

Polarity items in purpose clauses

Abstract

Purpose clauses do not belong to the set of contexts traditionally associated with negative polarity items (NPIs), such as the scope of negation and negative quantifiers, the protasis of conditionals, questions, comparative clauses, clauses introduced by *without* or *before* and the restriction of a universal quantifier. The aim of this paper is to show that this is incorrect, and that purpose clauses should be viewed as an additional, if rare, context for NPIs. In addition, it will argue for two types of licensing in purpose clauses, one being more general, namely licensing by nonveridicality, which is appropriate only for very weak NPIs, such as the modern Greek indefinites of the *kanenas*-series (Giannakidou 1998), and the other one, which is less generally available, is licensing by anankastic conditional (Sæbø 2001, Huitink 2005, von Stechow & Iatridou 2005, Condoravdi & Lauer 2016). We will argue that some NPIs, which impose stronger requirements on their contexts than the very weakest NPIs, are licensed in purpose clauses just in case these are semantically equivalent to anankastic conditionals.

1 Introduction

Let us first consider the following examples:

- (1) a. In order to do something/*anything the motorist called for help.
- b. I opened the window to let some/*any fresh air in.

Here we have three examples of purpose clauses, and in each case the NPI *any* is no good, whereas the PPI *some* is fine. This would suggest, at first blush, that *any* is not licensed in purpose clauses. This initial

finding seems to be confirmed by the observation that purpose clauses are not downward entailing, in the sense of Ladusaw (1979).

(2) Downward Entailment

A context f is downward entailing iff for all x, y such that $x \leq y$: $f(y) \leq f(x)$.

By $x \leq y$, we mean that x is a hyponym of y , or, when x and y are propositions, that x entails y . For instance, *apple* \leq *piece of fruit*. Now compare purpose clauses with a well-known type of downward entailing context, a PP introduced by *without*:

- (3) a. John left without a piece of fruit
→ John left without an apple.
- b. John left to fetch a piece of fruit
??→ John left to fetch an apple.

While the inference in (3a) goes through (leaving without a piece of fruit means leaving without an apple), the same cannot be said about (3b).

Another condition often considered in connection with NPIs is nonveridicality (Zwarts 1995, Giannakidou 1998, Lin et al. 2014). It can be defined as follows:

- (4) f is a nonveridical context for p iff $f(p)$ does not entail p .

It is pretty clear that purpose clauses are nonveridical contexts. The proposition that appears in a purpose clause need not be true when the entire sentence is true. Consider (1b): I open the window to let some fresh air in. Does it follow that I let some fresh air in? Well, that was the goal, but perhaps the effect is that unsavory air from car exhausts gets in. Clearly, we are not at liberty to conclude that p ("I let some fresh air in") is true, whenever (1b) is true.

In the case of *any*, it is well-known that nonveridicality is a necessary but not a

sufficient condition for licensing. For other items, such as modern Greek unstressed *kanenas*, nonveridicality is also sufficient. We expect to find it in purpose clauses, and we do:

- (5) Ja na milisis me kanenan
for SUBJ talk.2sg with any
kathigiti, prepei prota na
professor, must first SUBJ
klisis randevous.
book.3sg appointment
“In order to talk to a professor you
need to make an appointment first.”

Hoeksema (2010) has argued that in early modern Dutch, *enig* ‘any’ in combination with singular count nouns (but not plurals or mass nouns) behaves like a weak NPI, licensed by nonveridicality.

The prediction would therefore be that *enig* may appear in purpose clauses as well, and this is correct:

- (6) Schrijf mij eens spoedig, om eenig
write me PART soon, for any
levensteeken te geven¹
sign-of-life to give
“Write me soon, to give some sign of
life”

2 Anankastic conditionals

There is a small but growing literature of the topic of anankastic conditionals (see Sæbø 2001, Huitink 2005, von Fintel & Iatridou 2005, Condoravdi & Lauer 2016). Anankastic conditionals are characterized by the presence of a modal element in the apodosis, and exemplified by sentences such as:

- (7) If you want to go to Harlem, you have
to take the A-train.

Such sentences express necessary conditions for reaching some goal, e.g. going to Harlem. When elements such as

only are added to the apodosis, we may also get sufficient conditions (von Fintel & Iatridou 2007). The word anankastic is based on the Greek word αναγκη ‘necessity’.

For our purposes, it is of particular significance that sentences of this type are paraphrased rather accurately by sentences involving a purpose clause instead of the protasis of the conditional (as noted in Sæbø 2001: 432):

- (8) To go to Harlem, you have to take the
A-train.

The paraphrase may appear surprising, given that (2) lacks the verb *want* altogether. This has to do with the goal-oriented nature of such sentences. In general, purpose clauses cannot be paraphrased by conditionals, and conditionals cannot be paraphrased by purpose clauses. However, sentences such as (9) and (10) form an exception to this general observation. When the anankastic interpretation is absent, the paraphrase relation no longer holds. Thus sentence (9) below (taken from Condoravdi & Lauer 2016) does not lend itself to a paraphrase by means of a purpose clause as in (10):

- (9) If you want to eat chocolate, you
should try thinking about something
else.
(10) To eat chocolate, you should try
thinking about something else.

On its most natural interpretation, (9) is an advise about how to avoid eating chocolate. Only in a bizarre scenario where not thinking about chocolate magically produces chocolate would (9) and (10) be potentially equivalent, but of course that would be precisely because such a fairy tale scenario would make (9) anankastic. Conversely, note that (11) below does not have a counterpart in the form of an anankastic conditional. This sentence is not conditional in any sense, since the opening

¹ F. Domela Nieuwenhuis, private letter dated 9-1-1874.

of the window is presented as a fact, and not as contingent upon some precondition.

(11) I opened the window to let some fresh air in.

Conditional clauses (or rather, the protasis of a conditional) may host polarity items. Anankastic conditionals are no exception. Purpose clauses, when equivalent to anankastic conditionals, are predicted to host the same NPIs as conditional clauses. As the attested examples given in (12) below show, this prediction is borne out. Polarity items are indicated by italics. Note that the examples involve modal elements in the main clause, mostly *must*, *have to* or *need*. Also note that it does not appear to matter whether the purpose clause is preposed or extraposed, nor does it make a difference whether it is introduced by *to*, *in order to* or by *for*. Similar examples from Dutch and German are given in (13) and (14), respectively. Following Brandner (2004) and Vikner (2011), I assume that the adverbial expression *überhaupt* is an NPI in some of its uses. Dutch has borrowed this expression from German (cf. example (13c)). For the German polarity sensitive focus adverb *auch nur*, see e.g. Eckardt (2012) or Liu, Eckardt & Radó (2013).

- (12) a. To get to Mars *anytime soon*, we need a modern Shackleton²
b. So, for his utterance to have *any* point *at all*, he must be trying to convey some other proposition.³
c. In order to be *in any way* dignified he felt that he must be silent.⁴
d. one has to look very closely, and know what to look for, to see him *at all*⁵

² *The New York Times*, Jan 28 2006, A 17.

³ Paul Elbourne, *Meaning - a slim guide to semantics*, Oxford University Press, Oxford, 2011, p 134.

⁴ Anthony Trollope, *Barchester Towers*, Penguin 2012 [1857], p 297.

⁵ Jay McInerney, *Bright lights, big city*, Fontana, London, 1988 [1985], p 25.

- e. There are still a number of issues that have to be attended to for the proposed analysis to be *even remotely* plausible.⁶
f. Island data must be manufactured by hard working linguists to be seeable *at all*.⁷
g. the battle he was involved in must be continuous to have *any* meaning *at all*⁸

(13) Dutch

- a. Om ook maar iets van de
for even anything of
uitstraling van een meesterwerk
appearance of a master piece
voelen was een bedevaart vereist.⁹
feel was a pilgrimage required
“To feel anything at all of the
appearance of a masterpiece, a
pilgrimage was required”
b. ik zal mijn beste beentje moeten
I will my best leg-DIM must
voorzetten om daaraan te kunnen
put-forward for thereto to can
tippen hoor!¹⁰
touch PART
“I will have to do my best to come
close to that, you know”
c. Om die finale überhaupt te bereiken
for that final at-all to reach
moet eerst wel even afgerekend
must first PART dealt
worden met Excelsior.
be with Excelsior¹¹
“To reach that final at all, Excelsior
will have to be dealt with first.”

(14) German

- a. Er musste sich schon anstrengen,
he had-to self PART strain,
um überhaupt etwas
for at-all anything

⁶ Angelika Kratzer, *Building resultatives* [2004].

⁷ Faculty of Language blog, June 14 2015.

⁸ John le Carré, *Smiley's people*, Sceptre, London, 2009 [1980], p 215.

⁹ Martin Bril & Dirk van Weelden, *Arbeidsvitaminen*, De Bezige Bij, Amsterdam 1991 [1987], p 416.

¹⁰ <http://mamarina-blog-marina.blogspot.nl/2012/05/meneer-de-uil.html>

¹¹ *Trouw*, 9 April 2015, p 19.

Kritikwürdiges zu finden.¹²
critique-worthy to find
“He already had to strain to find
anything at all worth criticizing”

- b. Er war ein kleines Lied, das, wie
it was a little song that, as
Karl wohl wusste, ziemlich
Karl PRT knew, fairly
langsam hätte gespielt
slowly had-SUBJ played
werden müssen, um, besonders
become must for, especially
für Fremde, *auch nur*
for strangers even
verständlich zu sein¹³
understandable to be
“It was a little song which, as Karl
knew, would have had to be played
fairly slowly to be at all under-
standable, especially for strangers.”

All NPIs shown in (12-14) may also appear in conditional clauses. Note that not all NPIs are licit in conditional clauses. A case in point concerns the modal auxiliaries *need*, *hoeven* [Dutch] and *brauchen* [German]. Let me illustrate this with Dutch *hoeven* ‘need’:

- (15) a. Als hij niet hoeft te werken,
If he not needs to work,
dan blijft hij thuis.
then stays he home
“If he does not have to work, he
stays at home.”
b. *Als hij hoeft te werken,
If he needs to work,
dan blijft hij niet thuis.
then stays he not home
“If he has to work, he won’t stay
at home.”

Hoeven is fine in (15a), due to the presence of negation, but in (15b), there is no negation, and the conditional does not license this modal. Interestingly, this and

other NPIs that do not appear in conditionals, are not acceptable in anankastic purpose clauses either:

- (16) Om hier te mogen/*hoeven werken,
For here to may/*need work,
moet je een vergunning hebben.
must you a permit have
“To be allowed/*have to work here,
you have to have a permit.”

I have been unable to find any cases of NPIs that are acceptable in purpose clauses, but not in conditionals. The converse is not true. Some NPIs are OK in conditionals, but not in purpose clauses. A case in point is English *all that*:

- (17) a. If you are all that clever, why
can’t you figure this out?
b. In order to be (*all that) clever,
you have to be able to think.
c. If you want to be (*all that)
clever, you have to be able to
think.

This item seems OK in conditionals but not in anankastic conditionals and related purpose constructions. Examples such as (17a) have a negative implicature which might explain the relative acceptability of *all that*, namely that the addressee is actually not all that clever.

3 Corpus data

A small collection of NPIs in resultative clauses (56 from English, 56 from Dutch), provides us with a window on the variation in the types of modal elements that conspire to create the anankastic interpretation that is necessary for the licensing of regular NPIs. In Table 1, an overview of these data is given for either language. In some cases, the modal character may not be obvious, but a verb such as *take*, while not a modal auxiliary, can be said to have modal force in a sentence such as *it takes a lot of courage to do this* = *you must have a lot of courage to do this*. Mostly, the

¹² Stieg Larsson, *Verdammnis*. Heyne, Munchen, 2010 [2007], p 242

¹³ Franz Kafka, *Amerika*, in *Die Romane*, p. 74. S. Fischer Verlag, Frankfurt, 1976.

findings are compatible with the claims made so far, but note that both Dutch and English have some instances of NPIs in purpose clauses without a modal element in the main clause. Such cases suggest that while anankastic readings are dominant, occasionally ordinary purpose clauses seem to be OK as hosts for NPIs. An example is given in (18):

- (18) I strained my vision to detect any motion in the corpse.¹⁴

Precisely what to make of such cases, remains to be seen.

Table 1: Modal elements in purpose clause constructions with NPIs and anankastic interpretation.

Modal element	N	%
English		
must	14	25
have to	14	25
necessary	3	5
need	8	14
would	3	5
require/take	6	11
help	1	2
gotta	1	2
cost	1	2
-	5	9
total	56	100
Dutch		
moeten ‘must’	28	50
noodzakelijk ‘necessary’	11	20
doen over ‘take’	1	2
duren ‘last’	2	4
kosten ‘cost’	3	5
genoeg ‘enough’	1	2
-	10	18
total	56	100

4 Conclusions

Anankastic conditionals and semantically equivalent constructions with purpose clauses have the same licensing behavior with regard to NPIs. NPIs that are not

generally acceptable in purpose clauses, such as English *any* and *ever*, or German *auch nur*, are OK in such clauses provided they can be interpreted as the protasis of an anankastic conditional. Given that the category of anankastic conditional is not yet well circumscribed, we might be able to use this property as a criterion.

In addition to the possibility of licensing by a conditionally interpreted purpose clause, there is also licensing by nonveridicality. The latter is relevant for very weak NPIs such as Greek *kanenas* and Dutch *enig*. We plan to introduce various other items in the discussion as well, which have been left out for the sake of brevity from this abstract, including Dutch *het fijne* ‘the fine details of’, which acts as a very weak NPI in combinations with cognition verbs such as *weten* ‘know’.

A general conclusion to draw from this paper is that NPI licensing is essentially semantic in nature (in line with much research ever since Ladusaw 1979). Whether a clause is formally a purpose clause or a conditional clause matters less than the semantic import it has in the context of the larger sentence. If that can be seen as conditional in nature, licensing of NPIs proceeds as in anankastic conditionals, and if not, only the weaker kind of licensing by nonveridicality remains.

¹⁴ Edgar Allan Poe, *Ligeia*, in *Selected Writings*, Penguin, 1974, p 123.

References

- Brandner, Ellen. 2004. Head movement in minimalism, and V2 as FORCE-marking. In: Horst Lohnstein & Susanne Trissler, eds., *The syntax and semantics of the left periphery*, 97-138. Berlin/New York: Mouton de Gruyter.
- Condoravdi, Cleo and Sven Lauer, 2016. Anankastic conditionals are just conditionals. *Semantics and Pragmatics* 9(8).
- Eckardt, Regine. 2012. The many careers of negative polarity items. In: Kristin Davidse, Tine Breban, Lieselotte Brems, & Tanja Mortelmans, eds., *Grammaticalization and language change: new reflections*, 299-326. Amsterdam/Philadelphia: John Benjamins Publishing.
- von Fintel, Kai & Sabine Iatridou. 2005. What to do if you want to go to Harlem: Anankastic conditionals and related matters. Ms., MIT.
<http://web.mit.edu/fintel/fintel-iatridou-2005-harlem.pdf>.
- von Fintel, Kai & Sabine Iatridou. 2007. Anatomy of a Modal Construction. *Linguistic Inquiry*, 38(3), 445-483.
- Giannakidou, Anastasia. 1998. *Polarity Sensitivity as Non-veridical Dependency*. John Benjamins, Amsterdam.
- Hoeksema, Jack. 2010. Dutch ENIG: from nonveridicality to downward entailment. *Natural Language & Linguistic Theory*, 28(4), 837-859.
- Huitink, Janneke. 2005. Analyzing anankastic conditionals and sufficiency modals. *Proceedings of ConSOLE 13*, 135-156.
- Ladusaw, William A. 1979. *Polarity Sensitivity as Inherent Scope Relations*. Doctoral dissertation, University of Texas at Austin.
- Lin, Jing, Fred Weerman, & Hedde Zeijlstra. 2014. Mandarin SHENME as a superweak NPI. In: J. Hoeksema & D. Gilbers, eds., *Black Book: a festschrift in honor of Frans Zwarts*, University of Groningen, 229-251.
- Sæbø, Kjell Johan. 2001. Necessary conditions in a natural language. In: C. Féry & W. Sternefeld, eds., *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*. Akademie Verlag, Berlin, 427-449.
- Vikner, Sten. 2011. Trees and fields and negative polarity. *Hermes*, vol. 47, 39-55.
- Zwarts, Frans. 1995. Nonveridical contexts. *Linguistic Analysis* 25-3/4, 286-312.