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RETHINKING NEGATIVE POLARITY AND FREE CHOICE IN COMPARATIVES: A CROSSLINGUISTIC PERSPECTIVE

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Abstract

In this paper, we study patterns of polarity items in comparatives, including data from Greek, English, Korean, and Dutch described in Jack Hoeksema's work. Our conclusions challenge the status of the comparative as a licensing environment for negative polarity items (NPIs). NPIs that appear in the comparative are not licensed but *rescued* in the sense of Giannakidou (2006), i.e., they can appear without a syntactic licenser in the logical form. Free choice items, (FCIs) on the other hand, do appear in comparatives systematically; and because FCIs typically avoid negation, their occurrence serves as evidence that the comparative is *not* a negative environment. The implication of our data is consistent with the long-standing observation, including Hoeksema's own, that the comparative lacks monotonic properties. Polarity items with free choice or generic readings are admitted because these items can refer to a class, and are therefore appropriate for class comparisons.

Keywords: comparatives, NPI-licensing, rescuing free choice items, nonveridical

1. The puzzle of NPIs in comparatives

The literature on comparatives is quite extensive, and the work of Dutch linguists such as Stassen, Seuren and Hoeksema has played a major role in revealing many of the structure's

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central puzzles. We focus here on what we think of as the *primary* comparative construction, i.e., comparatives with morphological components of the differential marker equivalent to '-er' or 'more', and the standard marker introduced by 'than' in English, as in (1a,c). This is known as the unmarked construction compared to the *secondary* comparisons in (1d-g); see Stassen (1985) for the distinction between primary and secondary mode of comparison:

(1) a. Joe is taller than Bill.
b. Joe exceeds Bill in height.
c. Joe's height is greater than Bill's.
d. Joe is tall compared to Bill.
e. Joe is tall next to Bill.
f. Joe is tall, but Bill isn't very tall.
g. Between Joe and Bill, Joe is the tall one. (Bochnak 2013:29,(18))

(2) a. Joe is taller than Bill.
b. Joe exceeds Bill in height.
c. Joe's height is greater than Bill's.
d. Joe is tall compared to Bill.
e. Joe is tall next to Bill.
f. Joe is tall, but Bill isn't very tall.
g. Between Joe and Bill, Joe is the tall one. (Bochnak 2013:29,(18))

As illustrated above, there are various ways of expressing comparison across languages, including *exceed* comparison in (1b), locative comparison in (1e), and conjoined comparison in (1f) (for crosslinguistic variations of comparative constructions, see Beck et al. 2004, Beck 2011, Bochnak 2013). Secondary comparatives are called also *implicit* (Kennedy 2007), and a number of tests are employed to illustrate that they differ from canonical comparatives.

Observe first that implicit comparatives do not, as a class, sanction NPIs:

(3) a. Joe is taller than **anybody**.
b. Joe exceeds **anybody (else)** in height.
c. Joe's height is greater than **anybody's.**
d. *Joe is tall next to **anybody.**
e. *Between Joe and **anybody**, Joe is the tall one.

If the abstract concept of comparison involved negation (Jespersen 1917; Ross 1969; McConnell-Ginet 1973; Seuren 1973; Klein 1980; Stassen 1984; Larson 1988), we would not expect a contrast. If the differential component, present in all comparatives, were responsible for NPIs, we would also not expect to see the contrast above: in the implicit comparatives we can differentiate between two individuals (*Joe* and *Bill*) but not between *Joe* and *anybody*.

In primary comparatives, on the other hand, NPIs are claimed to occur freely. Some illustrations are given below (based on examples from Hoeksema 1983; von Stechow 1984; Heim 2006):

(4) Roxy is prettier than **anyone** of us. *Phrasal comparatives*

(5) Roxy ran faster than **anyone** had expected. *Clausal comparatives*

(6) My urge to steal was stronger than I **could help.**

(7) He said the sky would sooner fall than he would **budge an inch.**

Any and English minimizers, as we see, appear in primary comparatives. Since NPI-licensing is due to nonveridicality (including negation, and downward entailment (DE); Ladusaw 1979; Zwarts 1995; Giannakidou 1997; 1998; 2006; 2011; Hoeksema 1999), the appearance of NPIs suggests that the primary comparative must be a context that could be understood as negative, DE, or nonveridical. Yet, it has proven excruciatingly difficult to show that the comparative is any of these (Larson 1988; Giannakidou 1998; Schwarzschild and Wilkinson 2002; Heim 2006). As of this writing, there has been no success in providing a plausible account of DE or nonveridicality of comparatives; instead, upward entailing analyses have been proposed, e.g. for phrasal comparatives (Hoeksema 1983).

Earlier works dealt with the analytical difficulty of comparatives by positing an underlying syntactic negative operator in the *than*-clause (Jespersen 1917; Ross 1969; McConnell-Ginet 1973; Seuren 1973; Klein 1980; Stassen 1984; Larson 1988) which often appears in the form of 'expletive' negation.[1] We illustrate with Ross's deep structure (8):

(8) John is taller than anyone. (Ross 1969)

∃*d* John is tall to extent *d* & **NOT** [anyone else is ~~tall-to-extent *d*~~]

In other accounts (von Stechow 1984; Rullmann 1995; Kennedy 1997, 2007), the comparative is an ordering relation between two (maximal) degrees, d′, d″:

(9) Kim is taller than Lee.

$max\{d' \mid \text{tall}(kim) \geq d'\} \succ max\{d'' \mid \text{tall}(lee) \geq d''\}$

From this relation, the differential— *d″* is *not* as great as *d′*— triggers a 'negativity'. This, of course, again does not imply that there is negation in the structure, or that *max* is negative. Giannakidou (1998, 2006) argued that the negativity of the differential licenses *indirectly* the NPIs in the comparatives—and 'indirectly' means *without* a licenser, a point to which we return.

In a landmark paper, Hoeksema (1983) claims a contrast between the phrasal and clausal comparative, which he argued to be DE. Yet Larson (1988), and Schwarzschild and Wilkinson (2002) show that the upward entailing, and not DE diagnostic holds, as shown below:

(10) a. John is taller than **some professional athletes** are. –/→

b. John is taller than **some professional basketball players** are.

(11) a. John is taller than **some professional basketball players** are. →

b. John is taller than **some professional athletes** are.

Here we have an existential quantifier in the *than*-clause, and this affects its monotonicity, something that we wouldn't expect if the *than*-clause were inherently DE. Nowadays the consensus seems to be that the comparative is not inherently monotonic, but depends on the kind of quantifier it contains (Rullmann 1995; Hendriks 1995; Heim 2006). If the *than*-clause contains a DE operator such as a universal quantifier, it becomes DE:

(12) a. John is taller than **all professional athletes** are. →

b. John is taller than **all professional basketball players** are.

(13) a. John is taller than **all professional basketball players** are. –/→

b. John is taller than **all professional athletes** are.

This flexibility suggests that the comparative is underspecified for monotonicity. How about nonveridicality (Giannakidou 1998; 1999)? For Heim (2006) *-er* comes out as veridical, since sentence (5) *Roxy run faster than anyone expected* entails that Roxy ran. Giannakidou (1998: 151-153) also admits that the comparative entails that Roxy run to some degree, and notes therefore that in comparatives NPIs lack a nonveridical licenser and can only be indirectly

licensed. Indirect licensing (and we will say more about this soon) involves sanctioning of the NPI in an otherwise illicit context lacking a licenser, as long as the context allows a negative inference at a level other than the sysntactic one, for instance, by implicature. Linebarger (1980) was the first to raise this issue. Briefly, the sentence (5) receives the analysis below (Giannakidou 1998: 152, (145)):

(14) a. Roxy run *g* fast, and
b. *k* is the greatest degree such that people expected Roxy to run *k* fast, and *k*<*g* (assertion)
c. ¬ [people expected Roxy to run to a degree *g* fast] (implicature)

The sentence *Roxy run faster than anyone expected* is true if Roxy did not run to the degree *k,* lower than the actual *g* to which Roxy ran. Giannakidou says that *Roxy run faster than anyone expected* asserts (14a) (veridical component) and (14b), and implicates the negative sentence (14c). This implicature may in fact be simply conversational because it can be cancelled:

(15) *A: Roxy run faster than anyone expected.*
B: Well, that's not true. Some of us thought she could run very fast.

We will treat (14c) as a conversational implicature. Giannakidou (1998: 152, (147) claims further that the lack of a differential blocks NPIs in the equative, as shown with the Greek NPI *kanenas* 'anybody':

(16) *I Roxani trexi (akrivos) oso grigora trexi **kanenas** stin taksi tis.
The Roxanne run.3sg (exactly) as fast run.3sg anybody in-the class hers
'Roxanne runs (exactly) as fast as anybody in her class.'

(Notice that *akrivos* 'exactly' is optional, it can therefore not be the decisive factor.). The key observation here is that the equative does not express a differential that could create a negative implicature which could then sanction the NPI *kanenas*. *Any*, to the extent it can be acceptable, allows only the "average" reading of *anybody,* which is a sign of its free choice nature. The *kanenas* type of NPI lacks free choice readings (Giannakidou 1998; Giannakidou and Yoon 2016), and such NPIs are highly constrained in comparatives and equatives.[2]

In this paper, we want to propose that the analytical difficulty of characterizing the comparative as an NPI-*licenser* is to be expected because the comparative is *not* an NPI-licenser. Much of the literature has been misled into grouping the comparative together with other NPI-licensers by focusing on English *any*, which has been shown independently that it can appear without a licenser. But if an NPI needs to be in the scope of licenser in syntax, it cannot appear in the comparative. We present here evidence from Greek, English, Korean, and Dutch. We lay out the basic assumptions about NPI-licensing in section 2. Then we present the data of strong NPIs not being accepted in comparatives, and discuss briefly the Korean metalinguistic comparatives containing *charari* which allow strong NPIs. In section 5 we show that the only acceptable NPIs are the ones that can receive free choice reading: *any, ever* and their Dutch cognates *enig, ooit.* We propose that the free choice reading is fine in the comparative because it expresses comparison to a *class*.

2. NPIs: nonveridicality, licensing vs. rescuing

We adopt the nonveridicality theory of polarity (Zwarts 1995; Hoeksema 1996; 1999; Giannakidou 1998; 1999; 2001; 2006; 2011; Sanchez-Valencia et al. 2002; for a (non)veridicality calculus in a categorial type logic and Italian NPI data see Bernardi 2002). The nonveridicality theory consists of the following main tenets:

A. Licensing Property

NPIs appear in the scope of nonveridical operators. These can be negative (mere DE, antimorphic, or anti-additive), but also non-negative (modal, non-assertive contexts such as questions, imperatives, and the protasis of conditionals)).

B. Varied distribution due to lexical composition

For various NPI paradigms, their lexical semantic properties and morpho-syntactic features determine which subclasses of operators will license them. Giannakidou 1997 says that NPI classes contain *sensitivity* features which can be abstract (as in *any* which has no special morphology), or overt morphological (as in the case of focused NPIs which can contain EVEN-words, or NPIs that contains negative features and the like). The point here is that licenser and licensee (NPI) are linked: the reason why an NPI is subject to licensing is due to properties of the NPI.

C. Two modes of sanctioning

NPIs can be *licensed* or *rescued* (or, in Giannakidou 1997, 1998, *indirectly* licensed). Licensing is the primary mechanism and happens in the scope of a nonveridical operator. Rescuing sanctions an NPI in a sentence *lacking a syntactic licenser*, and depends on the availability of a negative proposition in another level of representation (presupposition or implicature). Giannakidou 2006 emphasizes that rescuing is *secondary* sanctioning: there are no NPIs that appear due to rescuing only. NPIs must be licensed, and in addition, some of them can also be rescued due to some property they have (that needs to be understood).

The above provides a flexible framework where various NPI paradigms can be studied and understood. The licensing vs. rescuing distinction is crucial to our discussion, and distinguishes between *canonical* licensing (all NPIs are licensed), and extraordinary sanctioning (not all NPIs can be rescued, as we said, or not all can be rescued to the same degree).

A pictorial depiction of the licensing environments is given below:

(17) *Polarity sensitivity as Nonveridical dependency*

NPIs and FCIs appear in nonveridical contexts.

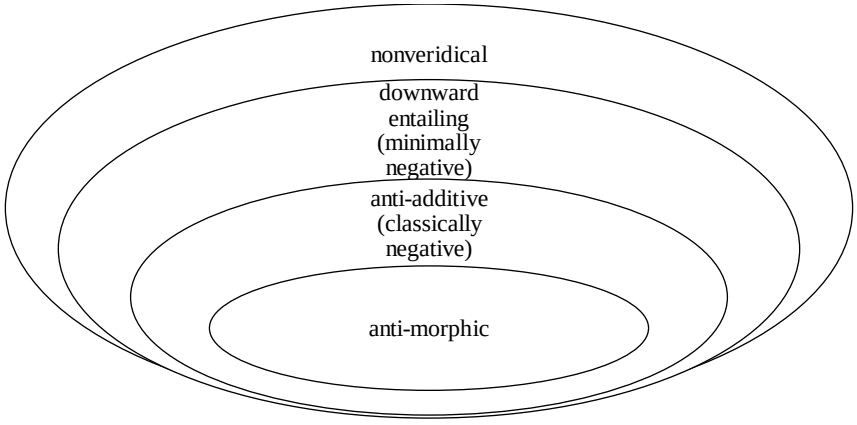

Figure 1: The Giannakidou/Zwarts Nonveridical Hierarchy of polarity contexts

As we see, nonveridicality is a conservative extension of negation, allowing a wider distribution of NPIs in non-negative nonveridical contexts, as needed. For a proof that all DE environments are non-veridical see Zwarts (1995). Following the distinctions made by Zwarts (1981; 1996), the schema above divides NPI-licensers into two classes: those that are negative (being DE,

anti-additive, or anti-morphic) and those that are not negative (but simply non-veridical). Within negative contexts, Zwarts (1996) further distinguishes two kinds: (a) *classically* negative contexts, which include anti-morphic and anti-additive contexts, and (b) *minimally* negative contexts (mere DE contexts). Negation is anti-morphic and classically negative, and negative quantifiers such as *nobody*, *nothing* are anti-additive and classically negative. Anti-morphic negation, which is antiveridical, corresponds to set-theoretic complementation and satisfies both de Morgan bi-conditionals (fours laws of negation). Negativity in the Zwarts' system emerges as a gradable property, as the scale below shows, going from weaker negations to the left to stronger ones in the right direction:

(18) Negativity scale: <DE, anti-additive, anti-morphic>

Typically, an NPI that appears in the scope of a licenser in the outer circles (often called 'weak', like Greek *kanenas*, Korean *lato*-NPIs (Giannakidou and Yoon 2016) can also appear with licensers of the inner circles— unless there is a blocking effect, for instance negative contexts tend to prefer NPIs that only appear in the narrower negative circles and which are therefore called strong. Strong NPIs have narrower distribution in the scope of a narrow set of licensers which are nonveridical and negative. There are also additional constraints in NPI distribution due to additional sensitivities of NPIs to properties such as modality or epistemic uncertainty, and such NPIs will prefer nonveridical non-negative contexts; free choice items (FCIs) are polarity items of this kind, see Giannakidou 2011, 2018 for more overview discussion and data from a variety of languages including Korean and Mandarin.

Some of the core nonveridical environments for NPIs are summarized in Table 1 below, which includes *any*, the Greek NPI *kanenas* and the emphatic variant KANENAS which is a strong NPI licensed only with negation and antiveridical operators. (We will show in section 3 that Korean broad NPIs pattern with Greek ones.)

Table 1: Distribution of NPIs and any in nonveridical contexts

Environments	*Any*	*Greek/Korean broad* NPI	Greek strong NPI
1. Negation & *without*	OK	OK	OK
2. Questions	OK	OK	*
3. Conditional (*if*-clause)	OK	OK	*
4. Restriction of *every/all*	OK	OK	*

5. (Non-antiadditive) DE Q	OK	OK	*
6. Modal verbs	OK, with FC	OK	*
7. Directive attitudes (e.g. *want)*	OK, with FC	OK	*
8. Imperatives	OK, with FC	OK	*
9. Habituals	OK, with FC	OK	*
10. Disjunctions	OK	OK	*
11. *prin/before* clauses	OK	OK	*
12. Future	OK, with FC	OK	*
13. Episodic perfective past	*	*	*

All the environments above (rows 1-12) have been characterized as nonveridical in the literature. The nonveridicality theory characterizes as *broad* (a better label, we think, than the often-used 'weak') the NPIs sanctioned in the whole range of nonveridical environments. The result is distribution in non-negative contexts such as questions, imperatives, modal, protasis of conditional, disjunctions, etc. These nonveridical non-negative environments are also good for FCIs. Here are some examples with the Greek broad NPI *kanenas*, *any*, and FCIs *opjosdhipote* (Giannakidou 2001; Vlachou 2007).

(19) Patise {kanena/opjodhipote} pliktro.
press.imperative any.NPI/any.FCI key
'Press {some key or other/any} key.'

(20) O Janis bori na milisi me {kanenan/opjondipote}.
the John may subj talk.3sg with anybodyNPI/FCI
'John may talk to {some person or other/anybody}.'

(21) O Janis ine prothimos na milisi me {kanenan/opjondipote}.
the John is willing subj talk.3sg with anybodyNPI/FCI
'John is willing to talk to {some person or other/anybody}.'

(22) a. I bike mesa {kanenas/opjosdhipote} i afisame
either entered.3sg NPI /FCI.person OR left.1pl
to fos anameno.
the light on

'Either {somebody/anybody} came in, *or* we left the light on.'

b. *Bike mesa {kanenas/opjosdhipote} ke afisame to fos anameno.
'*{Somebody/anybody} came in *and* we left the light on.'

While both subject to licensing, as we see, there is a meaning difference between the NPI and the FCI which indicates different lexical semantics. The Greek NPI is not scalar but receives a referentially vague reading (translated above as *some or other*; see Giannakidou and Quer 2013; Giannakidou and Yoon 2016). Giannakidou 1998, 2001, 2018 describes how this reading differs from the free choice reading: while both express referential indeterminacy free choice is, in addition, *exhaustive* giving rise a universal-like reading: *John is willing to talk to anybody* sounds very similar to *John is willing to talk to everybody. Any* is also often used generically to refer to a class: *Any student must work hard in order to get good grades.* Greek and Korean NPIs cannot be used with exhaustive or class readings. This specific difference between FCIs and NPIs is observed in Greek, Korean, Mandarin, Spanish, Catalan, French, Italian, and other languages that have a lexical distinction between a FCI and an NPI (see Giannakidou 2018 for the most recent survey), unlike English which single-handedly employs *any* for both NPI and FCI meanings. As we shall see, the Greek and Korean type of NPI, lacking free choice reading, cannot appear in the comparative.

Finally, as we said, licensing requires a nonveridical expression in the sentence, and establishes a scope condition at the logical form (Ladusaw 1980; Giannakidou 1997; 2006; 2011; Giannakidou and Zeijlstra 2017, and many others):

(23) *Licensing* (Giannakidou 1997)

R (β, α); where R is the scope relation, α the polarity item, and β a nonveridical operator.

Crucially, the position that NPIs always appear in the scope of a licenser has been challenged, most notably by Linebarger (1980), who gave examples with *any* without proper licensers, as in e.g. *She kept trying long after she had any chance of succeeding.* Giannakidou (1997; 1998) reconceptualized Linebarger's challenge as indirect licensing, later called *rescuing* by a negative implicature or presupposition:

(24) *Rescuing by NEGATION* (Giannakidou 2006)

A PI α can be rescued in sentence S, if the global context C of S makes a negative proposition S' available, and (b) α is in the scope of negation in S'.

The 'global context' C is the content of the sentence S which includes what is asserted and what is not asserted by S (i.e., what is implicated or presupposed.) Rescuing says that a veridical sentence S can still sanction an NPI if S gives rise to a negative presupposition or implicature S': the NPI is rescued in the scope of negation at S'. Rescuing is thus a more fluid mechanism where the NPI accesses all levels of representation and negativity spills over, so to speak, from non-assertion. Horn talks about similar phenomena in his concept of *assertoric inertia* (Horn 2002). Under what conditions this happens, and which types of NPIs can utilize this mechanism requires further exploration; we suggest that the ability to have free choice readings is a key factor. Greek NPIs, lacking free choice readings have been shown (Giannakidou 1997; 1998; 2006) to be resistant to rescuing; but *any, ever* (and their Dutch cognates), as well as English minimizers can be rescued much more easily. Two typical rescuing cases, Giannakidou argues, are the scope of emotive factive verbs and *only.* In these contexts, we find *any* and English minimizers, but not the Greek NPIs:

(25) a. I am glad he **said a word**!
b. I'm glad we got **any** tickets. (from Kadmon and Landman 1993)
c. Mary regrets that she **lifted a finger**.
d. Only Mary {**gives a damn/said anything**}.

(26) a. *Xerome pou **dhinis dhekara**. (Giannakidou 1998; 2006)
'I am glad you give a damn.'
b. */#**Mono** i Maria **dhini dhekara**.
'Only Mary gives a damn.'
c. #I Maria **metaniose** pou kounise to daktilaki tis.
Only literal interpretation: 'Mary regrets that she lifted her finger.'
d. * I Maria metaniose pu milise me **kanenan**.
'Maria regrets that she talked to anybody.'
e. ***Mono** i Maria ipe **tipota.**
'Only Mary said anything.'

The details of how *only* and emotives trigger a negative inference are not crucial for our purposes, since there is consensus that these two contain both positive (veridical) and nonveridical components in the global inference: *Only A p* entails or presupposes *p* (under every

theory of *only* see Horn 1996; Beaver and Clark 2008), but asserts *no other than A p*. Likewise, the emotive verb is factive (thus veridical, it presupposes *p*, Giannakidou 2006) but at the same time expresses a negative inference (Baker 1970; see Giannakidou and Mari 2021 for more recent discussion). The rescuing of *any* is overwhelming, and this has not gone unnoticed. In an important paper, Duffley and Larivee (2015) provide extensive corpus data of *any* in veridical contexts, and argue that veridical contexts are possible with *any* when "emphasis is placed on *utter indiscriminacy* of reference" (Duffley and Larrivee 2015: 35), which is consistent with the ability to have free choice indeteterminate, class-like readings, as we are arguing. We proceed now to discuss in more detail the crosslinguistic NPI data.

3. Strong NPIs are excluded in the comparative: Greek and Korean

The nonveridicality theory identifies a class of strong (or *strict*) NPIs: these are NPIs that are only licensed in the scope of classical negation. Turning now to Greek, the emphatic, focused variants of the broad NPI mentioned earlier are strong NPIs:

(27) a. **KANENAN** dhen idha. [Greek]
anyone not saw.1sg
'I saw nobody.'

b. *An erthi **KANENAS**...
if come.3sg anybody
'If anyone comes...'

c. *Irthe **KANENAS**?
came.3sg anybody
'Did anyone come?'

As shown above, focused KANENAS is only acceptable with negation. Furthermore, observe that minimizers, which are also inherently focused in Greek are only allowed with negation (Giannakidou 1998; 1999):

(28) **Dhen dhino djekara** jia to ti th'apojinis.
notgive.1sg damn about the what will happen.2sg
'I don't give a damn about what will happen to you!'

(29) #/*An **dhinis dhekara**, tha me akousis.
'If you give a damn, you'll listen.'

Like Greek, Korean has a class of strong NPIs (Lee 2005) with the *even*-particle *to,* equivalent to Greek *even oute* which is also an NPI and can appear with minimizers, Giannakidou 2007):

(30) a. Na-nun **amwu<u>to</u>** po-ci anh-ass-ta. [Korean]
I-Top anyone see-CI Neg-Pst-Decl
'I didn't see anyone.'

b. *Manil **amwu<u>to</u>** o-ntamyen...
if anyone come-Subj
'If anyone comes...'

c. ***Amwu<u>to</u>** o-ass-ni?
anyone come-Pst-Q
'Did anyone come?'

So, Korean *EVEN*-NPIs and Greek focused NPIs are both strong (Giannakidou and Yoon 2016). For some recent works on the acquisition of NPIs and additive inferences see Cochard, Demirdache, and van Hout (2023), and Heredia Murillo, van Hout, and Demirdache (2022).

The parallel in the two languages extends to minimizers:

(31) a. John-i **kkwumccek<u>to</u> ha**-ci-anh-ass-ta.
John-Nom budge an inch-CI-Neg-Pst-Decl
'John didn't budge an inch.'

b**.** ***John-i **kkwumccek<u>to</u> ha**-ess-ni?
John-Nom budge an inch-Pst-Q
'Did John budge an inch?'

c. *John-i **kkwumccek<u>to</u> ha**-ess-ta.
John-Nom budge an inch-Pst-Decl
'John budged an inch.'

The *to*-minimizer *kkwumccek<u>to</u> ha* 'budge an inch' is grammatical only in negative sentences, just like Greek minimizers, and unlike English ones. Hence, minimizers crosslinguistically

exhibit variation with respect to whether they are strong NPIs or not: Greek and Korean minimizers are strong, but a*ny* and minimizers in English behave like broader, or weak, NPIs.

The comparative Korean *pota*- and Greek *apo(ti)*-clauses cannot license strong NPIs:

(32) *Kim-un **amwuto-pota** te khu-ta. [Korean]
Kim-Top anyone-than more tall-Decl
'Kim is taller than anyone.'

(33) *NP comparative*
*I Kiki ine pliloteri **apo** KANENAN. [Greek]
'Kiki is taller than anyone.'

(34) *Sue-nun [Tom-i **kkwumccek<u>to</u> han**-kes]-**pota** temanhi wumcikyess-ta.
Sue-top Tom-Nom budge an inch-FRel-than more moved-Decl
'Sue moved more than Tom budged an inch.' [Korean]

(35) *S comparative*
*I Kiki milouse perisotero **apoti** I Maria **ipe leksi**. [Greek]
'Kiki talked more than Maria said a word.'

And broad NPIs are also excluded:

(36) *I Maria diavase perisotera arthra apoti tis ixe protini **kanenas kathijitis**.
'Mary read more articles than any professor suggested.'

(37) *I Maria agapa ton Petro perisotero apoti ton agapa **kanenas simathitis tou.**
Mary loves Peter more than him loves any fellow student.
'Mary loves Peter more than any fellow student loves him.'

(38) ??/*Kim-un [kyoswu **nwukwu-to** chwuchenhankes-pota] [Korean]
Kim-Top professor WH-even(anyone) suggest-than
te manhun nonmwun-ul ilk-ess-ta.
more article-Acc read-Pst-Decl
'Kim read more articles than any professor suggested.'

Yoon (2008) notes that *nwukwuto* is a weaker NPI than the *amwuto* we discussed earlier. Since NPIs that depend on negation do not appear in comparatives, the necessary conclusion is that the comparative does not contain negation. On the other hand, Giannakidou and Yoon (2009; 2011) make an interesting observation that there are some comparatives that are indeed negative: *charari* 'rather' metalinguistic comparatives in Korean. With these, strong NPIs become fine:

(39) Na-nun kulen il-lo [**amwuto** manna/**kkwumccek<u>to</u> ha-nuni**] **<u>chara</u>** [Korean]
I-Top such task-for anyone meet/ budge an inch -rather.than rather
kunyang swui-keyss-ta.
just rest-will-Decl
'I would rather just take a rest than{meet anyone/budge an inch} to do such a task.'

Amwuto and the Korean *to*-minimizers require an antiveridical licenser. The regular comparative clauses cannot supply it, and this provides evidence that there is no negation in the comparative clause. But *charari*, as argued by Giannakidou and Yoon, creates a metalinguistic comparative that asserts zero preference of the *than* proposition by the speaker, hence it is antiveridical and can license strong NPIs:

(40) Antiveridical MORE_{ML} (Neg-MORE_{ML})
[[charari]] = $\lambda p \lambda q[\ p >_{\text{Des}\,(\alpha)(c)} q \wedge \underline{\alpha \text{ desires } q \text{ to } d'\text{: } 0})]$
where $>_{\text{Des}\,(\alpha)(c)}$ is an ordering function such that: for *p* and *q* and degrees *d* and *d′*, the degree *d* to which α desires *p* in *c* is greater than the degree *d′* to which α desires *q* in *c*; and α is the anchor of comparison. (Giannakidou & Yoon 2011: 59)

We therefore have evidence that if the comparative contains an antiveridical element such as *charari*, it can indeed licence NPIs; but without an actual nonveridical licenser, it cannot.

An interesting case is presented by Romance neg-words (we use this term to refer to the class dubbed by Laka as `n-words' in earlier literature, that is, NPIs that are strictly licensed by negation in Romance and which can also be used as negative fragment answers), which may appear in phrasal comparatives, such as the Spanish *mas bonita que ninguna* 'more beautiful than anybody.' Hoeksema (2010) also reports synchronic uses of Dutch *enig* in comparatives. The neg-word facts are relatively well known, but space prevents us from addressing them in

detail. Some basic things must be said though. First, Greek and Korean do not allow such uses of their neg-words:

(41) O Janis ine omorfoteros apo **{opjondhipote/*KANENAN/*kanenan}.** [Greek]
John is more handsome than anybody.

(42) Con-un **{nwukwu(na)/*amwuto/*nwukwuto}**-pota calsayngkiess-ta. [Korean]
John-Top anyone-FCI/strict NPI/broad NPI-than handsome-Decl
'John is more handsome than anybody.'

As we see here, the FCI is the only acceptable option in Greek and Korean. Crucially, Romance neg-words do appear (in preverbal position) without negation (see Giannakidou and Zeijlstra 2017; Giannakidou 2020 for recent overviews and references):

(43) **Nessuno** e arrivato. [Italian]
no one is come
'No one has arrived.'

Thus, the fact that neg-words appear in the comparative is not evidence that the comparative contains negation, since neg-words can `license' themselves. Regardless of what the explanation is for self-licensing, Greek and Korean neg-words cannot do that and this is important.

An exception to this fact is the temporal neg-word *POTE*. Notice the translation with *ever*, but see also the contrast, namely that POTE cannot be modified:

(44) I Ariadne ine simera omorfoteri apo POTE. [Greek]
The Ariadne is today more-beautiful than n-ever
Ariadne is today more beautiful than ever.

(45) *I Ariadne ine simera omorfoteri apo POTE prin.
The Ariadne is today more-beautiful than n-ever
Ariadne is today more beautiful than ever before.

POTE contrasts with *ever* which appears also as *ever before.* The Greek example feels more like an idiomatic expression, we think, and will leave this to be explored on another occasion.

4. Dutch NPIs in comparatives: *ooit* and *ever*

Jack Hoeksema, in his thorough and extensive documentation of Dutch NPIs, has reported extensively on the occurrence of NPIs in comparatives (Hoeksema 2008; 2010 and references there). Dutch has the NPIs *enig* and *ooit,* cognates of *any* and *ever*, with distributions that unlike Greek and Korean broad NPIs includes rescuing with emotives and *ONLY*. As expected, then, *ooit* appears in the comparative and superlative:[3]

(46) a. Het spijt me dat ik dat **ooit** heb gedaan. [Dutch]
It saddens me that I this ever have done
'I regret having ever done this.'

b. Alleen Jan heeft er **ooit** over geschreven.
Only John has there ever about written
'Only John has ever written to me.'

c. Ze was het mooiste meisje dat ik **ooit** gezien had.
'She was the prettiest girl that I have ever seen.'

(47) a. Deze boot is sneller dan **enige** boot die ik **ooit** heb gezien.
'This boat is faster than any boat I have ever seen.'

b. Het paard rende de snelste race die het **ooit** had gerend.
'This horse ran the fastest race that it has ever run.' (Hoeksema 2008: (6))

The superlative is another rescuing context (Giannakidou 1998; 2006), and the appearance of the *ever/any* type of NPI in it raises questions similar to the comparative. In the example (48a) we see the NPI *enige boot,* and the data are parallel to English: readings are very similar to *ever* and those observed earlier for neg-words, though neither *ever* nor *ooit* are neg-words. Hoeksema, in his survey of the Dutch corpus of negative polarity expressions provides the following distribution:

Table 2: Ooit, ever, je(mals). Environment in percentages[4]

item → omgeving ↓	ooit N=17.304	ever N=3949	je(mals) N=847
comparatief	20	13	22
cond.bijzin	10	8	6
nauwelijks	1	2	5
negatie	22	25	18
neg.predikaat	3	5	4
superlatief	10	17	13
vraag	24	19	20
universeel	2	3	3
zonder	5	1	6
overig	3	7	3

Table 3: Comparative of equality (gelijkheid) and inequality (ongelijkheid) from Hoeksema 2014)

uitdrukking	ongelijkheid	%	gelijkheid	%
ever	359	9%	153	4%
je(mals)	181	21%	5	0.5%
ooit (<1800)	140	14%	72	7%
ooit (1800-1900)	562	23%	44	2%
ooit (1900-1950)	1393	23%	36	0.6%

The conclusion from these data is that the use of *ooit* in Dutch comparatives is in the ascend. Given that *ooit* does not always need a licenser, its occurrence is consistent with the correlation we are making, namely that only rescued NPIs occur in the comparative and superlative. In stark contrast to the Greek *kanenas* and other non-exhaustive NPIs, *ooit* and *ever* receive free choice readings independently.

We proceed now to explore why the free choice reading is good in the comparative.

5. Why are free choice readings good in comparatives?

A central observation throughout the paper has been that NPIs with free choice readings are accepted in the comparative. Let us provide more examples illustrating this. The Greek FCI *opjosdhipote* is good in the comparative and so is the Korean FCI:

(48) I Maria diavase perisotera arthra apoti tis ixe protini **opjosdhipote kathijitis**.
The Mary read more articles than any professor suggested. [Greek]

(49) Kim-un [kyoswu **nwukwu-na** chwuchenhankes-pota]. [Korean]
Kim-Top professor WH-or (anyone) suggest-than
te manhun nonmwun-ul ilk-ess-ta.
more article read-Pst-Decl
'Kim read more articles than any professor suggested.'

Now, consider a context where we are talking about 3 professors—Frans, Jack, and Jerry. Imagine that Frans suggested 2 books, Jack 4, and Jerry 5. For our sentences (47)-(48) with *any* to be true it has to be the case that Mary read more than 5. If Mary read 3 books, which is more than what *some* professor suggested, the sentence is false. This suggests that *any* is interpreted exhaustively in the comparative. The observations can be summarized in the following tables. Table 4 specifies the NPIs and FCIs in each language and their distributional properties. Table 5 summarizes the acceptability of each type of NPIs and FCIs in comparative clauses.

Table 4: Types of NPIs and FCIs in English, Greek, Korean, Dutch

NPI	English	Greek	Korean	Dutch
Strong NPI	*either*	*KANENAS*, minimizers	*amwuto*, *to*-minimizers	--
Broad NPI	*any*, minimizers	*kanenas*	*amwulato*, *nwukwuto*, *lato*-minimizer	
Liberal (rescued) NPI	*any*, minimizers	--	--	*ooit*, *enig*
FCI	*any*	*opjosdhipote*	*nwukwuna*	*wie dan ook*

Table 5: Acceptability of NPIs and FCIs in comparatives in English, Greek, Korean, Dutch

NPI in comparative	English	Greek	Korean	Dutch
Strong NPI	*	*	*	--
Broad NPI	*	*	*	*
Rescued NPI	*OK*	--	--	*OK*
FCI	*OK*	*OK*	*OK*	*OK*

Let us now address the question of why the free choice reading is compatible with the comparative. FCIs have been claimed to express *exhaustive* variation. There are various implementations of this idea, going back to Kadmon and Landman's (1993) idea of widening. We will adopt here Giannakidou and Quer's (2013) implementation of exhaustive variation:

(50) *Free choice item*

Let W be a non-empty, non-singleton set of possible worlds. A sentence with a free choice item ⟦OP DET_{FC} (P, Q)⟧ is true in w_0 with respect to W iff:

(where OP is a nonveridical operator; P is the descriptive content of the FC-phrase; Q is the nucleus of the tripartite structure; w_0 is the actual world):

a. Presupposition of **exhaustive variation:** $\forall d \in D_{FCI}. \exists w \in W.$ Q(d)(w), and no other member of the domain d' is such that Q(d')(w); where D is the domain of the FCI, and Q the VP predicate.

b. Assertion: ⟦OPw,x [P (x, w); Q (x, w)]⟧ = 1 where *x,w* are the variables contributed by the FCI.

Exhaustive variation says that for each value *d* there will be a world *w* such that *Q(d)(w)*, but also requires that in that world *w* there can be no other *d'* that satisfies Q.[5] The important point is that the FCI requires that *there be a plural domain*, and that *we exhaust all values* in this domain. If FCIs presuppose exhaustive variation, it is easy to see why they are good in comparatives: exhaustive variation allows the *than*-clause to pick out the whole class as the compared term. This renders FCIs roughly equivalent to universals in the comparative:

(51) Mary is taller than **anyone**/**everybody** in her class.

(52) Mary ran faster than **anyone/everyone** had expected.

Free choice markers or an NPI that can make reference to the whole domain are therefore good devices if we want the comparison to make reference to a class. With a regular existential quantifier class comparison is impossible:

(53) Mary ran faster than what **some** professor expected.

The above comparison is odd, coming out as under-informative (*some or other*). It is helpful to understand the use of FCIs and NPIs in comparatives and superlatives in this light, i.e. as appropriate devices for class comparisons. Our prediction is that if an NPI can get the class reading, it should be able to occur in the comparative and superlative without a syntactic licenser.

6. **Conclusion**

In this paper we made two main points. Our first point was empirical: the comparative is actually *not* a licensing environment for NPIs. Once we acknowledge the qualitative difference between licensing and rescuing— which does *not* require a syntactic licenser— it turns out that only the rescued NPI occurs in the comparative. The rescued NPI tends to have a free choice, exhaustive, universal-like reading. The fact that only NPIs which do not always require a syntactic licenser appear in the comparative is consistent with the analytical difficulty of treating the comparative as negative, downward entailing or nonveridical. The comparative lacks any of these properties. Our second point was that the occurrence of FCIs and NPIs with free choice readings in comparatives as well as superlatives— both quite frequent and unmarked— is due to free choice readings being exhaustive, and can therefore make reference to *comparison classes*. For this reason, NPIs with generic reading (*any,* some Romance neg-words, Dutch *ooit, enig*) and FCIs are excellent devices to use in cases where comparison to a class is needed.

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that Jack has made pioneering contributions in, and we offer our observations as a way to rethink some of these older issues. Putting together Greek, Korean, and Dutch has been truly rewarding. To Jack, we offer our deepest appreciation for the important and solid work that he has produced through the years. Anastasia is grateful for his guidance and inspiration during her years in Groningen and beyond. Jack: will never forget sharing an office with you as a PhD student, your patience, and generosity in time and wisdom. Above all, I am grateful for your friendship.

Endnotes

[1] Comparatives may contain negative markers in some dialects of English (Joly 1967, Seuren 1973), and in some registers of Romance languages such as French, Spanish, and Catalan:

(i) He is richer **nor** you'll ever be. [English dialects]
(ii) She did a better job than what I **never** thought she would. [Cockney English]
(iii) Jean est plus grand que je **ne** pensais. [French]
Jean is taller than I Neg thought
'Jean is taller than I thought.'

The negation in the comparative, however, is *expletive* negation—and expletive negation is famously *not* semantically equivalent to canonical negation (e.g., Yoon 2011 argues that it contributes an attitude of preference, and more recently Tahar 2022 proposes an analysis of expletive negation as a modal element too).

[2] English equatives generally allow *any* and *ever*: *The Beatles are as good as anybody*, *The Beatles are as good as ever*. This resonates with analyses where equatives are comparatives (Von Stechow 1984; cf. Bhatt and Pancheva 2004, Rett 2007; Beck 2009). We will argue here that the appearing elements have free choice readings.

[3] We thank Jack Hoeksema for providing the data in this section and for his insights and comments.

[4] Translations: *omgeving* 'environment'; *comparatief* 'comparative', *cond. bijzin* 'conditional clause' *nauwelijks* 'rarely'; *negatie* 'negation'; *neg. predikaat* 'negative predicate; s*uperlatief* 'superlative'; *vraag* 'question'; *zonder* 'without; *overig* 'total'.

[5] This rules out the possibility of all values being satisfied in one world. The effect of domain exhaustification defined this way is equivalent to the i-alternative variant of Giannakidou (2001).

References

Baker, C. L. 1970. Double negatives. *Linguistic Inquiry* 1, 169-186.

Beaver, D. and B. Clark. 2008. *Sense and Sensitivity*. Wiley-Blackwell.

Beck, S. 2009. DegP scope reanalysed. Ms., Universität Tübingen.

Beck, S. 2011. Comparison Constructions. *Semantics: An International Handbook of Natural Language Meaning*. Ed. by Claudia Maienborn, Klaus von Heusinger & Paul H. Portner. Vol. 2. Berlin: De Gruyter, 1341-1389.

Beck, S., T. Oda, and K. Sugisaki. 2004. Parametric Variation in the Semantics of Comparison: Japanese versus English. *Journal of East Asian Linguistics* 13.4, 289-344.

Bernardi, B. 2002. *Reasoning with Polarity in Categorial Type Logic.* Ph.D. thesis**,** Utrecht Institute of Linguistics (OTS), Utrecht University.

Bhatt, R. and R. Pancheva. 2004. Late merger of degree clauses. *Linguistic Inquiry* 35, 1-45.

Bochnak, M. R. 2013. *Crosslinguistic Variation in the Semantics of Comparatives.* PhD thesis. Chicago: University of Chicago.

Chatzikonstantinou, T. 2016. *Semantic and prosodic processing of NPIs in Greek.* Chicago: University of Chicago dissertation

Cochard, A., Demirdache, H., & van Hout, A. 2023. Interpreting disjunction across positive and negative contexts: Evidence from child French. *Proceedings of the 47th Annual Boston University Conference on Language Development*, 159-172. Somerville: Cascadilla Press.

Dayal, V. 1998. Any as inherently modal. *Linguistics and Philosophy* 21: 433-476.

Déprez, Viviane. 2000. "Parallel (A)symmetries and the internal structure of negative expressions." *Natural Language and Linguistic Theory* 18: 253-342.

Duffley, P. and P. Larivee. 2015. A fresh look at the compatibility between any and veridical contexts. *Lingua* 158: 35-53.

Giannakidou, A. 1993. KANENAS and TIPOTA, talking about nothing or anything in Modern Greek. In Ale de Boer, J. de Jong, and Rita Landeweerd (eds), *Language and Cognition* 3, Yearbook of the Research Group for Theoretical and Experimental Linguistics, University of Groningen. 49-58.

Giannakidou, A. 1997. *The Landscape of Polarity Items.* PhD. thesis, University Groningen.

Giannakidou, A. 1998. *Polarity Sensitivity as (Non)veridical Dependency*. John Benjamins.

Giannakidou, A. 1999. Affective dependencies. *Linguistics and Philosophy* 22: 367-421.

Giannakidou, A. 2001. The meaning of free choice. *Linguistics and Philosophy* 24: 659-735.

Giannakidou, A. 2006. *Only*, emotive factives, and the dual nature of polarity dependency. *Language*, 82.3: 575-603.

Giannakidou, A. 2007. The landscape of EVEN. *Natural Language and Linguistic Theory* 25: 39-81.

Giannakidou, A. 2011. Negative polarity and positive polarity: Licensing, variation, and compositionality. In *The handbook of Natural Language Meaning*, 1660-1712. Berlin: Mouton de Gruyter.

Giannakidou, Anastasia. 2018. A critical assessment of 'exhaustivity' for Negative Polarity Items: the view from Greek, Korean, and Mandarin Chinese. *Acta Linguistica Academica* 65: 503-545.

Giannakidou, A. 2020. Giannakidou, Anastasia. 2020. Negative Concord. In *Oxford Handbook of Negation*, V. Deprez and M. Teresa Espinal (eds). Oxford University Press. Chapter 26.

Giannakidou, A. and L. L.-S. Cheng. 2006. (In)Definiteness, Polarity, and the Role of *wh*-morphology in Free Choice. *Journal of Semantics* 23.135-183.

Giannakidou, A. and A. Mari. 2021. *Truth and Veridicality in Grammar and Thought: Mood, Modality, and Propositional Attitudes*. The University of Chicago Press: Chicago.

Giannakidou, A. and J. Quer. 2013. Exhaustive and non-exhaustive variation with free choice and referential vagueness: Evidence from Greek, Catalan, and Spanish. *Lingua* 126.120-49. DOI: 10.1016/j.lingua.2012.12.005.

Giannakidou, A. and S. Yoon. 2009. Metalinguistic functions and the Expressive Dimension in Greek and Korean: attitude semantics, expressive meaning and NPI licensing. *Proceedings of the 13th Sinn und Bedeutung (SuB 13).* ed. by L. Geist, K. von Heusinger, H. Kamp, U. Klein, F. Martin, E. Onea, A. Riester, and T. Solstad.

Giannakidou, A. and S. Yoon. 2011. The subjective mode of comparison: metalinguistic comparatives in Greek and Korean. *Natural Language and Linguistic Theory* 29.3:621-655.

Giannakidou, A. and S. Yoon. 2016. Scalar marking without scalar meaning: Non-scalar, nonexhaustive *even*-marked NPIs in Greek and Korean. *Language* 92.3: 522-556.

Giannakidou, A. and H. Zeijlstra. 2017. The landscape of negative dependencies: n-words and negative concord. The *Blackwell Companion to Syntax*, 2nd edition (eds. Martin Evaerert and Henk van Riemsdijk). DOI: 10.1002/9781118358733.wbsyncom102

Heim, I. 2000. Degree operators and scope. In *SALT X*, 40-64.

Heim, I. 2006. Remarks on comparative clauses as generalized quantifiers. Ms.

Hendriks, P. 1995. *Comparatives in categorial grammar*. Ph.D. Groningen U.

Heredia Murillo, E. van Hout, A. & Demirdache, H. (2022). On the acquisition of scalar and additive inferences: Evidence from Spanish incluso 'even' and ni siquiera 'not even'. *Proceedings of the 46th Annual Boston University Conference on Language Development*, 298-311. Somerville: Cascadilla Press.

http://www.lingref.com/bucld/46/BUCLD46-23.pdf

Hoeksema, J. 1983. Negative polarity and the comparative. *Natural Language and Linguistic Theory* 3: 403-434.

Hoeksema, J. 1999. Aantekeningen bij ooit, deel 2: De opkomst van niet-polair ooit. Tabu 29 (4): 147–172.

Hoeksema, J. 2008. Distributieprifielen van negatief polaire uitdrukkingen: een vergeleijking van het Nederlands, Engels en Duits. Tabu 37-3/4, 2008, 111-195.

Hoeksema, J. 2010. Dutch *enig:* from nonveridicality to downward entailment. *Natural Language and Linguistic Theory* 28: 837-859.

Horn, L. R. 1996. 'Exclusive company: 'only' and the dynamic of vertical inference', *Journal of Semantics* 13:1-40.

Horn, L. R. 2002. Assertoric inertia and NPI-licensing. *Chicago Linguistics Society* 38: Parassesion on Negation and Polarity, 55-82.

Jespersen, O. 1917. *Negation in English and Other Languages*. Copenhagen: A.F. Host.

Joly, A. 1967. Negation and the Comparative Particle in English. *Cahiers de psychomécanique du langage* 9. l'Université Laval, Québec.

Kadmon, N. and F. Landman. 1993. Any. *Linguistics & Philosophy* 16: 353-422.

Karttunen, L. 1972. Possible and must. *Syntax and Semantics*: volume 1. J. Kimball. New York, Academic Press: 1-20.

Kennedy, C. 1997. *Projecting the Adjective*. Ph.D. dissertation, UC Santa Cruz.

Kennedy, C. 2005. Variation in the Expression of Comparison, handout for presentation at Cornell University, 11 November.

Kennedy, C. 2007. Vagueness and grammar: The semantics of relative and absolute gradable predicates. *Linguistics and Philosophy* 30: 1-45.

Klein, E. 1980. A Semantics for Positive and Comparative Adjectives. *Linguistics and Philosophy* 4: 1-45.

Ladusaw, W. A. 1979. *Polarity Sensitivity as Inherent Scope Relations*, Ph.D. thesis. UT Austin.

Ladusaw, W. A. 1980. *Polarity Sensitivity as Inherent Scope Relations*. New York: Garland.

Larson, R. K. 1988. Scope of Comparatives. *Linguistics & Philosophy* 11: 1-26.

Lee, J.-H. 2005. Korean EVEN: -to versus -(i)lato. Ms., University of Chicago.

Linebarger, M. 1980. *The Grammar of Negative Polarity.* Ph.D. thesis. MIT.

McConnell-Ginet, S. 1973. *Comparative constructions in English: A syntactic and semantic analysis*. Ph.D. Thesis, University of Rochester.

Menendez Benito, P. 2010. On universal free choice items. *Natural Language Semantics* 18.33-64. DOI: 10.1007/s11050-009-9050-x.

Portner, P. 2009. *Modality*. Oxford University Press.

Quer, J. 1998. *Mood at the Interface.* PhD thesis. University of Utrecht.

Quer, J. 1999. The quantificational force of free choice items. Talk at Colloque de Syntaxe et Semanique de Paris '99.

Rett, J. 2007. Antonymy and evaluativity. *Semantics and Linguistic Theory* 17. 210-227.

Ross, J. R. 1969. A Proposed Rule of Tree-Pruning. In *Modern Studies in English: Readings in Transformational Grammar*, ed. by D. A. Reibel and S. A. Schane.

Rullmann, H. 1995. *Maximality in the Semantics of WH-Constructions*. Ph.D. UMass.

Sanchez-Valencia, V. T. van der Wouden, F. Zwarts. 1994. Polarity, veridicality, and temporal connectives. In *Proceedings of the Ninth Amsterdam Colloquium*, ed. by Paul Dekker & Martin Stokhof, 587-606. Amsterdam: ILLC / Department of Philosophy, University of Amsterdam.

Schlenker, P. 2016. Super Monsters!!: Role Shift, Iconicity and Quotation in Sign Language. *Semantics & Pragmatics*. To appear.

Schwarzschild, R. 2002. Singleton indefinites. *Journal of Semantics* 19 (3): 289-314.

Schwarzschild, R. and K. Wilkinson. 2002. Quantifiers in comparatives: A Semantics of Degree based on Intervals. *Natural Language Semantics*, 10: 1-41.

Seuren, P. A. 1973. The Comparative. *Generative Grammar in Europe*.

Stassen, L. 1985. *Comparison and Universal Grammar*. Oxford: Blackwell.

Stassen, L. 1984. The comparative compared. *Journal of Semantics* 3: 143-182.

Vlachou, E. 2007. *Free choice in and out of context: semantics and distribution of French, Greek and English Free Choice Items*. PhD thesis. University of Utrecht.

Von Stechow, A. 1984. Comparing semantic theories of comparison. *Journal of Semantics* 3: 1-79.

Tahar, Chole. 2022. *Expletive negation in French: a diachronic perspective.* PhD thesis, Ecole Normale Superiure.

Xiang, M., J. Grove, and A. Giannakidou. 2016. Semantic and pragmatic processes in the comprehension of negation: An event related potential study of negative polarity sensitivity. *Journal of Neurolinguistics*. 2016 38: 71-88.

Yoon, S. 2008. From Non-Specificity to Polarity. In a special edition of *UW Working Papers in Linguistics, Vol 27*, ed. by S. Moran, D. S. Tanner and M. Scanlon, University of Washington, Washington, USA.

Yoon, S. 2011. *NOT in the Mood: The Syntax, Semantics, and Pragmatics of evaluative Negation.* PhD thesis, University of Chicago.

Zeijlstra, Hedde. 2004. "Sentential Negation and Negative Concord." Ph.D. Diss, University of Amsterdam.

Zeijlstra, Hedde. 2011. “On the syntactically complex status of negative indefinites.” *Journal of Comparative Germanic Linguistics* 14: 111-138.

Zwarts, F. 1981. Negatief Polaire Uitdrukkingen I’, *GLOT* 4, 35-133.

Zwarts, F. 1995. Noveridical contexts. *Linguistic Analysis* 25, 3-4: 286-312.

Zwarts, F. 1996. Three types of polarity. Plurality and quantification, ed. by Fritz Hamm and Erhard Hinrichs, 1770-238. Dordrecht: Kluwer.