

Negative Contexts

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1 Introduction

Negative polarity items (NPIs), such as the indefinite *any*, the uninflected auxiliary *need* and the verbal expression *budge an inch*, occur in negative contexts only.¹ Hence the acceptability of the sentences in (1) and the unacceptability of those in (2):

- (1) a. Nobody has *any* idea
- b. Nothing *need* be done
- c. Few people *budged an inch* when Simpson killed his wife
- (2) a. *Everybody has *any* idea
- b. *Many a thing *need* be done
- c. *Three people *budged an inch* when Simpson killed his wife

If, on the other hand, positive polarity items (PPIs) are put in negative contexts, this leads either to ungrammaticality or to a reading that might be qualified as ‘echoic’ (Seuren 1985) or ‘metalinguistic’ (Horn 1989): the sentence is felt as a correction of an infelicitous utterance or presupposition. The examples in (3–4), involving the indefinite PPI *some* and the adverbial PPI *already*, demonstrate both possibilities:

- (3) a. *Nobody has *some* solution for sluicing constructions
- b. ?This restaurant isn’t *already* serving meals for years: it just opened last year!
- (4) a. Bill has *some* solution for sluicing constructions
- b. This restaurant is *already* serving meals for years

It is, however, not immediately clear how to characterize a negative context: it is not the same as a context containing a negative element. For example, many native speakers accept (certain) negative polarity items in comparative constructions, conditionals and *before* clauses (Sánchez Valencia *et al.* 1994), whereas many positive polarity items are excluded from these constructions:

- (5) a. John ran faster than *anyone* expected

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- b. If you *budge an inch*, I'll kill you
- (6) a. *Max died before he *already* saw his grandchildren
- b. ?John is taller than *some* boys in his class²

At first sight, however, the constructions in (5–6) are not negative in any intuitive sense. Various solutions have been proposed to solve this problem: syntactic ones in terms of underlying or covert negative operators (Klima 1964; Progovac 1994), pragmatic ones, in which negative polarity items in sentences without negation may be licensed by being entailed by other sentences in which there is a negation (Baker 1970; Linebarger 1980; von Bergen & von Bergen 1993), or semantic ones, in terms of semantical or logical properties of the contexts involved (Ladusaw 1979; van der Wouden 1994b). Only the latter approach, I claim, offers enough degrees of freedom to account for the massive diversity one finds in the realm of polarity items.

2 Negative contexts are downward entailing

In Ladusaw (1979:113) the following hypothesis is formulated:

- (7) **Hypothesis** δ is a trigger for NPIs if and only if δ is downward-entailing.

The property of being DOWNWARD ENTAILING is defined in (8). MONOTONE DECREASING and DOWNWARD MONOTONIC are other terms one finds in the literature. I'll use all three terms, as well as the abbreviations DE and MD.

- (8) An expression δ is downward-entailing iff
 $\forall X \forall Y (X \subseteq Y) \rightarrow (\delta'(Y) \subseteq \delta'(X)).$

DE contexts allow one to reason from sets to subsets. The validity of the following reasoning shows that the prototypical trigger of NPIs, sentence negation, is downward entailing:

- (9) John doesn't eat vegetables
 [[spinach]] \subseteq [[vegetables]]

 John doesn't eat spinach

Downward monotonicity turns to be a necessary condition for licensers of negative polarity, but not a sufficient one: certain NPIs go with a subset of the downward monotonic operators only. Consider the following contrast from Dutch (Zwarts 1981):

- (10) a. *Weinig kinderen hoeven* iets te doen
 Few children need anything to do
 'Few children need do anything'
- b. *Geen kind hoeft* iets te doen
 No child need need anything to do
 'No child need do anything'

²This sentence is fine in a specific reading, which doesn't concern us here.

- c. *Weinig kinderen hebben *ook maar iets* gezien
Few children have also but anything seen
'Few children have seen anything at all'
- d. Geen kind heeft *ook maar iets* gezien
No child has also but anything seen
'No child has seen anything at all'

These examples demonstrate that the negative auxiliary *hoeven* may be licensed by all MD contexts, whereas the indefinite *ook maar iets* 'anything at all' can be licensed by a subset of the MD contexts only. We will call *hoeven* a 'weak' NPI, and *ook maar iets* one of 'medium' strength.

As regards PPIs, Ladusaw (1979:135) makes the following claim (which returns in von Bergen & von Bergen (1993:12)):

- (11) **Hypothesis** PPIs resist overt negation.

Again, this is not completely correct. On the one hand, PPIs such as *would rather* may yield ungrammaticality in a comparative construction, as is shown below:³

- (12) a. *John is more often away from home than he *would rather* be
b. John is more often away from home than he *prefers* to be

On the other hand, *would rather* is perfectly fine in the context of an expression such as *not less than five congressmen*, although it contains the overt negation *not*:

- (13) Not less than five congressmen *would rather* be in Florida now

Finally, it is conceptually unelegant to dismiss negation as an explanatory device when talking about NPIs, and still use this concept in one's treatment of PPIs.

3 The fine-structure of polarity

The examples in (10) already showed that the Dutch *hoeven* may be licensed by any negative context, whereas *ook maar iets* occurs only in a subset of such contexts. Those contexts possess the additional property of anti-additivity, which can be defined as follows (Zwarts 1981; Hoeksema 1983):

- (14) A contexts f is anti-additive iff $f(X \cup Y) = f(X) \cap f(Y)$

This is not the end of the story, as certain elements only occur in contexts that are even more strongly negative. The following example is a case in point:

- (15) a. Barbarella is niet *voor de poes*
Barbarella is not for the cat
'Barbarella is not to be trifled with'

³Note that the alternative with *prefer* suggests that the restrictions on the distribution of *would rather* are indeed the source of ungrammaticality

- b. *Barbarella is nooit *voor de poes*
 Barbarella is never for the cat
 ‘Barbarella is never to be trifled with’

NPIs such as *voor de poes* will be called ‘strong’.

Thus, Ladusaw’s downward entailingness turns out to be the weakest member of a family of semantic properties that play a role in polarity licensing (Zwarts 1986; Kas 1993; van der Wouden 1994b). The following table gives an overview of the various relevant properties and their family relationships:⁴

monotone decreasing $f(X \subseteq Y) \rightarrow f(Y) \subseteq f(X)$ <i>few, seldom, hardly</i>	
antimultiplicative $f(X \cap Y) = f(X) \cup f(Y)$ <i>not every, not always</i>	anti-additive $f(X \cup Y) = f(X) \cap f(Y)$ <i>nobody, never, nothing</i> comparative, <i>before</i>
antimorphic $f(X \cap Y) = f(X) \cup f(Y)$ $f(X \cup Y) = f(X) \cap f(Y)$ <i>not, not the teacher, not Judas</i>	

The very same properties play a role in the distribution of positive polarity items. That is to say, on the basis of their compatibility with members of the various classes in the table in (16) one can define three classes of positive polarity items. To begin with, all PPIs are ungrammatical in antimorphic contexts:

- (17) a. *Jan is niet allerminst tevreden
 John is not not-at-all happy
 b. *Jan is niet een beetje tevreden
 John is not a bit happy
 c. *Jan is niet al tevreden
 John is not already happy

Some, but not all PPIs, are ungrammatical with anti-additive operators. Those that are grammatical here will be called ‘weak’.

- (18) a. *Niemand is allerminst tevreden
 Nobody is not-at-all happy

⁴NPIs that are sensitive to antimultiplicativity seem to be rare; the Dutch idiomatic expression *rozegeur en maneschijn*, however, appears to be a case in point:

- i Het leven is niet alles rozegeur en maneschijn
 The life is not all rose-smell and moonshine
 ‘life is not a bed of roses’

This expression yields unacceptable results when it is combined with downward entailing or anti-additive expressions.

- b. *Niemand is een beetje tevreden
Nobody is a bit happy
- c. Niemand is al tevreden
Nobody is already happy

Finally, most, but not all, PPIs are grammatical in contexts that are just downward entailing. Those that are not will be called ‘strong’.

- (19) a. *Weinig kinderen zijn allerminst tevreden
Few children are not-at-all happy
- b. Weinig kinderen zijn een beetje tevreden
Few children are a bit happy
- c. Weinig kinderen zijn al tevreden
Few children are already happy

We can summarize our findings with respect to the distribution of polarity items along the following lines:

- (20) a. Strong PPIs are incompatible with all monotone decreasing contexts
- b. PPIs of medium strength are compatible with downward monotonic contexts but incompatible with anti-additive ones
- c. Weak PPIs are compatible with downward monotonic and anti-additive contexts, but incompatible with antimorphic ones
- d. Weak NPIs are expressions which can felicitously occur in monotone decreasing contexts
- e. NPIs of medium strength may be licensed by anti-additive contexts but not by downward monotonic ones
- f. Strong NPIs may only be licensed by antimorphic contexts

Representation of these generalisations in a table format demonstrates that the distribution of positive and negative polarity items results in the following: note the complex mirror image.

Negation	PPI			NPI		
	strong	medium	weak	strong	medium	weak
(21) Downward Entailing	–	+	+	–	–	+
Anti-additive	–	–	+	–	+	+
Antimorphic	–	–	–	+	+	+

We take it that a fine structure such as this one renders dichotomous approaches to polarity licensing extremely implausible, independent of whether they are cast in terms of the presence or absence of a negative operator (be it overt or covert) or a negative feature (cf. also Hoeksema (1994)).

4 Multiple negations

The fruitfulness of the approach of polarity licensing in terms of monotonicity properties is corroborated by the fact that the same mechanisms can be shown to play a role in other natural language phenomena where negation has been claimed to play a crucial role, e.g. negative concord (van der Wouden & Zwarts 1993). The following examples show that negative concord may occur in contexts that are provably downward entailing without containing an overt negation (cf. also van der Wouden (1994c)):

- (22) a. There was *hardly* no money nor hardly no hope (Cockney folksong)
b. Maria è piú intelligente di quanto *no* sia Carlo (Italian)
Maria is more intelligent than Carlo not is
'Maria is more intelligent than Carlo'

The same holds for denial and litotes, as the following examples show (cf. also van der Wouden (1994a)).

- (23) a. We kunnen niet niemand uitnodigen voor ons feest
We can not nobody invite for our party
'We have to invite (at least) a few people at our party'
b. We kunnen moeilijk niemand uitnodigen voor ons feest
We can difficultly nobody invite for our party
'We have to invite (at least) a few people at our party'
- (24) a. *Nobody* will *deny* that negation is a difficult matter
'Everyone will agree'
b. He lifted his hat with respect, and *not without* gallantry
c. This phenomenon is *far* from *unusual*

Lack of space forbids me to pay more attention to these phenomena; I refer to the dissertation and to the papers in the bibliography for details.

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