

## Negated universal focus quantifiers in English, German and Spanish

### 1 What are focus quantifiers?

*Preliminary definition:*

FOCUS QUANTIFIERS are expressions that quantify over sets of alternatives associated with the denotation of a focused constituent.

- focus particles: *only, even, too* etc.
- affixal focus quantifiers

#### (1) Finnish *-kin* ‘too’, *-kaan* ‘either’

- a. *minä-kin olen hankkinut auto-n.*  
 I-too I.have got car-ACC  
 ‘I, too, have got a car.’
- b. *olen hankkinut auto-n-kin*  
 I.have got car-ACC-too  
 ‘I have got a CAR, too.’
- c. *en ole hankkinut auto-a-kaan*  
 NEG.1SG have got car-PART-either  
 ‘I haven’t got a CAR, either.’
- d. *minä-kään en ole hankkinut auto-a*  
 I-either NEG.1SG have got car-PART  
 ‘Neither have I got a car.’

#### (2) Japanese *-mo* ‘too’

- Taroo-mo sakana-o tabemasu*  
 Taroo-too fish-ACC eats  
 ‘Taro, too, eats fish.’  
 König (1991: 18)

- phrasal focus quantifiers

#### (3) English *as well, let alone, in particular*; German *geschweige denn*; Spanish *no más, por lo menos*

- discontinuous focus quantifiers

#### (4) Arabic (*mā ... ʔillā* ‘not...but’)

- mā yuḥibbu ʔillā nafsahu*  
 NEG he.loves but SELF.ACC.3SG  
 ‘He loves only himself.’  
 Fischer & Jastrow (1996: 390)

#### (5) Hebrew (*lo...éla*)

- hem lo hisigu éla heskem ḥelki*  
 they not reached but agreement partial  
 ‘They only reached a partial agreement.’  
 Glinert (1989: 251)

- a typology of focus quantifiers

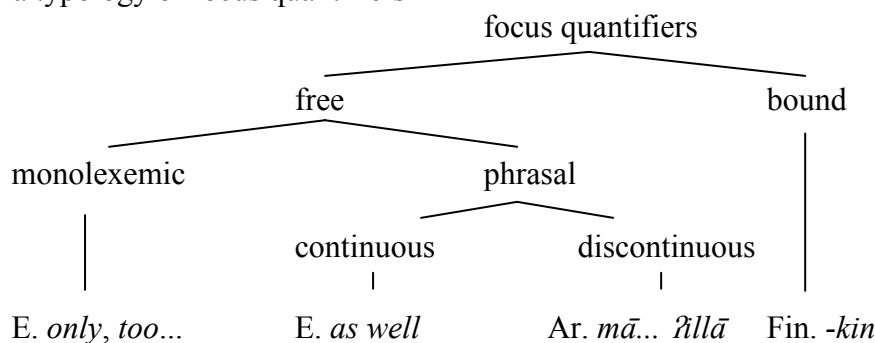


Figure 1

## 2 Representing the meaning of focus quantifiers

- PREJACENT (host sentence) and ANNEX (quantificational statement)

(6) Only [JOHN]<sub>F</sub> attended the meeting.

(7) PJ(6) = [John]<sub>F</sub> attended the meeting.

- Rooth's (1985) framework of 'two-dimensional semantics'

(8) a.  $[[ ]]^0$ : ordinary semantic value ( $\equiv$  the common interpretation function)

b.  $[[ ]]^f$ : focus semantic value (the set of propositions that differ from  $[[ ]]^0$  in that the focus is replaced with some contextually salient alternative); p-sets

(9)  $[[PJ(6)]]^f = \{\text{John attended the meeting, Fred a.t.m., Bill a.t.m. ...}\}$

(10)  $[[PJ(6)]]^0 = \{w \mid \text{John attended the meeting in } w\}$

(11)  $[[ (6) ]]^0 = \{w \in [[PJ(6)]]^0 \mid \neg \exists \pi \in [[PJ(6)]]^f [\pi \neq [[PJ(6)]]^0 \wedge w \in \pi]\}$

- an additional definition: the 'focus complement':  $[[ ]]^{fc}$

(12)  $[[\alpha]]^{fc} := \{\pi \mid \pi \in [[\alpha]]^f \wedge \pi \neq [[\alpha]]^0\}$

(13)  $\neg \exists \pi \in [[PJ(6)]]^{fc} : \pi$  is true

## 3 Parameters of semantic classification

### 3.1 Additive and exclusive particles: existential and negated existential quantification

- EXCLUSIVE particles: NEGATED EXISTENTIAL QUANTIFICATION over the domain of alternative values
- ADDITIVE particles: EXISTENTIAL QUANTIFICATION

(14) John attended the meeting, too.

$\exists \pi \in [[PJ(14)]]^{fc} : \pi$  is true

### 3.2 Assertive vs. non-assertive focus quantifiers

(15) Only John attended the meeting.

a. pres.: John attended the meeting (PREJACENT)

b. ass.:  $\neg \exists \pi \in [[PJ(15)]]^{fc} : \pi$  is true (ANNEX)

(16) Not only John attended the meeting.

a. pres.: John attended the meeting.

b. ass.:  $\neg [\neg \exists \pi \in [[PJ(15)]]^{fc} : \pi \text{ is true}] \quad (\equiv \exists \pi \in [[PJ(15)]]^{fc} : \pi \text{ is true})$

(17) John attended the meeting, too.

a. given:  $\exists \pi \in [[PJ(17)]]^{fc} : \pi$  is true

b. ass.: John attended the meeting.

(18) It is not true that John attended the meeting, too.

a. given:  $\exists \pi \in [[PJ(17)]]^{fc} : \pi$  is true

b. ass.: John did not attend the meeting.

- (19) John attended the meeting, too. (given:  $\exists \pi \in [[PJ(17)]]^{fc} : \pi$  is true)  
 (20) Not only John attended the meeting. (pres.: John attended the meeting.)  
 (21) If you attend the meeting, I will be there, too.  
 (22) Fred: I love you.  
 Mary: I love you, too.

- ‘focus suppositions’ (Büring to appear) and ‘presuppositions’

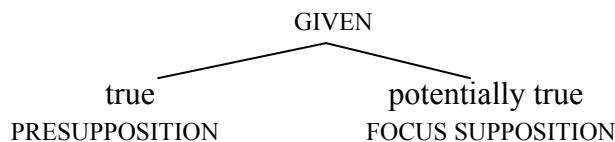


Figure 2

- sub-classification of focus quantifiers according to the status of the *annex*:  
 $[\pm \text{ASS}]$  (annex is asserted or not); for  $[- \text{ASS}]$ :  $[\pm \text{PRES}]$  (annex is presupposed or not)

	[+ ASS]	[- ASS]	
		[+ PRES]	[- PRES]
PREJACENT	presupposed	asserted	
ANNEX	asserted	presupposed	GIVEN
examples	Engl. <i>only</i>	Germ. <i>immerhin</i>	Engl. <i>too</i>

Table 1

### 3.3 Scalar vs. non-scalar focus quantifiers

- (23) The chancellor was there, too.  
 (24) Even the chancellor was there.  
 (25)  $[[PJ(23)]]^f = \{\text{The chancellor was there, The secretary was there, The vice-chancellor was there ...}\}$   
 (26)  $[[PJ(24)]]^f = \langle \text{The secretary was there, The vice-chancellor was there, The chancellor was there} \rangle$

- types of scales:

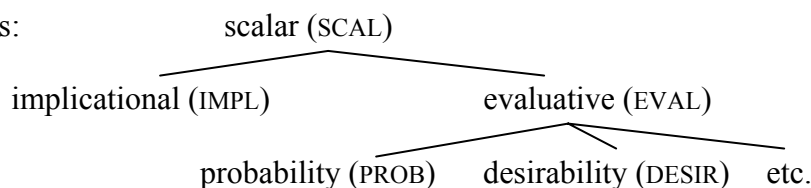


Figure 3

### 3.4 Preliminary summary: classifying focus quantifiers

- type of (existential) quantification:  $[\exists] / [-\exists]$   
 assertive/non-assertive:  $[\pm \text{ASS}]$   
 $[- \text{ASS}]$  sub-classified into non-/presuppositional:  $[-\text{ASS} [\pm \text{PRES}]]$   
 scalar/non-scalar:  $[\pm \text{SCAL}]$   
 with various sub-classes of  $[\pm \text{SCAL}]$ :  $[\pm \text{SCAL} [\pm \text{IMPL}]]$   
 $[\pm \text{SCAL} [\pm \text{EVAL} [\pm \text{PROB}]]]$   
 etc.

- (27) some examples of focus quantifiers

<i>only</i> :	$[-\exists]$	$[\pm \text{SCAL}]$	$[\pm \text{ASS}]$
<i>too</i> :	$[\exists]$	$[- \text{SCAL}]$	$[- \text{ASS} [- \text{PRES}]]$
<i>even</i> :	$[\exists]$	$[\pm \text{SCAL} [\pm \text{EVAL} [\pm \text{PROB}]]]$	$[- \text{ASS} [- \text{PRES}]]$

#### 4 An extension: are there other types of quantification expressed by focus quantifiers?

- Hole (2004, to appear): Mandarin Chinese encodes all types of quantification from the square of opposition
  - *jiù*: negated universal quantification
- (28) Oūzhōu rén dāng zhōng, [Ìdàlì rén] jiù zhǎng-zhe hēi tóufa.  
Europe people among Italy people *jiù* grow-ASP black hair  
,Among Europeans, Italians have black hair.’
- (29) #Dōng-Yā rén dāng zhōng, [Riběn rén] jiù zhǎng-zhe hēi tóufa.  
East-Asia people among Japanese people *jiù* grow-ASP black hair  
,Among the people from East Asia, the Japanese have black hair.’  
Hole (to appear: 8)

#### 5 At least as a negated universal focus quantifier

- Kay (1992): three syntactically different uses of *at least*
- (30) Mary received calls from [at least three] soldiers. (‘scalar’)
- (31) At least [this one’s cooked]. (‘evaluative’)
- (32) I see her every day, at least [when I’m in town]. (‘rhetorical’)
- (33) That’s going to at least worry him if not make him utterly distraught. (only scalar)
- (34) In that big trainwreck at least several people were saved. (scalar or evaluative)
- (35) At least in that big trainwreck several people were saved. (only evaluative)
- evaluative *at least* as a negated universal focus quantifier
- (36) (‘evaluative’) *at least*:  $[\neg\forall] \quad [+SCAL \ [+EVAL \ [+DESIR]]] \quad [-ASS \ [-PRES]]$
- (37) At least the OLD woman tried to help me (though the YOUNG woman didn’t).
- (38) At least the old WOMAN tried to help me (though the old MAN didn’t).
- (39) At least the old woman TRIED to help me (though she didn’t SUCCEED).
- (40) At least the old woman tried to HELP me (though she didn’t offer to DO it for me).
- (41) At least the old woman tried to help ME (though she didn’t help YOU).
- (42) At least the conference organisers covered 60 perCENT of my expenses.
- (43) They didn’t cover ALL of my expenses, but at least they paid me 60 perCENT.
- (44)  $[[PJ(42)]]^f = \langle \text{They covered 10 percent ... They covered 30 percent ... They covered 60 percent ... They covered 100 percent} \rangle$
- (45) a. given:  $\neg\forall\pi \in [[PJ(42)]]^f : \pi$  is true  
b. asserted: The conference organizers covered 60 percent of my expenses.
- restriction to scales of positive evaluation
- (46) At least in that big trainwreck several people were saved.
- (47) ##At least in that big trainwreck several people were killed.
- ‘rhetorical’ *at least*
- (48) a. Mary is at home, at least John’s car is in the driveway.  
b. Mary is at home, at least I think so.  
c. Mary is at home, at least that’s what Sue said. (Kay 1992: 318)
- (49) a. I know for sure that Mary is at home  
b. I think that Mary is at home because someone told me...  
c. I infer that Mary is at home because of some piece of evidence...

- ordering of alternative propositions: epistemic commitment

- (50) a. <I infer that Mary is at home (because John's car is in the driveway), I know that Mary is at home>  
 b. <I think that Mary is at home, I know that Mary is at home>  
 c. <I believe that Mary is at home because Sue told me, I know that Mary is at home>

## 6 Negated universal focus quantifiers in German: *wenigstens*, *immerhin*, *zumindest*

- *wenigstens*: parallel to *at least*

- (51) ##Wenigstens wurden bei diesem großen Zugunglück viele Leute getötet.  
 at least were in this big trainwreck many people killed  
 '##At least in that big trainwreck several people were killed.'

- *immerhin* and *zumindest*: not restricted to positive evaluation

- (52) Immerhin wurden bei diesem großen Zugunglück viele Leute getötet.  
 (53) Zumindest wurden bei diesem großen Zugunglück viele Leute getötet.  
 (54) Es wurden nicht alle Leute getötet, aber immerhin/zumindest einige.  
 EXPL were not all people killed but IMMERHIN some

- *immerhin*: a non-assertive/presuppositional focus quantifier (annex is presupposed)

- (55) Es wurden zumindest einige, möglicherweise sogar alle Leute getötet.  
 'ZUMINDEST some of the people died, possibly all.'  
 (56) ##Es wurden immerhin einige, möglicherweise sogar alle Leute getötet.  
 'IMMERHIN some of the people died, possibly all.'

- (57) *zumindest*: [- ASS [- PRES]]  
*immerhin*: [- ASS [+ PRES]]

- rhetorical readings of *wenigstens* and *zumindest*

- (58) Es sind nicht alle gestorben – wenigstens/zumindest glaube ich das.  
 (59) ??Es sind nicht alle gestorben – immerhin glaube ich das.

- (60) *wenigstens*: [- $\neg$ ] $\forall$  [+ SCAL [+ EVAL [+ DESIR]]] [- ASS [- PRES]]  
*immerhin*: [- $\neg$ ] $\forall$  [+ SCAL] [- ASS [+ PRES]]  
*zumindest*: [- $\neg$ ] $\forall$  [+ SCAL] [- ASS [- PRES]]

## 7 Negated universal focus quantifiers in Spanish: *por lo menos*, *aunque sea*

- *por lo menos*, *aunque sea*: both associated with a positive evaluation

- (61) Por lo menos los organizadores me pagaron el [seSENTa por CIENTO]<sub>F</sub>.  
 at least the organisers paid me DET sixty percent  
 'At least the organisers paid me 60 percent.'

- (62) Por lo menos/aunque sea me va a servir para [ALgo]<sub>F</sub>.  
 at least to me will be useful for something  
 'At least I can use it for SOMETHing.'

- differentiation: *por lo menos* is non-presuppositional

- (63) Por lo menos invitó [alGUNOS]<sub>F</sub> de mis amigos, tal vez hasta los invitó a todos  
 at least invited some of my friends perhaps eventhem invited all  
 (64) ##Aunque sea invitó algunos de mis amigos; tal vez hasta los invitó a todos.

- (65) *por lo menos*: [- $\neg$ ] $\forall$  [+ SCAL [+ EVAL [+ DESIR]]] [- ASS [- PRES]]  
*aunque sea*: [- $\neg$ ] $\forall$  [+ SCAL [+ EVAL [+ DESIR]]] [- ASS [+ PRES]]

## 8 Conclusions and outlook

- parameterization of the meaning of focus quantifiers (decompositional analysis)
- cross-fertilization between the study of individual languages and language comparison (Mandarin Chinese)
- a number of open questions:
  - the types of scaling dimensions, relation between those
  - different types of presuppositions/GIVENNESS

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