

## No NPI licensing in comparatives

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### Abstract

In this paper, we caution that the comparative is, in fact, *not*, a licensing environment for NPIs. We show that the appearance of NPIs is much more restricted than previously assumed: strong NPIs do *not* appear in comparatives, and often NPI-*any* is confused with free choice *any*. Strong NPIs are licensed only if an antiveridical function is introduced, such as the negative metalinguistic comparative *charari* (Giannakidou and Yoon 2009)—but the comparative itself does not contain an antiveridical or downward entailing operator. Importantly, NPI sanctioning in comparatives is limited to *rescuing* (Giannakidou 2006) which allows only the weakest NPI type, the one that can be sanctioned *in violation* of LF licensing. The implication of our analysis is that the comparative should not be thought as a licenser of NPIs—a fact consistent with the analytical difficulty, admitted in many works, in making the comparative downward entailing or nonveridical. Finally, it cannot be claimed that the comparative contains negation—if it did, strong NPIs should be fine, but they are not.

### 1 The puzzle of NPIs in English comparatives

Routine claims on NPI-licensing have been that NPIs occur freely in clausal comparatives, as shown below (von Stechow 1984, Hoeksema 1983, Heim 2006):

- (1) Roxy is prettier than **anyone** of us. *Phrasal comparatives*
- (2) Roxy ran faster than **anyone** had expected. *Clausal comparatives*
- (3) My urge to steal was stronger than I **could help**.
- (4) a. He said the sky would sooner fall than he would **budge an inch**.  
b. John would sooner roast in hell than **give a penny** to the charity.  
c. Mary buys expensive presents for her assistant more often than she **lifts a finger** to help her husband.

*Any* and English minimizers appear in phrasal and clausal comparatives. Since the licensing of NPIs is due to negation, downward entailment (DE; Ladusaw 1979), or nonveridicality (Giannakidou 1997, 1998, 2006; Zwarts 1995), the appearance of NPIs suggests that the comparative creates a context that could be understood as negative, DE, or nonveridical. Yet, it is controversial whether comparatives are negative, DE, or nonveridical (Larson 1988; Schwarzschild and Wilkinson 2002; Heim 2006; Giannakidou 1998). And phrasal comparatives are upward entailing (Hoeksema 1983), so we do not expect them to license NPIs. In (1), then, it is only the free choice *any* that we find, since free choice items (FCIs) do not need negation or DE (are in fact averse to it, Giannakidou 1997, 1998).

Earlier works argued that comparatives have 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. We illustrated with Ross’s deep structure (5):

- (5) John is taller than anyone. (Ross 1969)  
 $\exists d$  John is tall to extent  $d$  AND NOT [anyone else is ~~tall to extent  $d$~~ ]

In more recent accounts (von Stechow 1984; Rullmann 1995; Kennedy 1997), the comparative is an ordering relation between two (maximal) degrees,  $d'$ ,  $d''$ :

- (6) Kim is taller than Lee.  
 $\max\{d' \mid \text{tall}(\text{kim}) \geq d'\} > \max\{d'' \mid \text{tall}(\text{lee}) \geq d''\}$

From this relation, it follows that  $d''$  is *not* as great as  $d'$ , hence there is indirect negativity without containing a morphological or logical negation. Giannakidou (1998) argued that it is this implied negativity that licenses *indirectly* the NPIs in the comparatives—a point to which we return. Hoeksema (1983), on the other hand, claims that the clausal comparative is DE. Yet Larson (1988), and Schwarzschild and Wilkinson (2002) show that the DE scheme is not validated in the comparative, but the upward entailing is, as shown below:

- (7) a. John is taller than **some professional athletes** are.  $\neg \rightarrow$   
 b. John is taller than **some professional basketball players** are.  
 (8) a. John is taller than **some professional basketball players** are.  $\rightarrow$   
 b. John is taller than **some professional athletes** are.

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). *Than*-clauses are DE if they contain DE operators (negation or universal quantifier); but in the bare case the comparative is not DE because there is no such operator. Since DE does not seem to be an inherent property of the comparative, it cannot be used in characterizing NPI-licensing in comparatives, and what we find in this paper supports entirely this conclusion.

How about nonveridicality (Giannakidou 1998, 1999)? Heim (2006) notes that according to an obvious generalization of the existing definition, *-er* comes out as veridical, and Giannakidou (1998: 151-153) already notes that in comparatives, NPIs are only *indirectly licensed*, as we mentioned earlier. Briefly, the sentence (2) receives the analysis below (Giannakidou 1998: 152, (145)):

- (9) a. Roxy run  $g$  fast.  
 b.  $k$  is the greatest degree such that people expected Roxy to run  $k$  fast.  
 c.  $\neg$  [people expected Roxy to run  $g$  fast]

Notice that it doesn't even matter that  $g$  is less than  $k$ ; all that matters is that Roxxy did not run to the degree  $k$ , the degree of the comparative clause containing *any*. Giannakidou says that (2) asserts  $a$ , presupposes  $b$ , and conventionally implicates the negative sentence in  $c$ . Importantly, Giannakidou claims that it is this non-equality of degree that creates an environment appropriate for *any*, and shows that the equative does not allow the NPI (*any*, or the Greek NPI *kanenas*):

- (10) \*I Roxani trexi            akrivos oso grigora    trexi kanenas stin taksi tis.  
 Roxanne runs            exactly as fast            runs anybody in her class  
 ??Roxanne runs as fast as anybody in her class.  
 (Giannakidou 1998: 152, (147))

The NPI *kanenas* does not receive free choice use, and the equative structure above does not allow it. Notice likewise the oddity of the English *any*—to the extent it can be acceptable the sentence only allows the “average” reading of *anybody*, symptomatic of its free choice nature.

In this paper, we want to make a primarily empirical point. We show that the comparative is *not*, in fact, a licensing environment for NPIs, and that, contrary to previous beliefs, the appearance of NPIs in the comparative is quite restricted. We show that (a) it is easy to confuse NPIs with FCIs in the comparative; (b) strong NPIs (and we illustrate with English, Greek and Korean) are excluded; and (c) the only NPI type that appears in the comparative is the one that is not always licensed (i.e. by being in the scope of an appropriate expression at LF), but can be *rescued*— in the sense of Giannakidou 2006, i.e. without being in the scope of an appropriate operator at LF. *Any* and English minimizers are typical cases of NPIs that resort to rescuing quite systematically, and because previous literature mainly studied only these NPIs, the illusion of licensing in comparatives was created.

Our observation that strong NPIs do not appear in comparatives is consistent with analyses that do not posit negation in the comparative; if an antiveridical expression is introduced, however, such as the Korean negative comparative *charari* (Giannakidou and Yoon 2009, to appear), strong NPIs become fine.

## 2 NPIs: nonveridicality, variation, and dual mode of sanctioning

Our background is the nonveridicality theory of polarity (Giannakidou 1998, 1999, 2001, 2006, 2009; Zwarts 1995; for a (non)veridicality calculus in a categorial type logic for PI-licensing in Italian see Bernardi 2002). The starting point of the nonveridicality theory is that NPIs across languages and paradigms have varied distributions. The main tenets can be summarized as follows:

- (11) The Nonveridicality theory of Polarity

A. *Licensing Property*

NPIs appear in nonveridical contexts. Nonveridical contexts include modal, intensional, generic, downward entailing contexts, disjunction, and non-assertive contexts (questions, imperatives, and the protasis of conditionals).

*B. Varied distribution due to lexical composition*

For each NPI paradigm, its lexical semantic properties and its morpho-syntactic features will determine where precisely, within the nonveridical space, the NPI will appear.

*C. Two modes of sanctioning:*

NPIs can be licensed or rescued. Licensing happens at the scope of a nonveridical operator. Rescuing can happen in a non-licit context due to global semantic-pragmatic reasoning. Rescuing is a secondary option: there are no NPIs that are rescued but not licensed.

These three clauses create a flexible framework where various NPI paradigms can be studied and understood. The intuitive idea behind veridicality is simple: a linguistic item *L* is veridical if it expresses certainty about, or commitment to, the truth of a sentence; and *L* is nonveridical if it doesn't express such commitment.<sup>1</sup> For example, if *We know that Bill left* then *Bill left* is true—in fact *Bill left* is not simply entailed in the context, but presupposed to be true, i.e. it is part of the context's common ground. All factive verbs are veridical. But, if it is true that I have a desire that *Bill leaves*, I am not committed to the truth of *Bill leaves*. Giannakidou (1997, 1998, 1999) developed a formal system that described these distinctions, and we assume that discussion here.

The notion of certainty and uncertainty that Giannakidou employs is one of epistemic assessment, and epistemic assessment itself relies on an *individual* assessing whether the proposition denoted by a sentence is true or false. This individual is the *individual anchor* (Farkas 1992, Giannakidou 1998, 1999), and Giannakidou made the assumption that *every sentence*, embedded or not, is true or false with respect to an individual. An unembedded sentence will be assessed as true or false with respect to the speaker:

- (12) Epistemic model of an individual (Giannakidou 1998)  
An epistemic model of an individual *x*,  $M_E(x)$ , is a set of worlds *w*' accessible from a world *w*, compatible with *x*'s beliefs in *w*.

The proposition *p* of an unembedded assertion will be evaluated with respect to the speaker's model, naturally:

- (13) Truth in an individual's model

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<sup>1</sup> Montague used existence for nonveridicality (Montague 1969), and truth and existence are obviously related, as can be seen in the nonveridicality of determiners (Giannakidou 1998, 1999), and subjunctive relative clauses. See also Lin 1996 that the notion of *non-existence* is relevant for Chinese NPIs.

- A proposition  $p$  is true in an epistemic model  $M_E(x)$  iff  $M_E(x) \subseteq p$ ; in other words:  $\forall w [w \in M_E(x) \rightarrow w \in \lambda w'. p(w')]$
- (14) a. John won the race.  
 b.  $\llbracket \text{John won the race} \rrbracket = 1$  iff  
 $\forall w [w \in M_E(\text{speaker}) \rightarrow w \in \lambda w'. \text{John wins the race in } w']$

This is veridicality: truth in all worlds in an individual's model:

- (15) (Non)veridicality for propositional operators (Giannakidou 2006)
- i. A propositional operator  $F$  is veridical iff  $Fp$  entails or presupposes that  $p$  is true in some individual's model  $M(x)$ ;  $p$  is true in  $M(x)$ , if  $M(x) \subseteq p$ .
  - ii. If (i) is not the case,  $F$  is nonveridical.
  - iii. A nonveridical operator  $F$  is *antiveridical* iff  $Fp$  entails *not*  $p$  in some individual's model. When this is the case,  $M(x) \cap p = \emptyset$ .

Giannakidou is taking a *subjective* stance on the task of truth assessment (see also recent discussion in Harris and Potts 2010: 1 for a similar position). In Giannakidou, assessment is done with respect to an epistemic model of an individual (which is the doxastic function we know from modal logic). With propositional attitudes we have two individual anchors for truth assessment: the speaker, as in the unembedded sentence, and the attitude subject, and the complement sentence may be true or false depending on whose perspective we take (see Giannakidou 1998, 1999, and 2010 of how this affects NPI licensing *and* mood choice).

Positive unembedded assertions are veridical and exclude NPIs. Questions, on the other hand, modal verbs, directive propositional attitudes, disjunction, the protasis of conditional, and negation are all nonveridical, and license NPIs.

- |      |  |                        |
|------|--|------------------------|
| (16) | a. John didn't invite any students.          | Negation               |
|      | b. Did John invite any students?             | Question               |
|      | c. John is willing to invite any student.    | Infinitival complement |
|      | d. If you sleep with anybody, I'll kill you! | Conditional            |

Apart from negation, the environments here are nonveridical, but not DE. Among the various subproperties of nonveridicality only negation is DE. Zwarts (1995) notes that DE is a subset of nonveridicality, hence the nonveridicality theory allows more comprehensive empirical coverage, while predicting variation, e.g. narrower sensitivities to DE and other subproperties of the nonveridical. We now proceed to illustrate points B (variation), and C (two modes of sanctioning).

## 2.1 Strong NPIs

The nonveridicality theory identifies a class of strong (or *strict*) NPIs: these NPIs that are licensed only by negation and antiveridical *without*, and the NPI must be in the scope of an antiveridical operator at LF (Giannakidou 1998, et sequel).

- (17) a. John didn't see **anybody**.  
 b. John doesn't **give a damn**.  
 c. John didn't see Bill, **either**.
- (18) a. Did John see **anybody**?  
 b. Did John **say a word**?  
 c. \*Did John see Bill, **either**?
- (19) a. Does John **give a damn**?  
 b. If you **give a damn**, you will listen to me.  
 c. \*If you see Bill either, ...

Among the various NPIs above, only *either* is a strong NPI. *Any* and English minimizers are not strong, though English minimizers have been *erroneously* characterized as strong in the previous literature.

Now let us turn to the distribution of NPIs in Greek.

- (20) 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, the Greek emphatic n-word **KANENAS** is a strong NPI, like *either*; it is only acceptable with negation. Another such NPI is NPI-even *oute* (Giannakidou 2007). Furthermore, observe below that minimizers in Greek are also only allowed with negation (Giannakidou 1998, 1999):

- (21) **Dhen dhino djekara**            jia to ti th'apojinis.  
       not give.1sg damn                about the what will happen.2sg  
       I don't give a damn about what will happen to you!
- (22) #/\*An **dhinis dhekara**, tha me akousis.  
       (If you dive a damn, you'll listen.)

This indicates that Greek minimizers, unlike English ones, are also strong NPIs. Like Greek, Korean has a class of strong n-words, containing the *even*-particle *to* (which itself is an NPI-even, like Greek *oute*; Lee 2005):

- (23) a. Na-nun            **amwuto**            po-ci anh-ass-ta.                    [Korean]  
           I-Top                anyone                see-CI Neg-Pst-Decl  
           'I didn't see anyone.'

- b. \*Manil      **amwuto**      o-ntamyen...  
 if            anyone            come-Subj  
 ‘If anyone comes...’
- c. \***Amwuto**            o-ass-ni?  
 anyone            com-Pst-Q  
 ‘Did anyone come?’

So, Korean and Greek *n*-words are both strong NPIs, and can only appear in the scope of negation. The parallel in the two languages extends to minimizers:

- (24) a. John-i            **kkwumceekto** ha-ci            anh-ass-ta.  
 John-Nom    budge an inch    -CI            Neg-Pst-Decl  
 ‘John didn’t budge an inch.’
- b. \*John-i            **kkwumceekto** ha-ess-ni?  
 John-Nom    budge an inch    -Pst-Q  
 ‘Did John budge an inch?’
- c. \*John-i            **kkwumceekto** ha-ess-ta.  
 John-Nom    budge an inch    -Pst-Decl  
 ‘John budged an inch.’

The *to*-minimizer *kkwumceekto* *ha* ‘budge an inch’ is grammatical only in negative sentences, just like the Greek minimizers, and unlike the English ones. Hence minimizers as a class crosslinguistically exhibit variation with respect to whether they are strong NPIs or not. Given the observations so far, we can reach the following conclusions: i) Strong NPIs have narrow distribution in negation; ii) *Either* in English, *n*-words in Greek and Korean, and minimizers in Greek and *to*-minimizers in Korean are strong NPIs; and iii) *Any* and minimizers in English are not strong NPIs but behave as broader NPIs.

## 2.2 Broader NPIs

The nonveridicality theory characterizes as broad (also known as ‘weak’) the NPIs that can generally be sanctioned in the scope of a nonveridical operator. The result is broader distribution of these NPI in e.g. questions, imperatives, modal, protasis of conditional, disjunctions, etc. These nonveridical environments are also good for FCIs, as we illustrated below with Greek, which exhibits a lexical distinction between FCI and NPI:

- (25) a. Patise {**kanena** / **opjodhipote**} pliktro.            *Imperative*  
 Press some key or other. / Press **any**-FC key!
- b. O Janis bori na milisi me {**kanenan/opjondipote**}.            *Modal*  
 John may talk to {some guy or other/anybody-FC}.
- (26) An kimithis me {**opjondhipote/kanenan**} tha se skotoso.  
 if sleep.2sg with FCI-person/NPI-person    Fut you kill.1sg  
 ‘If you sleep with **anybody**, I’ll kill you.’

- (27) a. I Ariadne epemine na afisoume **kanenan** na perasi mesa.  
 ‘Ariadne insisted that we allow **some person or other** to come in.’  
 b. I bike *kanenas* mesa *i* afisame to fos anameno.  
 ‘Either someone got in or we left the light on.’

English minimizers, crucially, also appear in directive propositional attitudes:

[Retrieved with Google, 10/17/2006; *gratia* Jason Merchant]

- (28) She’s still funny and cute and smart and I wish she gave a damn that we aren’t friends anymore. I miss Candice. [www.xanga.com/betweenIDs](http://www.xanga.com/betweenIDs)  
 (29) “I just wish you gave a damn about something besides your television set.”  
 Mr. Smith threw the remote control across the room stomped out of the room. [www.deadmule.com/content/word.of.mule.php?content\\_id=952](http://www.deadmule.com/content/word.of.mule.php?content_id=952)  
 (30) Till the pianist finished, we left, and I dropped off tom and went home. Now I wish I had said a word. It would have come out lame though, I just know it. [everything2.com/index.pl?node\\_id=1166781](http://everything2.com/index.pl?node_id=1166781)

This again shows that English minimizers as a class behave more liberally, and it is mistake to think of English minimizers as strong NPIs (as people often do). The verb *wish* is not antiveridical, and it is also not DE; but it is nonveridical, and the occurrence of minimizer is in agreement with the nonveridicality theory.

In the preceding section, we saw that Korean *to*-minimizers (‘even’-minimizers) are strong NPIs. Interestingly, Korean exhibits another set of minimizers, the *lato*-minimizers (‘even if’-minimizers) which are broader NPIs:

- (31) a. Ceypal **kkwumccekilato** ha-yla. *Imperative*  
 please budge an inch-even if –Imp.  
 ‘At least budge an inch!’  
 b. John-i **kkwumccekilato** ha-ess-ni? *Interrogative*  
 John-Nom budge an inch -Pst-Q  
 ‘Did John even budge an inch?’  
 c. \*John-i **kkwumccekilato** ha-ess-ta.  
 John-Nom budge an inch -Pst-Decl  
 ‘John even budged an inch.’

In sum then, *kanenas*, *any*, English minimizers, and Korean *lato*-minimizers are broad NPIs, licensed in the scope of a nonveridical operator. It is important to note that this class of broad NPIs is by no means a uniform one. Within the nonveridical space, the various broad NPIs, depending on their lexical semantic properties, will exhibit varying distributions. And occasionally, some broad NPIs will be able to retrieve a nonveridical (negative) inference and become legitimate, even if they are not in the scope of a nonveridical expression at LF. This is the case of rescuing (Giannakidou 2006), which is employed quite systematically in English, with *any* and minimizers.

### 2.3 Rescued NPIs: no licensing!

Building on what was called “indirect licensing” in Giannakidou (1998), Giannakidou (2006) proposes that, in addition to being licensed, some NPIs can also be *rescued*. These are liberal NPIs that may appear in the scope of a veridical expression, in violation of the LF condition, as long as the sentence globally allows a negative inference. This mode of sanctioning is quite systematic with *any* and English minimizers. Two typical rescuing cases, Giannakidou argues, are the scope of emotive factive verbs and *only*. As shown below, in these contexts we find *any* and English minimizers, but not the Greek broad, or more narrow, NPIs:

- (32) 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**}.
- (33) 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.
- (34) \***Mono** i Maria ipe **tipota**.  
 Only Mary said anything.

The scope of a factive verb is veridical, as said earlier; and *Only A p* entails or presupposes *p*. Under the nonveridicality theory, we do not expect these to license NPIs, and this is confirmed in Greek.

Among two series of minimizers in Korean, the broad ones behave like English and the strong ones behave like Greek. The *lato*-minimizers, broad NPIs, can be rescued; the *to*-minimizers, strict NPIs, cannot be rescued, as we see:

- (35) a. John-man                    kkwumccek{\*to/vilato} hay-ss-ta.  
 John-only                    budge an inch                    -Pst-Decl  
 ‘Only John budged an inch.’
- b. Na-nun ku-ka                    kkwumccek{\*to/vilato} hay-se                    kippu-ta.  
 I-Top    he-Nom    budge an inch                    -because glad-Decl  
 ‘I am glad he budged an inch.’

Giannakidou (2006) defines rescuing as follows:

- (36) *Rescuing by nonveridicality* (Giannakidou 2006)  
 A PI  $\alpha$  can be rescued in the scope of a veridical expression  $\beta$  in a sentence *S*, if (a) **the global context C** of *S* makes a proposition *S'* available which

contains a nonveridical expression  $\beta$ ; and (b)  $\alpha$  can be associated with  $\beta$  in  $S'$ .

This clause may at first glance be reminiscent of Linebarger's (1980) condition. Linebarger, however, proposes global sanctioning as a general condition on NPIs, whereas Giannakidou (2006) offers it as a secondary mode that works only with a subset of NPIs. Linebarger allows just a conversational implicature to do the job, while the rescuing condition makes appeal to the global context  $C$  of  $S$ .

The global context  $C$  of  $S$  is the set of propositions that arise from  $S$  without necessarily being *entailed* by it.  $C$  thus contains the assertion (entailments), presuppositions, implicatures, and generally contextual information. Items like *any* can appear in the scope of a veridical operator like *only* because they have the freedom to pick out a partial component of the semantics of *only*—the exclusive conjunct.<sup>2</sup> *Any* can also access purely contextual information, as in *I am glad that we got any tickets!* and get sanctioned just by that. The Greek broad NPIs *kanenas*, Greek and Korean minimizers, and their equivalents, do not seem to be able to salvage themselves routinely this way; rescuing is very marginal with these NPIs, never through implicature, and only through conventional inference (as in comparatives, *too* clauses, but not with *only*, factives; Giannakidou 1998).

Thus, in order to capture the contrast between the *any*-class and the stronger NPIs, we have to give up the idea that NPI-sanctioning uniformly involves licensing. If licensing translates into a scope condition in syntax (at LF; or surface structure for some NPIs), rescuing is a weaker option: some NPIs, in addition to being licensed, can also be sanctioned in non-licit contexts, by accessing material beyond the LF and entailment, or partially selecting from the entailment (as is the case with *only*). In essence, we “establish a distinction between a stronger mode of sanctioning (licensing) and a weaker one, which can be shown to NOT translate into a scope or antiscopes condition at the syntactic level (LF or surface structure)” (Giannakidou 2006: 592).

To sum up, we have seen in this section that NPIs come in at least three varieties: (a) strong NPIs that only appear in the scope of an antiveridical expression; (b) broad NPIs that appear in the scope of nonveridical expressions; and (c) liberal NPIs, i.e. broad NPIs that in addition to being licensed in the scope of nonveridical expressions can also be systematically sanctioned via rescuing. We can think of strong NPIs as the strongest, and the liberal ones as the weakest.

The theory of the dual mode of sanctioning that Giannakidou proposes make more reliable predictions than the DE and Strawson-DE (von Stechow 1999), since it predicts fully the distribution of NPIs (strong as well as weak) in Greek and languages that have similar types, while also capturing the additional cases of liberal NPIs such as *any* under rescuing without predicting generalization of these

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<sup>2</sup> The notion of *assertoric inertia* (Horn 2002), I believe, capture precisely the same intuition: that *any* will be sanctioned via partial access to the inferences, some of which will be suppressed (the positive ones) and some of which will become more prominent.

cases, faithful to the data. Against this background, we are going to assess now the apparent cases of NPIs in comparative clauses.

### 3 Limited NPIs in comparatives: Greek, Korean, versus English

In Greek *kanenas* is reported to be OK (Giannakidou 1998), while the strong emphatic NPI KANENAS (and minimizers, as we shall see) is out.

- (37) I Maria etrekse grigorotera apoti perimene **kanenas**.  
Mary ran faster than anybody had expected.

The main new observations in this section are: (a) Only the rescued type appears in comparatives; (b) Strong NPIs (in English, Greek and Korean) are uniformly excluded; (c) *Any* is confused with free choice items (FCIs).

#### 3.1 Strong NPIs are excluded in the comparative

Strong NPIs are ruled out in comparatives: emphatic KANENAS, minimizers in Greek, Korean *amwuto* and *to*-minimizers require an antiveridical licenser. The regular comparative Korean *pota*- and Greek *apo(ti)*-clauses cannot supply it:

- (38) \*Kim-un **amwuto-pota** te khu-ta.  
Kim-Top anyone-than more tall-Decl  
'Kim is taller than anyone.'
- (39) \*I Kiki ine piloteri **apo** KANENAN. [NP comparative]  
Kiki is taller than anyone.
- (40) \*Sue-nun [Tom-i **kkwumccekto 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.'
- (41) \*I Kiki milouse perisotero **apoti** I Maria **ipe leksi**. [S comparative]  
Kiki talked more than Maria said a word.

Likewise *either*, a strong NPI as shown earlier, does not appear in comparatives:

- (42) \*John is taller than Bill (is) **either**.

Since strong NPIs do not appear in comparatives, our conclusion must be that comparative does not contain negation or another antiveridical operator.

Josep Quer brought to our attention, however, the case of Romance n-words which may appear in *phrasal* comparatives, such as Spanish “mas bonita que ninguna” *more beautiful than anybody*. Hoeksema (to appear) also reports synchronic uses of Dutch *enig*, which is becoming a strict NPI, in comparatives. The n-word facts are relatively well known, but unfortunately, space prevents us from addressing them in serious detail. Three basic things must be said though. First, Greek and Korean do not allow such uses of their n-words:

- (43) I Maria trexi grigorotera apo {opjondhipote/\*KANENAN/\*kanenan}.  
Mary runs faster than anybody.
- (44) Mary-nun {nwukwuna/\*amwuto/\*nwukwuto} ttwinkes-pota cal ttwiess-ta.  
Mary-Top {anyone-FCI/strict NPI/broad NPI} ran-than fast ran-Decl  
'Mary ran faster than anybody.'

Second, as we see here, the FCI is the only acceptable option in the phrasal comparatives. The licensing of FCIs and *any* in this environment is expected under the assumption that FCIs and *any* need alternatives for the evaluation of their truth conditions (*i*(dentity)-alternatives in Giannakidou 1998, 2001; Dayal 1998), and comparatives do provide such alternatives. Strong NPIs are obviously not licensed this way.

Finally, Romance n-words are not strong NPIs like the Greek or Korean n-words, which require always the presence of the antiveridical licenser. Romance n-words do appear (in preverbal position) without negation, in which case they can be said to license it (Giannakidou 2007). Thus, the fact that n-words appear in the comparative is not evidence that the comparative contains negation. Rather, it suggests a free choice use of the n-word that occurs in it, and how exactly this happens will have to be explored on another occasion.

### 3.2 Broad NPIs and FCIs in the comparative

Upon closer inspection, it turns out that the occurrence of *kanenas* in Greek is very limited. The following sentences have been judged as odd or ungrammatical (by a total of 8 native speakers, Giannakidou included).

- (45) \*I Maria diavase perisotera arthra apoti tis ixē protini **kanenas kathijitis**.  
Mary read more articles than any professor suggested.
- (46) \*I Maria agapa ton Petro perisotero apoti ton agapa **kanenas simathitis tou**.  
Mary loves Peter more than him loves any fellow student.

What about Korean? Yoon (2008) notes that *nwukwuto* (WH-even) is a weaker NPI than *amwuto*, and just like Greek *kanenas*, it is odd in comparatives:

- (47) ??/\*Kim-un [kyoswu **nwukwu-to** chwuchenhankes-pota]  
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.'

In order to be grammatical, the *even*-particle *to* must escape out of the *than*-clause in Korean:

- (48) Kim-un [kyoswu **nwukwu-ka** chwuchenhankes-pota]-to  
 Kim-Top professor WH-Nom(anyone) suggest -than -even  
 te manhun nonmwun-ul ilk-ess-ta.  
 more article-Acc read-Pst-Decl  
 ‘Kim read more articles than any professor suggested.’

Notice the contrast with English *any*, which is good. Now, we illustrate below that the Greek FCI *opjosdhipote* is good in the phrasal comparative in (49), and the same for Korean FCIs in clausal comparatives in (50):

- (49) I Maria diavase perisotera arthra apoti tis ixē protini ***opjosdhipote kathijitis***.  
 Mary read more articles than any professor suggested.
- (50) Kim-un [kyoswu **nwukwu-na** chwuchenhankes-pota]  
 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.’

FCIs routinely appear in comparatives, because they exhibit sensitivity to variation (for full data see Giannakidou 1997, 1998, 2001) that is satisfied in both clausal and phrasal comparatives. Now, if the comparative is not a natural environment for *kanenas*, these data tell us that the *any* we see is in fact a FCI. First, it can be paraphrased by *almost*; NPI-*any* cannot:

- (51) a. Mary wrote more articles than almost any professor suggested.  
 b. ??/\*Mary didn’t buy almost any book.

Second, 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 sentence 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 as a universal quantifier in the comparative (Heim 2000, and Schwarchild and Wilkinson 2002), a typical interpretation of FCI-*any*, not a mere existential like NPI *any*.

Hence we can conclude that comparative alone cannot *license* NPIs. The *any* that appears in it is FC-*any*, or the rescued NPI-incarnation. The easier an NPI can be rescued—e.g. *any*—the more often we will see it in a comparative. *Kanenas*, for which rescuing is very marginal, is only seldom encountered in the comparative. Rescuing in the comparative is due to its conventional ordering, that induces a non-equality of degrees.

#### 4 Negation and Metalinguistic Comparatives

In this section, we finally show that negative metalinguistic comparatives (Neg-MC) in Korean do allow various kinds of NPIs. These comparatives, however, have been argued to denote an antiveridical ordering (Giannakidou and Yoon 2009, to appear).

Greek and Korean exhibit distinct paradigms for metalinguistic comparatives: *para* comparatives in Greek (Giannakidou and Stavrou 2009), *kipota/nuni* comparatives in Korean (Giannakidou and Yoon 2009, to appear). *Para* clauses seem to allow the *kanenas* NPI and FCIs:

- (52) Kalitera na mino spiti moni mou, para na miliso me  
 {**kanenan/opjondhipote**}!  
 I'd rather stay home by myself than talk to anybody.

However, the stronger kinds of NPIs—emphatic KANENAS and minimizers—remain ungrammatical in the Greek *para* clause; and likewise, *amwuto* and *to*-minimizers in Korean, as we see below in *kipota/nuni* clauses:

- (53) \*Kalitera na mino spiti moni mou, para na miliso me **KANENAN**!  
 I'd rather stay home by myself than talk to anybody.
- (54) \*Kalitera na mino siopili, para na **po KOUVENDA**!  
 I'd rather be silent than say a word.
- (55) \*Na-nun [kuren-saramtul **amwuto** manna-**kipota**] cipey issko sipta.  
 I-Top such-people anyone meet-rather.than home be want  
 'I would rather stay home than meet anyone among such a crowd.'
- (56) \*Na-nun [kuren il-lo **kkwumcekto ha-kipota**] kamanhi issko sipta.  
 I-Top such task-for budge an inch-rather.than still stay want  
 'I would rather stay still than budge an inch to do such a task.'
- (57) \*Na-nun [kuren-saramtul **amwuto** manna-**nuni**] cipey issko sipta.  
 I-Top such-people anyone meet-rather.than home be want  
 'I would rather stay home than meet anyone among such a crowd.'
- (58) \*Na-nun [kuren il-lo **kkwumcekto ha-nuni**] kamanhi issko sipta.  
 I-Top such task-for budge an inch-rather.than still stay want  
 'I would rather stay still than budge an inch to do such a task.'

In Giannakidou and Yoon (2009), we remind that strong NPIs need an antiveridical licenser and there is no such trigger in the MC, which expresses a subjective ordering between two propositions (for more details see Giannakidou and Yoon to appear). However, if we use the negative MC *charari* 'rather' in Korean, strong NPIs become fine (recall again that Greek and Korean *to*-minimizers appear to be strong NPIs while English minimizers and Korean *lato*-minimizers are weak):

- (59) Na-nun [**amwuto** manna/**kkwumcekto ha-nuni**] **charari** kunyang

I-Top     anyone meet/ budge an inch - rather.than    rather    just  
 swuiko sip-ta.  
 rest     want-Decl  
 ‘I would rather just take a rest than {meet anyone/budge an inch}.’

*Amwuto* and the Korean *to*-minimizer require an antiveridical licenser. The regular comparative clauses cannot supply it, and this provides evidence that there is no negation in the comparative clause. *Charari*, however, as we argue in Giannakidou and Yoon (2009, to appear), creates a metalinguistic comparative that asserts zero preference of the *than* proposition by the speaker, hence it is antiveridical and can license strong NPIs:

(60) Antiveridical MORE<sub>ML</sub> (Neg-MORE<sub>ML</sub>)

[[charari]] =  $\lambda p \lambda q [ p >_{\text{Des } (\alpha)(c)} q \wedge \underline{\alpha \text{ desires } q \text{ to } d' : 0}]$

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  $\alpha$  desires  $p$  in  $c$  is greater than the degree  $d'$  to which  $\alpha$  desires  $q$  in  $c$ ; and  $\alpha$  is the anchor of comparison.

(Giannakidou and Yoon to appear: 59)

In Korean grammars, *charari* is defined as “an adverb used when selecting a relatively better option than the other one, while implying that both options are not so preferable” (Dictionary of the *National Institute of Korean Language*). Hence *charari* plausibly conveys some kind of negation, though it is not itself morphologically negative. In the definition above, *charari* is the negative variant of the preferential MORE<sub>ML</sub> of MCs, imposing a total dispreference of the *nuni* argument; and since this is a subspecies of the preferential MC we define *charari* as operating on the propositions  $p$  and  $q$  directly. The  $q$  proposition is supplied by the *nuni*-clause. The negative component is added as a conjunct in the underlined part in the formula above. It is also possible to envision the added conjunct as a presupposition, and we believe nothing crucial depends on this choice. Our definition renders *charari* antiveridical (though there is no negation, as we see). Antiveridicality alone will be sufficient to license NPIs.

The take home lesson is, then, that the comparative has no inherent negative or antiveridical property, unless we insert an element that has such a property. In this case NPIs will be licensed, but this is not due to the comparative but to the added element.

## 5 Conclusions

Our main goal in this paper was to caution that the comparative is actually *not* a licensing environment for NPIs. The routine claims about NPIs in comparatives found in the literature are rooted either in simplifying the data, or considering only English *any* and minimizers which are very liberal NPIs, and not always LF-licensed (a fact known since Linebarger 1980). We considered the NPI question within the nonveridicality theory of sanctioning that involves both licensing and

rescuing (Giannakidou 2006)—and presented novel data from Greek and Korean showing that NPIs that are subject to *licensing* only (strong NPIs) do not appear in the comparative. NPIs can be rescued in the comparative—and rescuing does not require licensing in the scope of a nonveridical operator. The easier an NPI can be rescued—e.g. *any*—the more often we will see it in a comparative. *Kanenas*, for which rescuing is very marginal, is only seldom encountered in the comparative. Rescuing in the comparative is due to its conventional ordering (Giannakidou 1998), that induces a non-equality of degrees.

The fact that only rescued NPIs appear in the comparative is consistent with the difficulty of treating the comparative as negative, downward entailing or nonveridical. The comparative is none of these things.

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