaje **ni(t)koga**]
    Milan not claims that Mary knows no-one-ACC

    c. Marija * (**ne*)poznaje **i(t)ko-ga**
    Mary not knows anyone-ACC
    d. Milan * (*ne*) tvrdi [da Marija poznaje **i(t)koga**]
    Milan not claims that Mary knows anyone-ACC
    Milan doesn't claim that Mary knows anyone

(Serbian/Croatian)

Therefore: we introduce a feature ESE on *word*s, which takes values of the sort *kind-of-ese*:



For NPI/n-word licensing, we assume that all the information about the licenser which is needed, is its CONTENT value (Edmondson 1981, Klooster 1997). There is a ranking of kinds of polarity:

(7) negation > interrogative > conditional > comparative > positive

...and a ranking of strength (given for Dutch):

(8) *niet* (*not*), *niemand* (*nobody*), ...> *pas* (*not until*), *slechts* (*only*), *niet meer dan* (*no more than*)

(9) a. *niemand* deed **een bal**
nobody did anything

b. * *niet meer dan twee mensen* deden **een bal**
no more than two people did anything

(Dutch, Klooster p.c.)

The lexical entry for *een bal* contains the description:
the ESE LICENSER value expresses a pure negation

(10) a. je **hoeft** *niet* te komen
you need not

b. *niemand* **hoeft** te komen

c. je **hoeft** *pas om drie uur* te komen

d. * **hoef** je om drie uur hier te zijn *?*

(Dutch)

The lexical entry for *hoeven* contains the description:
the ESE LICENSER value contains some sort of negation

Polish n-words:
Their ESE LICENSER value is restricted to pure negation.

3 Method

- **Binding:** Binding occurs under o-command and INDEX identity.
- **Extraction:** (Pollard and Sag 1994): Filler and trace have identical LOCAL values and are conected via a SLASH path; (Richter 1997): Filler and traces have identical LOCAL values and the smallest complete sentence that contains the filler dominates the trace.

Przepiórkowski and Kupść (1997a): the licenser allows dependents that are NC + but does not amalgamte the NC values of its dependents.
the non-lexical account: the licenser dominates the n-word

$$\left[\text{S L CONT } \boxed{1}\ \neg[\exists x[\mathsf{human'}(x) \wedge \mathsf{come'}(x)]]\right]$$

Subj — Head

$$\left[\begin{array}{l} \textit{word} \\ \text{ESE} \left[\begin{array}{l} \textit{n-word} \\ \text{LIC } \boxed{1} \end{array}\right] \end{array}\right]$$

nikt — *nie przyszedł*
(nobody not came)

3.1 Complex Predicates

In sentences with infinitivals, an n-word can occur as long as it is (inside) a dependent of a negated verb, or of a verb that is a dependent of a negated verb, or ....

(11) a. Jan (*nie*) chciał (*nie*) spróbować **nikogo** (*nie*) pokochać
Jan (not) wanted (not) try nobody (not) love

b. **Nikt** * (*nie*) chciano kupić tego domu
Nobody (not) wanted to buy this house
Nobody wanted to buy this house

c. * **Nikt** chciano *nie* kupić tego domu

The lexical account
(Przepiórkowski and Kupść 1997a) assume complex predicate formation in Polish, which includes argument raising in the spirit of (Hinrichs and Nakazawa 1994). In the original proposal in (Przepiórkowski and Kupść 1997a), ARG-S and COMPS raising only occurs with negated verbs, in the latest version (Przepiórkowski and Kupść 1997b), ARG-S raising occurs up to a negated verb only, the COMPS lists are treated in a uniform way independent of negation.

The non-lexical account:

- For the time being, we assume no complex predicates formation on either ARG-S or COMPS list. The domination requirement for n-word licensing, then, automatically accounts for the facts.
- The attested free word order among complements of diferent verbs in Polish is accounted for by the independently necesssary mechanism to express order constraints among non-sister constituents, i.e., a (Reape 1992) style domain union approach or a complex linearization component along the lines of (Richter and Sailer 1995) or (Richter 1997).

3.2 Genitive of Negation (GoN)

In Polish, "whenever a non-negated verb subcategorises for an accusative complement, its negated counterpart requires a genitive NP" (Przepiórkowski and Kupść 1997b).

(12) a. Jan chciał kupić ten dom/* **tego domu**
John wanted buy [this house]$_{acc}$/[this house]$_{gen}$

b. Jan *nie* chciał kupić * ten dom/**tego domu**

c. Jan chcial *nie* kupić * ten dom/**tego domu**

(13) a. * Jan chciał pokochać **nikogo**
John wanted love nobody

b. Jan *nie* chciał pokochać **nikogo**

c. Jan chciał *nie* pokochać **nikogo**

The non-lexical account:

- Structural 'accusative' comes in two varieties: its genitive form is an NPI which has to be licensed by a dominating negated verb, the accusative form is a PPI which must not be dominated by a negated verb.
- This accounts for the parallels of n-word licensing and GoN, structural accusative can still be assigned 'non-configurationally'.

4 Structure

- **Binding:** restrictions are formulated in terms of SUBCAT/ARG-S lists.
- **Extraction:** (Pollard and Sag 1994): at certain nodes, the INHERITED SLASH value is forced to be empty The NONLOCAL FEATURE PRINCIPLE accounts for the right distribution of SLASH values at all nodes. In combination, this implies that all UDCs have to end below such a node.

  (Richter 1997): a principles states that at certain nodes (barriers), every trace of a certain kind dominated by that node, has to be bound by a filler in the appropriate way (and vice versa)

Barriers for n-word licensing in Polish:

- complete verbal projections,
- complete projections of the preposition *bez* (*without*).

Barriers for GoN licensing in Polish:

- complete projections whose HEAD value is not identical to the one of the GoN element

5 Conclusion

Comparison

- The lexical account needs: an NC marking on every node, which implies (i) an explicit specification for *word*s and (ii) a percolation principle for *phrase*s.

  The non-lexical account only needs a specification at the relevant entities: the ESE words and a characterization of the appropriate barriers. (But **no** extra feature on intemediate nodes!)
- To account for the behavior in infinitival constructions, (Przepiórkowski and Kupść 1997a, Przepiórkowski and Kupść 1997b) have to rely on argument raising which can not be independently motivated for Polish.

  The lexical account only relies on ordering domains which are needed anyways to handle word order phenomena in Polish.
- The newly introduced feature ESE can not be reduced to other information, but can be generally used for any kind of ESE phenomenon.

- The account for UDCs in (Richter 1997) can be directly taken over to handle the described ESE phenomena.

Open Problems

- More data have to be investigated to refine the general architecture of the present approach.
- It is not obvious how Positive Polarity Items could be integrated.
- The consequences for a general account of negative concord and negation in other languages have to be explored.

References

Edmondson, J.: 1981, Affectivity and gradient scope, *Papers from the 17th Regional Meeting of the Chicago Linguistic Society*, Chicago Linguistic Society, pp. 38–44.

Hinrichs, E. and Nakazawa, T.: 1994, Partial-VP and Split-NP Topicalization in German — An HPSG Analysis, In (Hinrichs, Meurers and Nakazawa 1994), pp. 1–46.

Hinrichs, E., Meurers, D. and Nakazawa, T.: 1994, Partial-VP and Split-NP Topicalization in German — An HPSG Analysis and its Implementation, *Arbeitspapiere des SFB 340, Nr 58*, Universität Tübingen.

Hinrichs, E., Meurers, D., Richter, . F., Sailer, M. and Winhart, H.: 1997, Ein HPSG-Fragment des Deutschen, Teil 1: Theorie, *Arbeitspapiere des SFB 340, nr. 95*, Universität Tübingen.

Klooster, W.: 1997, Monotonicity and scope of negation, Manuscript, University of Amsterdam.

Pollard, C. and Sag, I.: 1994, *Head-Driven Phrase Structure Grammar*, University of Chicago Press.

Progovac, L.: 1994, *Negative and positive polarity*, Cambridge University Press.

Przepiórkowski, A. and Kupść, A.: 1997a, Negative concord in Polish, *Technical Report 828*, Institute for Computer Science, Polish Academy of Sciences.

Przepiórkowski, A. and Kupść, A.: 1997b, Verbal negation and complex predicate formation in Polish, to appear.

Reape, M.: 1992, *A Formal Theory of Word Order: A Case Study of West Germanic*, PhD thesis, University of Edinburgh.

Richter, F.: 1997, Die Satzstruktur des Deutschen und die Behandlung Langer Abhängigkeiten in einer Linearisierungsgrammatik. Formale Grundlagen und Implementierung in einem HPSG-Fragment, In (Hinrichs, Meurers, Richter, Sailer and Winhart 1997).

Richter, F. and Sailer, M.: 1995, Remarks on Linearization. Reflections on the Treatment of LP-Rules in HPSG in a Typed Feature Logic, Magisterarbeit, Seminar für Sprachwissenschaft, Universität Tübingen.

Sag, I. A.: 1996, English relative clause constructions. Unpublished ms., Stanford University.