

Session VIII: Negation, N-Words, and Negative Concord

1. Negation

- *Definition of Negation*

(1) Negation transforms a given content into its complement:
 e.g. true propositions \rightarrow false propositions, property (set) $A \rightarrow$ property (set) \bar{A} , etc.

- (2) a. John is running. = 1 iff John is running.
 \Downarrow (true in all worlds in which John is running)
 b. John is *not* running. = 1 iff *it is not the case* that John is running
 (true in all worlds in which John is *not* running)

Formally: A negation operator NEG attaches to a syntactic category α , mapping the denotation of α onto its complement:

(3) $[[\text{NEG } \alpha]] = U \setminus [[\alpha]]$ (U = the set of all denotations of the same type as $[[\alpha]]$)

- *Propositional negation:*

A standard kind of negation, well-known from standard logic, is propositional negation ' \neg ', where NEG takes a proposition-denoting expression in its scope, reverting its truth-value, cf. (2b).

(4) $[[\text{NEG}]] = \lambda p. \neg p$

\rightarrow The propositional negation analysis is the standard analysis for syntactic negation operators. They are frequently taken to attach right above the smallest proposition-denoting element of the clause, i.e. right above VP (cf. e.g. Haegeman 1995).

(5) $[\text{TP} \dots [\text{NegP Neg } [\text{VP SUBJ V OBJ}]]]$

- *Other kinds of negation:*

Natural languages feature other kinds of negation, where the negation operator takes scope over elements of non-propositional type.

(6) *Predicate negation* (see as early as Aristotle's syllogisms):

- a. friendly = $\{x \mid x \text{ is friendly}\} = A$
 \Downarrow
 b. unfriendly = $\{x \mid x \text{ is not friendly}\} = \bar{A}$ = the complement of A

- *Q: Are there language that do not make use of propositional negation at all?*

Candidate languages? \rightarrow Languages where the negation operator is a verbal suffix?

(7) $[\text{TP} \dots [[\text{VP SUBJ } [\text{V+Neg}] \text{ OBJ}]]]$

(8) *Possible lexical entry for a predicate negation operator on transitive verbs:*

$[[\text{NEG}_V]] = \lambda P_{\langle e, \langle e, t \rangle \rangle}. \lambda x_{\langle e \rangle}. \lambda y_{\langle e \rangle}. \neg P(x)(y)$

- A sample of verb-affixing negation markers (see Jacobs 1991):
 - Swahili

(9) watampenda → hawatampenda
 ,They will love him.' ,They will not love him.'

BUT: the Swahili verb form contains pronominal arguments and denotes a proposition; see SESSION I
 - Japanese

(10) samu-katta → sanu-na-katta
 cold-past cold-neg-past 'It was (not) cold.'

BUT: Japanese is head-final: [... verb_{VP}] neg_{NegP}] katta_{TP}]
 - Mano (Niger-Kongo)

(11) `n yídò → ^n yídò
 ,I know.' ,I don't know.'

BUT: tonal change could also affect the entire proposition: [CP] + TONE
- N-words, such as *nobody*, *nothing*, *nowhere* appear to be another source of negation:

(12) a. Nobody came.
 b. I bought nothing.

2. Classical GQ-Analysis of N-Words: Negative existential quantifiers

- N-words are commonly analysed as generative quantifiers, e.g. as negative existential quantifiers (see Zanuttini 1991 for an analysis of NEG as a universal quantifier):

(13) [[nobody]] = $\lambda P_{\langle et \rangle}. \neg \exists x [person'(x) \wedge P(x)]$

(14) [[nobody came]] = $(\lambda P_{\langle et \rangle}. \neg \exists x [P(x)]) [\lambda y. came'(y)]$
 = $\neg \exists x [came'(x)]$
 = 1 iff there is no individual x, such that x came
- *Consequences:*
 - i. n-words are inherently negative
 - ii. Two structural ways to syntactically express the same semantic content in English, German etc.:

(15) a. Nobody came. = Everybody did not come.
 b. I bought nothing. = I did not buy anything.

The observed equivalence follows from the logical equivalence: $\exists = \neg \forall \neg$

BUT: N-words show the syntactic and semantic characteristics of indefinite expressions: e.g., they are licensed in existential there-sentences: *There is no beer in the fridge !*

3. Arguments against the standard view (e.g. Penka 2005)

3.1 Negative Concord : N-words are not always semantically negative

- *Negative Concord:*

In NC- languages, multiple negative expressions yield an interpretation with only one negation (e.g. Laka (1990), Zanuttini (1991) Haegeman (1995), Zeijlstra (2004))

- (16) Gianni non ha visto **nessuno**. (Italian)

Gianni neg has seen n-person

‘Gianni hasn’t seen anybody.’

*‘Gianni hasn’t seen nobody.’ = ‘Gianni has seen somebody.’

- (17) **Nikt** nie przeczytał tego artykułu. (Polish)

n-person neg read-3SG.PAST this-GEN article-GEN

‘Nobody has read this paper.’

*‘Nobody has not read this paper.’ = ‘Everybody has read this paper.’

- *Non-Negative Concord languages (e.g. German, English):*

- (18) a. **Niemand** ist **nicht** gekommen.

n-person is NEG come

‘Nobody has not come.’ = ‘Everybody came.’

*‘Nobody has come.’

- b. **Niemand** hat **nichts** gekauft. (e.g. on the ‘Butterfahrt’)

n-person has n-thing bought

‘Nobody bought nothing.’ = ‘Everybody bought something.’

*‘Nobody bought anything.’

- *Dialectal and historical variation in one and the same language: e.g. German*

- (19) a. **Keine** Macht für **niemand**. (song title by “Ton, Steine, Scherben”)

no power for n-person

‘No power for anybody.’

* ‘No power for nobody.’ = ‘Some power for everybody.’

Old High German & Middle High German: NC-languages, n-words occur obligatorily with negative clitic *en*, *ne* on the verb (e.g. Jäger 2005)

- b. Inti in dougli **ni**-sprah ih **ni-ouuiht**

and in dark NEG-spoke I NEG-something

‘and in the dark (hidden) I spoke not’ (OHG, Tatian, 300, 19)

- *strict NC languages (Slavic, e.g. Polish):*

The n-word must be accompanied by the sentential negative marker, independently of the position of the n-word; cf. (17)

- *non-strict-NC languages* (Romance):

Only postverbal n-words require the presence of the sentential negative marker, cf. (20a). A preverbal n-word plus a negative marker is ungrammatical, or at best yields a reading with double negation, cf. (20b):

- (20) a. *(No) vino nadie. (Spanish)
 neg came n-person
 ‘Nobody came.’
 b. **Nadie** (*no) vino.
 n-person neg came
 ‘Nobody came.’

→ The n-word seems to contribute negation to the sentence in (20b), but not in (20a)!

- *Conclusion:*

N-words are not always semantically negative.

⇒ unexpected under negative quantifier analysis !

- *Possible explanations:*

- N-words are always inherently negative (e.g. (20b)), but in some configurations, their negative meaning component is absorbed by a higher negative element (*polyadic quantification*, e.g. Zanuttini 1991, Haegeman 1995, de Swart & Sag 2002)

→ *semantic variation* ???

- N-words are not inherently negative, but either NPI-elements (Laka 1990) or indefinite expressions that must be licensed or bound by a negation operator (Penka 2005, Zeijlstra 2004).

→ with preverbal n-words (20b), the negation operator must be abstract.

→ Further evidence for abstract negation operators comes from scope splitting in German

3.2 Scope Splitting

- *Central Observation:*

In some sentences containing n-words, the locus of negative interpretation and the locus of indefinite (i.e. existential) interpretation are not identical. A third operator is intervening in between the two alleged semantic components of n-words:

- (21) Es **braucht** **kein** **Arzt** anwesend sein.
 it must n-Det doctor present be
 *‘It is required that there be no physician present.’ must > ¬ > ∃ (surface scope)
 * ‘There is no physician who is required to be present.’ ¬ > ∃ > must (inverse scope)
 ‘It is not required that there be a physician present.’ ¬ > must > ∃ (split scope)
- (22) **JE/der** Student hat **KEIN** **Auto**.
 every student has no car.
 ‘It is not true that every student has a car.’ ¬ > ∀ > ∃

→ The existence of scope split interpretations can be accounted for by assuming abstract negative operators, which in German must be surface adjacent to the n-word.

→ alternative explanations of scope-splitting readings in terms of quantification over abstract objects or higher types (Geurts 1996, deSwart 2000) fail because they over-generate. They predict a scope-splitting reading for (23) as well:

(23) Ich habe **kein** Buch **allen** Studenten empfohlen.

I have n-Detbook all students recommended

‘There is no book that I recommended to every student.’

* ‘It is not true that for every student there is a book that I recommended to him.’

$\neg > \forall > \exists$ (split scope)

- *Conclusion:*

Negation is not interpreted in the position of the n-word

⇒ unexpected under negative quantifier analysis

3.3 Discourse-Anaphora

Under certain conditions (VPs containing an n-word as direct object plus additional material that can be focussed) n-words can serve as antecedents for pronouns in the subsequent discourse:

(23') Wer **kein Fahrrad** im KELLer_F hat, hat **es** auf dem BALkon.
who no bike in.the basement has, has it on the balcony

Q: What would *es* refer to if *kein Fahrrad* was an inherently negative existential expressions saying ‘there is no bike such that...’ ?

4. N-words as indefinite agreement markers (Zeijlstra 2004, Penka 2005):

- *Where do we stand?*

Both NC-phenomena and the existence of scope splitting pose a challenge for the standard analysis of n-words as negative quantifiers

→ In contrast, the analysis of n-words as indefinite NPs containing negative agreement markers provides a unified account for the existence of negative concord and scope splitting with n-words and *allows for a parallel treatment of n-words together with all other indefinite NPs.*

- *Analysis:*

i. n-words are not semantically negative. Their meaning is the same as that of their positive pendant:


(24) [[nobody]] = [[somebody]] = $\lambda x \in D. x$ is a person

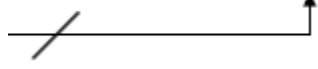
⇒ accounts for NC-readings with n-words in NC-constellations

- ii. n-words must be licensed by means of syntactic agreement (Zeijlstra 2004):

n-words carry an un-interpretable feature [uNEG] that must be checked against an interpretable feature [iNEG] carried by a negative operator.

- (25) Gianni non telefona a nessuno. Italian
 Gianni neg call to n-person
 'Gianni does not call anybody.'


- (26) Gianni non_[iNEG] telefona a nessuno_[uNEG]


- (27) Gianni telefona a nessuno_[uNEG]


⇒ In (26), the sentential negation operator *non* has the feature [iNEG], which licenses the un-interpretable feature [uNEG] on the n-word.

- iii. In NC-languages, the overt or covert negation operator can license more than one [uNEG]-feature under multiple agreement, cf. (30): MULTIPLE AGREEMENT

- iv. Preverbal n-words are licensed by an abstract negative operator NEG, c-commanding the n-word:


- (28) a. Nessuno telefona a Gianni.
 n-person call to Gianni
 'Nobody calls Gianni.'
 b. [NEG_[iNEG] [nessuno_[uNEG] telefona a Gianni]


⇒ Presence of the abstract negative element is indicated by the presence of the n-word.

⇒ Preverbal n-words that co-occur with an overt sentential negation marker lead to a double negation reading in non-strict NC languages, as there are two semantically negative elements in the clause.

- (29) [NEG_[iNEG] [n-word_[uNEG] ... non_[iNEG]]]

- v. The simple negative interpretation with preverbal n-words in strict NC languages (e.g. Polish, cf. (17)) follows if the preverbal NEG-marker is not semantically negative and carries a feature [uNEG] as well (Zeijlstra 2004).

- (30) NEG_[iNEG] nikt_[uNEG] nie_[uNEG] przeczytał tego artykułu


⇒ semantic negation is always abstract in strict NC-languages

but: Why would the preverbal negation marker be present if it does not do anything semantically?

- *Cross-linguistic variation:*
 - i. The difference between NC languages and non-NC languages has to do with the licensing capacities of the overt/covert negative operators; see also §5:
 - NC-languages: multiple agreement, i.e. one negation operator can licence more than one n-word: simple negation
 - non NC-languages: simple agreement, i.e. each negative operator can only licence one n-word: double negation in case of two n-words, which each come with their own negative licencer.
 - ii. The difference between strict and non-strict NC languages is reduced to the status of the overt negative marker in a language:
 - non-strict NC languages: semantically negative
 - strict NC languages: *not* semantically negative

- *Questions:*

Q1: *Does the analysis imply that the preverbal NEG-marker must always be licensed by an abstract negative operator in strict NC-languages? Zeijlstra (2004): yes*

Q2: *What triggers the presence of the preverbal NEG-marker with an un-interpretable feature in (30), if the abstract negative operator is indicated by the presence of the n-word?*

Q3: *What happens in simple negated sentences without n-word but with a preverbal NEG-marker in strict NC-languages ⇒ abstract negative operator?*

⇒ the proposed analysis considerably complicates the picture for strict NC-languages!

- *An alternative?*

Preverbal negative markers are semantically negative in both strict and non-strict NC languages, but the two groups of languages differ regarding the structural licensing conditions for un-interpretable neg-features on n-words:

- i. non-strict NC languages: feature checking under strict c-command
- ii. strict NC languages: no surface c-command required for feature checking (i.e. *nikt* can be checked by negative marker *nie* in (30))

→ the different licensing conditions for un-interpretable feature may be correlated to another typological difference between Romance and Slavic: configurationality vs. discourse-configurationality

Q: *Are there other differences between the two language groups, e.g. concerning the licensing of reflexive pronouns, semantic binding etc.?*

- *Conclusion:*

There are two strategies in natural language to express sentential negation:

- i. negative markers directly encoding semantic negation;
- ii. n-words marking the presence of a possibly abstract negation.

5. NC vs Non-NC Languages

- *Zeijlstra (2004): Genuine semantic variation in form of different denotations*
- i. NC languages: n-words denote indefinites that need to be licensed by (possibly abstract) negation operators
- ii. non-NC languages: n-words denote negative quantifiers, cf. (13)

BUT: n-words behave like indefinite NPs in non-NC languages, too, see above!

- *Penka (2005): Semantic variation follows from syntactic variation*
- N-words never denote negative quantifiers, but are always indefinite NPs with an uninterpretable neg-feature.
- i. NC languages: multiple agreement between *neg[i]* and *neg[u]* on n- words
 → one negative operator can license more than one n-word
- ii. non-NC languages: no multiple agreement
 → 1:1-ratio between n-words and negative operators, with even numbers of negative operators cancelling each other out.

- (31) dass NEG_[iNEG] [niemand_[uNEG] NEG_[iNEG] [kein_[uNEG] Auto hat]]
 that n-person no car has
 ‘...that nobody has no car.’ = ‘that everybody has a car.’

6. The wider perspective: Languages without n-words

There is good cross-linguistic support for the analysis of n-words as plain indefinite NP with a negative agreement marker:

Many (African) languages do not have n-words, but express the relevant reading by putting the ordinary indefinite NP in the scope of sentential negation:

- (34) a. *mutàanee bà sù tàfi kàasuwa ba* [HAUSA]
 people NEG 3pl go market NEG
 ‘People didn’t go to the market.’ = ‘Nobody went to the market.’
- b. *Muusaa bà-i kiraa àbookii liyaafaa ba* NEG >> ∃
 Musa NEG-3sg.SUBJ invite friend ceremony NEG
 ‘Musa didn’t invite any friend to the ceremony.’

Q: Is THIS the cross-linguistically unmarked pattern?

7. Possible Research Topics

- The system of negation in other languages (NC – non-NC, interpretation and distribution of n-words)
- Negation in languages with negative markers as verbal suffixes (e.g., do these languages have n-words, or not?)
- Alternative accounts for the different behaviour of n-words in Slavic (strict NC) and Romance (non-strict NC).