POLARITY ITEMS IN STRAWSONIAN CONTEXTS: A COMPARISON

Jack Hoeksema
University of Groningen

1. Introduction[1]

The theory of negative polarity licensing put forward in Ladusaw (1979) is admirable for a number of reasons. It is a unified analysis, treating all polarity items alike, and reducing all licensing contexts to a single factor, namely downward entailment, a factor which, moreover, is independently motivated. In this respect, Ladusaw's theory is unlike earlier proposals, such as the syntactic feature account of Klima (1964), which offers a unified account, but it is not based on anything that is motivated independently of the licensing of polarity items. It also differs from the theory offered by Linebarger (1980), which is independently motivated, but not unified.[2] For this reason, the field of polarity studies has primarily tried to build on Ladusaw's work in trying to make further progress, in an attempt to retain as much as possible the attractive features of that account.

Among the works building on Ladusaw's original theory, several deserve to be mentioned. In this introduction, I will limit myself to three strands of research, associated with the names of Frans Zwarts, Anastasia Giannakidou and Kai von Fintel.[3]

Zwarts, in a series of publications (Zwarts 1981, 1986, 1998, among others, see also van der Wouden 1997), has refined Ladusaw's account by proposing a hierarchy of polarity items: weak items licensed in any downward entailing context, strong items, licensed in anti-additive contexts and superstrong items, licensed only by regular negation (so-called antimorphic contexts). This account is exactly like Ladusaw's for the weak items, and makes use of semantically-defined, and independently motivated notions for the strong and superstrong items as well. However, it is no longer unified in the sense of treating all polarity items alike, but it offers an attractive typology of polarity items, based on various logical properties of negation. The idea of there being (at least) a binary distinction between weak and strong polarity items has been widely followed, although there are various empirical problems with the classification proposed (cf. e.g. Hoeksema 2010b, Gajewski 2011, Giannakidou 2011 for recent discussion).

Giannakidou's best-known contribution to the study of polarity items consists in a proposal to generalize the Ladusaw account to environments that are not downward-entailing, but share with negation the important property of being *nonveridical*, added with a couple of additional licensing and antilicensing conditions for special cases (cf. also Zwarts 1995 for an early discussion of nonveridicality). Nonveridical contexts are those contexts in which the truth of a proposition cannot be guaranteed if the proposition appears within that context. For instance, the truth of the proposition *it is raining* is not guaranteed in the context *Jones hopes ___.* The same is clearly true for sentential negation, which is equivalent to the following context: *It is not the case that ___.* Put differently, if a statement of the form XYZ such that Y denotes a proposition does not entail Y, then the context X__Z is said to be nonveridical.[4] Indefinite noun phrases and pronouns are nonreferential in such contexts. A number of examples have been identified of expressions that appear in all and only nonveridical contexts, such as Modern Greek *kanenas* 'anybody/nobody' (when it is unstressed, cf. Giannakidou 1997, 1998, 2011)

and the early-modern Dutch indefinite determiner *enig* 'any' (at least in combinations with singular count nouns, cf. Hoeksema 2010a). Additional licensing (or anti-licensing) conditions are invoked to deal with expressions that have a narrower distribution than *kanenas*, such as emphatic *kanenas* or English *any*. Giannakidou's work has been influential, but will not be discussed here at length. However, it is obviously both possible and of interest to study the various nonveridical environments, such as disjunction, the scope of modals, the complement of verbs like *wish* and *hope*, imperatives, and so on, in the manner adopted here, with a view of determining if and to what extent different polarity items distinguish among these environments. Slowly but surely, more items are being discovered that show the general general distributional characteristics of weak *kanenas* (e.g. embedded *who the hell*-clauses (Den Dikken & Giannakidou 2002) and the German idiom *von Dummsdorf kommen* 'come from Stupidville' which was recently discovered to be of this type, cf. Hoeksema and Sailer (2012)), making such a comparison worthwhile. For the time being, such an investigation of nonveridical contexts will have to be deferred to future work.

Von Fintel's work, like that of Zwarts and Giannakidou, uses Ladusaw's theory as its main point of departure. Unlike the proposals by Ladusaw, Zwarts, and Giannakidou, which are all couched in terms of entailment relations, Von Fintel (1999) is primarily concerned with presuppositional contexts.

Ladusaw's core notion is that of downward entailment (a.k.a. implication reversal, cf. Fauconnier 1978). Consider for instance the following entailment:

(1)   Jones is a sheep farmer → Jones is a farmer
(2)   Nobody here is a farmer → Nobody here is a sheep farmer

While normally having the more specific property of being a sheep farmer would entail having the more general property of being a farmer, as in (1) above, negative contexts reverse the direction of implication, as we see in (2). If we see the entailment in (1) in terms of going upwards, from a small set (the set of sheep farmers) to a larger set (that of farmers), then the entailment in (2) will have to be seen as involving going downwards, hence the name *downward entailment*. In the definition used by von Fintel (1999):

(3)   A function f of type $\langle\sigma,\tau\rangle$ is downward entailing (DE) iff
       for all x, y of type σ such that $x \Rightarrow y$: $f(y) \Rightarrow f(x)$.

In this definition, the arrow $\Rightarrow$ indicates a generalized entailment relation between expressions of any boolean type (cf. Keenan and Faltz 1985 for an early statement of this notion).

As a number of people have noted, not all triggers of polarity items are clearly downward entailing. One core case involves restrictive adverbs such as *only* (cf. Linebarger 1987, Atlas 1993, 1996, Horn 1969, 1996 for discussion):

(4)   Only Jones is a farmer -/-> Only Jones is a sheep farmer

As noted by von Fintel, the inference from left to right is just fine, provided we assume that Jones is a sheep farmer. Otherwise, we have presupposition failure. If we add the

presupposition of the consequent as an additional premise, we get an unobjectionable type of inference:

(5) Only Jones is a farmer.
    Jones is a sheep farmer.
    ───────────────────────
    ∴ Only Jones is a sheep farmer.

This leads von Fintel to propose the following generalization of downward entailment, which he named after the philosopher Peter Strawson, who first put presuppositions on the map:

(6) *Strawson Downward-Entailingness*
    A function f of type <σ, τ> is Strawson-DE iff
    for all x, y of type σ such that x ⇒ y and f (x) is defined : f(y) ⇒ f(x).

Superlatives are another prime example of a trigger that is not a downward-entailing operator (Hoeksema 1986a). However, they conform to the weaker requirements of Strawson downward-entailment:

(7) Jones is the richest farmer -/-> Jones is the richest sheep farmer

(8) Jones is the richest farmer
    Jones is a sheep farmer [presupposition of conclusion]
    ───────────────────────
    ∴ Jones is the richest sheep farmer

A third context worth pointing out is that of factive verbs. These may serve as triggers for polarity items:

(9) a. Jones regrets ever having set foot on this miserable island.
    b. Frankly, I am amazed you would ever say such a thing!

Regular downward entailment is not valid:

(10) Jones regrets being a farmer -/-> Jones regrets being a sheep farmer

However, Strawson downward entailment holds:[5]

(11) Jones regrets being a farmer
     Jones is a sheep farmer
     ───────────────────────
     ∴ Jones regrets being a sheep farmer

I will not discuss here the full list of contexts discussed in Von Fintel (1999). In particular, the discussion of conditionals in that paper will be left untouched, in light of

the additional complexities involved in their analysis. I should also note that Strawson Downward Entailment does not deal with all contexts in which polarity items are licensed. In particular, questions remain a problem for this type of approach.[6]

Von Fintel's approach to the treatment of polarity items in presuppositional contexts has been influential (see e.g. Rullmann 2003, Gajewski 2005, 2011, Sharvit and Herdan 2006, Guerzoni and Sharvit 2007, among others). However, an evaluation of the theory based on a broader set of polarity items than the usual suspects *any* and *ever*, has not been carried out yet.[7] Having sketched the approach to presuppositional contexts adopted by von Fintel, I will now proceed to a corpus-based comparison of these contexts. Using data from English, Dutch, and German, I will show that the various contexts discussed by von Fintel, which I refer to here as 'Strawsonian', do not necessarily line up neatly in their behavior as hosts of negative polarity items.

My main concern is to show that polarity items are not a uniform class of expressions, and to pinpoint a number of interesting subclasses of NPIs. An additional goal of this paper is to look more closely at some of the environments with superlative-like characteristics, such as *the first, the last,* and *the only*. Although I claimed in Hoeksema (1986a) that they pattern with superlatives (see also Bhatt 2002, Herdan 2005 for similar ideas), I am now in a position to show that they differ from superlatives, and even from one another, in their ability to license some polarity items. In a similar vein, I will note differences in licensing between superlatives and the quantifier *most*, arguing against a recent proposal made in Gajewski (2010). I intend to show in this way that corpus data are not just useful for the classification of polarity items, but also for that of their host environments.

2. *Any* and *ever*

A vast amount of the literature on polarity items is based on the distributional patterns exhibited by the most common English NPIs, *any* and *ever*. I will therefore start with a discussion of these two expressions.

English *any* can be used both in a variety of polarity contexts, and as a free choice item in (mostly) modal and generic contexts. I will follow Linebarger (1980), Ladusaw (1979), Carlson (1980, 1981) and Dayal (1998), among others, in assuming that there are two uses of *any*: free choice *any* and polarity-sensitive *any*.[8] My main reason for assuming two *any*'s is that indefinite NPIs do not automatically have this double interpretation (cf. Hoeksema 2010a for discussion of Dutch *enig*, a cognate of *any*, which is a polarity item, but lacks a free choice interpretation). Note also the ambiguity of questions such as the following:

(12)   Would you kiss any girl?

Under the NPI reading, the adressee of this question is assumed to be shy about girls, while under the free choice reading, the opposite seems to be true.

A variety of linguists have taken issue with this purported lexical ambiguity (Kadmon and Landman 1993, Lee and Horn 1994, Zwarts 1995, Giannakidou 2001, Horn 2005, inter alii). Lee and Horn (1994) for instance point out that *any* and *no* (which they

see as the neg-incorporated counterpart of *any*, a la Klima 1964) can be modified by *whatsoever*:

(13)   a.   I don't have any money whatsoever.
       b.   Pick any card whatsoever.

What is interesting, according to Lee and Horn, is that both free choice and NPI *any* support the use of this modifier, and moreover, no other determiners do (apart from *no*):

(14)   a.   *I don't have money whatsoever.
       b.   *Pick a card whatsoever.

However, this particular argument is weakened by the possibility of *whatsoever* with a number of other universal and negative quantifiers (contra Lee and Horn 1994). The following examples were lifted from the Internet:

(15)   a.   The record is simply beautiful and inspiring in every way whatsoever.
       b.   Machu Picchu is fascinating from every angle whatsoever.
       c.   Design/Builder shall indemnify and hold Owner harmless from any and all claims, liability, damages, loss, cost and expense of every type whatsoever [..].
       d.   Therefore all things whatsoever ye would that men should do to you, do ye even so to them: for this is the law and the prophets." (Matthew 7:12 KJV)

(16)   a.   "There's very little reason whatsoever for a New Yorker to go outside of New York State," said Martin Mason, a broker with Joseph Gunnar & Company.
       b.   It's amazing how shitheads show themselves... They go on the attack for little reason whatsoever because you look like riffraff.

Ever also may be used in several ways: either as an NPI, or as a universal temporal adverb:

(17)   a.   I don't think I'll ever do that again.
       b.   The rain fell ever faster.

The latter use is heavily restricted, showing up mainly in collations with comparatives, present participles (*ever growing*) and a few fixed expressions (e.g. *for ever, as ever*), cf. Israel (1998).

Given these complications, it will be necessary to sift corpus data, pulling out the NPI uses of these items from among the other uses. Using material from books, newspapers and the Internet, I have hand-collected a set of occurrences of *any* and *ever*, and classified them according to their licensing environment. In cases where more than

one licensing expression was available, I assumed that the active licensor was the one closest to the polarity item. For example, in the following sentence:

(18)   If you don't do anything, I will.

we are dealing with an occurrence of *anything* in a conditional sentence, in the scope of negation. Both conditional clauses and the scope of negation are fine contexts for polarity items, but negation is closer to *anything* than the conditional operator *if*. Consequently it will be classified as a case of triggering by negation.[9] If you find this a dubious decision, bear in mind that most data points are unambiguously classifiable, so a few potentially ambiguous cases won't make a huge difference one way or another for the distributional patterns we will be considering below.

In Table 1, I present the data I have collected for NPI *any* (including indefinite pronouns such as *anything, anyone, anybody*) and *ever*. Examples of adverbial *any* (see section 3 below) were not included, nor were cases of free choice *any*. In interpreting this table, and the ones that follow it, please bear in mind that some important baseline information is not available, such as the odds of something appearing in the scope of negation, or in the restriction of a superlative. Clearly, having such information would be extremely welcome, but for the time being, we'll have to go without such data.[10] It is very likely, that such odds are highly text-type dependent, and so would have to be carefully calibrated for the mix of text types used for my data collection. However, there is one thing we *can* do, which is to compare various polarity items, and the result turns out to be interesting.

Table 1: *Ever* **versus** *Any*

context	ever	%	any	%
superlative	857	16	58	0.7
the only[11]	146	2.6	49	0.6
the first	162	3	33	0.4
the last	41	0.8	19	0.2
only XP	57	1	28	0.3
negation	1337	24	3936	48
question	1018	19	1248	15
other	1842	34	2907	35
total	5460	100	8278	100

What we may observe here is a striking difference among these two often-discussed items, a difference that is not absolute, which may be the reason it is not usually noted, but quite significant nonetheless. While *ever* is particularly common in superlative contexts, *any* is not. (Positive occurrences of *ever* as in *he was ever the gentleman*, were excluded from the tabulated data, as were occurrences of free choice *any*.) There is also a drop in frequency for the superlative-like categories *the only, the first, the last*, albeit a somewhat less severe drop.

3. *Any* and *anymore*

While *ever* and *any* have by and large a rather similar distribution, showing differences primarily among superlative and related contexts, we start to see much bigger differences when we compare *any* with an altogether different type of polarity item, *anymore*. Although *anymore* is derived from *any + more*, it does not come from the determiner *any*, but from the related adverbial modifier, which is commonly found as a modifier of comparatives, as in the following pair of sentences:[12]

    (19)   Could you be any more insulting?
    (20)   I can't sing any higher.

Neither *anymore* nor adverbial *any* shows up in the context of superlatives, cf.:

    (21)   *Fred is the best teacher we have anymore.[13]
    (22)   *Fred is the best teacher who can dance any faster.

Corpus data confirm this assessment (the *any* data are the same as in Table 1):

Table 2: *Anymore* versus (determiner/pronoun) *any* and adverbial *any*[14]

context	anymore	%	any	%	adv any	%
superlative	-	-	58	0.7	-	-
the only	15	1.3	49	0.6	1	0.4
the first	-	-	33	0.4	-	-
the last	-	-	19	0.2	-	-
only XP	-	-	28	0.3	-	-
negation	1029	91	3936	48	157	68
question	25	2	1248	15	44	19
other	58	5	2907	35	30	13
total	1127	100	8278	100	232	100

Note that noun phrases headed by superlatives, *the first* or *the last* do not host *anymore* and adverbial *any*. Interestingly, though, we have to make an exception for *the only*, which is relatively well-attested. With one exception, all occurrences of *anymore* in this context are from the US, suggesting an Atlantic divide in usage. For this reason, I have divided the *anymore* data into two groups: US occurrences with the spelling *anymore* and British occurrences with the spelling *any more*.[15] (Of course, cases where *any more* had a different meaning, as in (19) above, were not included in the data set.) In Table 3, these two groups are compared to German and Dutch data:

Table 3: *Anymore* (GB versus US), *meer* (Dutch), *mehr* (German)

context	anymore				meer		mehr	
	GB		US					
	N	%	N	%	N	%	N	%
superlative	-		-	-	-	-	-	-
the only	1	0.2	14	2	-	-	-	-
the first	-	-	-	-	-	-	-	-
the last	-	-	-	-	-	-	-	-
only XP[16]	-		-	-	15	0.6	-	-
negation	388	92	641	93	2395	95	713	99
question	10	2	15	2	-	-	-	-
other	21	5	37	4	103	4	7	1
total	420	100	707	100	2513	100	720	100

The difference between the GB and the US data regarding the context *the only* is significant (a two-tailed Fisher's exact test yielded p < 0.05). The comparison with Dutch *meer* and German *mehr* shows that British English is similar to the European Germanic languages, and that the US usage has diverged. It is likely that the presence of positive *anymore* dialects in the US, but not in Britain, has something to do with this Atlantic divide, but it should be noted that whereas positive *anymore* remains somewhat substandard (cf. Labov 1975), the use of *anymore* with *the only* appears to be wholly unremarkable, given attestations in such journals as the New York Times. Compare:

(23) The only reason I ever call someone anymore is if I don't have their Twitter handle or e-mail address.[17]

(24) Seeing their children was the only thing he seemed to care about anymore.[18]

There are more notable things in the table (e.g. the complete lack of questions as a host for the German and Dutch counterparts of *anymore*), but for the purposes of this paper, the main thing to note is the presence of a dissociation between *the only* on the one hand, and superlatives, *the first, the last* on the other in American English. If Strawson downward entailment were the only relevant property of the contexts to consider, we would expect all environments to either accept or resist the presence of *anymore*.

4. In weeks, months, years, ages

Both English and Dutch (but not German) have a class of polarity items of the form *in X*, where X is a temporal noun indicating a contextually long stretch of time (hence they are maximizers, rather than minimizers, in the sense of Israel 1996). For some discussion of this class of items, see Hoeksema (2005). Their primary contexts of occurrence are negative sentences and comparative and superlative constructions. Some examples illustrating their use are:

(25)   I haven't seen Fred in weeks.
(26)   Fred had the best time in ages at the Zoo.
(27)   For the first time in years, Fred came to work in a suit.

Given that *in ages* etc. is acceptable in the restriction of a superlative, we might expect these items to also appear in the scope of *only* and other Strawson downward entailing contexts. However, sentences showing this type of combination of polarity item and environment are rather bad:

(28)   *Only Fred has seen her in ages.
(29)   *Fred only wanted to kiss her in ages.
(30)   *Alleen Fred heeft haar in tijden gezien [Dutch]
         Only   Fred has   her in ages   seen
        'Only Fred has seen her in ages'

Compare the above examples with sentences involving *ever,* another temporal polarity item:[19]

(31)   Only Fred has ever seen her.
(32)   Fred only ever wanted to kiss her.

Corpus data provide the picture in Table 4 below. Note that for the sake of brevity, all English items of the form *in X* have been bundled together, and similarly for Dutch.[20]

Table 4: *In X*: English and Dutch data

context	English		Dutch	
	N	%	N	%
superlative	220	42	257	24
the only	3	0.6	1	0.1
the first	20	4	24	2
the last	-	-	-	-
only XP	-	-	-	-
negation	250	48	692	65
question	-	-	-	-
other	32	6	84	8
total	525	100	1058	100

Note once more that there is a dissociation between several types of context, tied together by Strawson downward entailment. While superlatives, as well as *the only* and *the first* provide acceptable contexts for polarity items of the type *in X*, restrictive adverbs such as *only* and questions do not.

5. Remotely – in de verste verte

One of the lesser-known polarity items of English is the adverb *remotely*, as used in sentences such as:[21]

    (33)   I am not remotely interested in your achievements.
    (34)   Is an earthquake even remotely likely to happen here?

Of course, there is also another use, which is not polarity-sensitive in any way:

    (35)   The garage-door is controlled remotely from the car.

Dutch has an expression with a similar meaning, *in de verste verte*, meaning literally 'in the most distant distance':

    (36)   Ik ben in de verste verte   niet tevreden
                 I am in the furthest distance not satisfied
                 'I am not even remotely satisfied / I am not satisfied by a long shot'

While both expressions may appear in the restriction of *the only/de enige*, as well as *the first/de eerste*, they may not appear with superlatives:

    (37)   Jones is the only teacher who is remotely interested in his students.
    (38)   Jones is the first teacher who is even remotely qualified to teach.
    (39)   *Jones is the best teacher who is remotely interested in his students.
    (40)   *Jones is the worst teacher who is remotely qualified to teach.

(Similar judgments pertain to the Dutch counterparts.) Corpus data confirm our intuitive judgments:

Table 5: *Remotely* **and** *In de verste verte 'in the most distant distance'*

context	remotely		in de verste verte	
	N	%	N	%
superlative	-	-	-	-
the only	10	6	4	1
the first	2	1	-	-
the last	1	0.6	-	-
only XP	4	3	-	-
negation	96	60	291	83
question	10	6	7	2
other	34	22	49	14
total	157	100	351	100

Given that superlatives are more common as a context than either *the only* or *the first*, as the data for *any* and *ever* clearly show, we must consider the fact that there are plenty of attestations with the latter class of contexts and none with the former to be a strong indication for a dissociation between superlatives and *the only*.

6. Minimizers

Minimizers are one of the best-known classes of negative-polarity items, and most texts on the topic mention some of the colorful expressions in this class.[22] Less well-known is the fact that minimizers have a rather different distribution than *any* or *ever*. Far more than these two expressions, minimizers prefer negation as their core context, and elsewhere I have claimed that this might be the reason why minimizers, but not indefinites like *any*, appear to be likely to develop an inherently negative interpretation in the course of the Jespersen cycle (Hoeksema 2009). Be that as it may, we may also ask whether minimizers are acceptable in Strawsonian contexts such as the scope of *only*, or the restriction of a superlative. As it turns out, minimizers are nearly nonexistent in most such contexts, and completely unacceptable in one, the restriction of superlatives. To see how clearly minimizers differ from *any* in superlative contexts, compare the following two sentences:

(41)   She cooked the best meal anyone has ever served me.
(42)   *She was the most beautiful woman I have cared a pin about.
(43)   *Fred is the smartest man who ever lifted a finger to help.

Contexts such as *the only* or *the first* are not particularly common either, but attested:

(44)   Over 150 other kids knew about it, and I was the only person to do a damn thing about it.[23]

This general picture is confirmed by our corpus data:

Table 6: Minimizers in English and Dutch

context	English		Dutch		German	
	N	%	N	%	N	%
superlative	-	-	-	-	-	-
the only	4	0.4	6	0.04	1	0.4
the first	1	0.1	1	0.006	-	-
the last	-	-	1	0.006	-	-
only XP	2	0.2	9	0.06	-	-
negation	931	84	14580	90	218	85
question	20	2	98	0.6	3	1
other	156	14	1470	9	33	13
total	1114	100	16165	100	255	100

Again, there is a clear dissociation between *the only, the first* etc., and superlatives, against the predictions of Hoeksema (1986a) and von Fintel (1999), which assume that these contexts pattern alike, at least as far as polarity sensitivity is concerned.[24]

7. *Yet* and *As yet*

The English temporal adverb *yet* is a polarity item in one of its many uses. Together with *already, still, anymore* it forms a group of four adverbs that are sometimes referred to as adverbs of temporal perspective. While the first two are positive polarity items (Baker 1970), *anymore* and *yet* are negative polarity items. Some linguists (see especially Löbner 1989, 1999) have proposed to capture the relations between the four elements in terms of duality (analogous to the case of quantifiers by an Aristotelian Square of Opposition). We will have to ignore the details of how best to analyze these adverbs, noting only that any duality-based treatment primarily deals with the interaction of the four adverbs with negation, and does not say much about other environments. For example, Löbner's account does not make any predictions about occurrences with superlatives, or restrictive adverbs of the *only*-class.

English *yet* has a related expression *as yet/as of yet*, which shows some interesting differences with *yet* (Hoeksema 1993). The most striking difference is that *as yet* may (and often does) appear to the left of the licensing element, whereas *yet* belongs to the more familiar kind of polarity items that appear to its right:

(45)   As yet/*yet, there has been no news from the border.
(46)   There has been no news from the border as yet/yet.

(Note that there is a concessive use of *yet* which may appear in sentence-initial position in (45), being a discourse-linker, but it has a meaning that is obviously different from the meaning involved in (46), and the variant of (45) with fronted *as yet*.)

Table 7: Yet – As Yet

Context	Yet	%	As yet	%
superlative	54	3	-	-
the only	2	0.1	3	0.6
the first	3	0.1	-	-
the last	-	-	-	-
only XP	1	0.05	13	3
negation	1812	87	270	54
question	148	7	4	0.8
other	71	3	214	42
total	2091	100	504	100

Note that there appears to be a nearly perfect complementary distribution of *yet* and *as yet* in the Strawsonian contexts of superlatives and their ilk on the one hand (these take *yet*) and *only* on the other (this one takes *as yet*). Here are some examples from the corpus:

(47)   But Stalin knew that, as yet, the Americans possessed only one or two Bombs.[25]
(48)   [A]s yet Lewis was only halfway down his obligatory orange juice[26]
(49)   [F]or who, in his wildest dreams, could have foreseen in the Macedonian infant the greatest conqueror who had yet been born into the world?[27]
(50)   But the highlight of 1988 is perhaps our most brilliantly confounding headline/subhead yet: Bored? Try clubbing yourself.[28]

Again, we see that there is no guarantee that if an expression is triggered by one type of Strawsonian context, it is triggered by all. All 54 occurrences in superlative contexts involve *yet,* and of 14 occurrences with *only*, 13 involve *as yet.* Both differences are statistically significant (Fisher's exact test, 2-tailed, $p < 0.0001$).

8. *Alive*

One of the lesser-known negative polarity items of English is *alive*, in its use as a nominal modifier.[29] When used as a predicate, *alive* is not a polarity item at all:

(51)   I am glad to be alive.
(52)   He was alive and kicking.

However, as a post-nominal modifier[30], *alive* acts as a polarity item. It appears in the restriction of negative, universal and superlative noun phrases, among others:

(53)   Okonkwo was the greatest wrestler and warrior alive.[31]
(54)   Johnson knew more books than any man alive.[32]
(55)   Neither I nor any woman alive has ever performed them[33]

However, occurrences in non-polarity contexts are ruled out:

(56)   #The doctor examined a woman alive.

For our purposes, this is an interesting expression, being one of very few that occur with high frequency as the restriction of a superlative noun phrase, as well as *the only* and *the last.* However, among other Strawsonian contexts, restrictive adverbs appear to be absent, and sentences such as (57) are intuitively rejected:

(57)   a.   #Only Fred examined a woman alive.
         b.   #Fred only examined a woman alive.
         c.   #Fred examined only a woman alive.

Our corpus data are summarized in Table 8 below.

Table 8: *Alive*

Context	N	%
superlative	33	42
the only	4	5
the first	1	1
the last	2	3
only XP	-	-
negation	20	25
question	4	5
other	15	19
total	79	100

I conclude that *alive* is one of a number of polarity items showing dissociation between restrictive adverbs and superlative contexts.

9. *Need, hoeven, brauchen*

Among the best-known polarity items are the modal verbs *need*, *hoeven* (Dutch) and *brauchen* (German), cf. Duffley and Larrivee (1998), van der Wouden (2001), Falkenberg (2001), van der Auwera and Taeymans (2009).[34] One of their more unusual properties is a relatively high percentage of occurrences in the scope of a restrictive adverb such as *only* (or its Dutch and German counterparts). Some illustrative examples are:

(58)   You need only press this button once.
(59)   Du brauchst lediglich dein Badezeug mitzunehmen [German]
         You need   only   your swim gear along-bring
         'You need only bring your swimming gear'
(60)   Je hoeft maar één keer te bellen   [Dutch]
         You need but once   to press
         'You need press only once'

Occurrences in the restriction of superlatives are sharply ungrammatical:

(61)   *The tallest student we need consider is 6 foot 8.
(62)   *De sterkste drank   die we hoeven te drinken is bier.
         The strongest beverage that we need   to drink   is beer
         'The strongest beverage we have to drink is beer'

Again, we seem to have a difference in licensing behavior between two Strawsonian contexts. Our corpus data confirm our intuitions, as the data in Table 9 below show:

Table 9: *Need, hoeven, brauchen*

Context	need		hoeven		brauchen	
	N	%	N	%	N	%
superlative	-	-	-	-	-	-
the only	2	0.4	36	1	2	0.5
the first	-	-	-	-	-	-
the last	-	-	4	0.1	-	-
only XP	59	12	466	15	69	17
negation	370	74	1937	62	307	78
question	12	2	76	2	3	1
other	59	12	596	19	14	4
total	502	100	3115	100	395	100

Main verb occurrences of the three verbs in question were not included in these data, since the main verbs are not polarity items. Only auxiliary verb uses were included. Note that we have a further dissociation between superlatives and *the only*, indicating once more that these two contexts are not equivalent in their licensing behavior.

10. Summary of the distributional data

In the previous sections, we have looked at a variety of negative polarity items, starting with the most familiar items *any* and *ever,* and moving to some of the less well-studied specimens of the family of polarity sensitive expressions. In each case, I have focused on a small set of nonstandard environments, restrictions of superlatives, *the only, the first, the last* and the scope of restrictive adverbs such as *only*. Whenever possible, I have tried to come up with cross-linguistic comparisons of English, Dutch and German data. We see that the nonstandard environments, even though they should pattern alike as being a Strawson downward entailing context in the sense of von Fintel (1999), they in fact show widely diverging behavior. Besides differences between restrictive adverbs such as *only* and the restriction of superlatives, we also found a great deal of evidence for differences between superlatives and *the only, the first, the last* (contra Hoeksema 1986a).

Simplifying the data somewhat by reducing numbers to a simply binary +/- distinction, and ignoring some of the contexts in the tables, such as questions, we may summarize Tables 1-9 by Table 10 below. Note that this table differs from the previous ones in having the contexts displayed horizontally in the top row, and the items vertically, in the leftmost column, whereas the other tables were set up the other way around. This was done for convenience, to make it possible to fit all data on one page.

Table 10: Overview

Item↓ context→	superl	the only	the first	the last	only	negation
Any	+	+	+	+	+	+
Ever	+	+	+	+	+	+
Anymore	-	+	-	-	-	+
Meer	-	-	-	-	+	+
Mehr	-	-	-	-	-	+
In X [English]	+	+	+	-	-	+
In X [Dutch]	+	+	+	-	-	+
Remotely	-	+	+	+	+	+
In de verste verte [Dutch]	-	+	-	-	+	+
Minimizers [English]	-	+	+	-	+	+
Minimizers [Dutch]	-	+	+	+	+	+
Minimizers [German]	-	+	-	-	-	+
Yet	+	+	+	-	+	+
As yet	-	+	-	-	+	+
Alive	+	+	-	+	-	+
Need	-	+	-	-	+	+
Hoeven [Dutch]	-	+	-	-	+	+
Brauchen [German]	-	+	-	-	+	+

11. Most

Gajewski (2010) discusses the case of polarity items in the restriction of the quantifier *most* as exemplified in the following sentence:

(63)   Most people who have ever met him, agree the man is very charming

According to Gajewski's account, the superlative nature of *most* and the fact that superlatives are Strawson Downward Entailing, are the two factors responsible for the acceptability of *ever* in sentences such as the above. If this is indeed the case, it would seem that certain interesting predictions can be made: (1) polarity items which appear in the restriction of a superlative, may also appear in the restriction of *most*, and (2) items which don't appear in the restriction of a superlative, won't appear in the restriction of *most* either.

For a comparison of *most* with superlatives, I will confine myself to a few of the items discussed above, in particular the ones that commonly appear with superlatives. The results can be found in Table 11 below.

Table 11: Most and superlatives

Context → Item↓	Superlative		Most	
	N	%	N	%
any	45	0.8	6	0.08
ever	727	16	2	0.05
in X [English]	220	42	-	-
in X [Dutch]	257	24	-	-
alive	27	41	2	3
yet	42	2	-	-

As we may see from this table, occurrences of polarity items in the restriction of *most* are indeed attested, but rare. However, given the exceedingly large percentages of occurrences of *ever* and *in X* in the restriction of a superlative, we would expect, given the claim that *most* behaves like a regular superlative, at least internally (see Gajewski 2010 for details), a much higher number of occurrences. In the case of *ever*, we would expect to find a lot more occurrences in the restriction of *most* than we have found for *any,* given that *ever* also appears a lot more than *any* in the restriction of a superlative. The opposite is in fact the case. Note also that for polarity items of the form *in X*, the results of occurrences in the restriction of *most* are actually fairly bad:

(64)   ?*Most people I have met in ages agree Fred is a jerk.

The same is true for their Dutch counterparts:

(65)   *De meeste mensen die ik in tijden ontmoet heb vinden Fred een griezel.
        The most   people that I in ages   met   have find   Fred a   creep
        'Most people I have met in ages find Fred a creep'

My conclusion is that whatever the precise account of polarity items in the restriction of quantifier *most* is going to be, it can't be based on the superlative character of *most*.


12. Conclusions

I have provided evidence that polarity items that appear in some contexts that are Strawson Downward Entailing (but not regular Downward Entailing), do not necessarily appear in other such contexts. Two main conclusions can be drawn from the preceding sections:

- Not all Strawson downward entailing contexts are alike, hence the semantic notion of Strawson downward entailment cannot be the one uniform foundation on which the theory of polarity licensing rests
- Not all polarity items are the same in their licensing properties

We have seen that polarity items may differ among each other in an absolute sense or in terms of likelihood: for example, *any* and *ever* differ greatly in their likelihood of appearing in the restriction of a superlative, but not absolutely; on the other hand, while *any* may appear in the restriction of a superlative, German *brauchen* (or English *need*) is completely barred from that position.

The property of Downward Entailingness, postulated as the main criterion for the licensing of negative polarity items by Ladusaw (1979), while remaining theoretically attractive, has been shown to be flawed empirically by von Fintel (1999), following a slew of other linguists (beginning with Linebarger (1980, 1987). However, we must now view von Fintel's alternative notion of Strawson Downward Entailment to be empirically flawed as well. For many polarity items, it does not provide a sufficient licensing condition, as we have seen in case after case in the preceding pages. One may also ask whether it provides a necessary condition for licensing. If we consider polarity items of the weakest kind, the ones that appear in nonveridical environments, such as the Greek indefinites of the *kanenas*-series discussed by Giannakidou (1997, 1998), or early modern-Dutch *enig* (see Hoeksema 2010a for discussion), we see cases for which Strawson downward-entailment is not necessary either (e.g. weak modals form nonveridical contexts that are not downward entailing).[35] That means that Strawson downward-entailment is not the one notion underlying all instances of licensing.[36] In light of the great and surprisingly subtle variation among polarity items, only some of which could be discussed here, we are not going to find such a notion either. It is possible that accounts such as those of Zwarts (1986, 1996) or Van der Wouden (1997), or the more recent proposal by Gajewski (2011), can be modified to provide a proper account of the variation at hand. At present, they are too simple because they distinguish only two or three classes of polarity items. In addition, Zwarts' account has what one might call the *concentric property*: weak items are licensed in a superset of the contexts for strong items, and strong items are licensed in a superset of the superstrong items. In a picture:

Figure 1: The Zwarts Hierarchy

superstrong

strong

weak
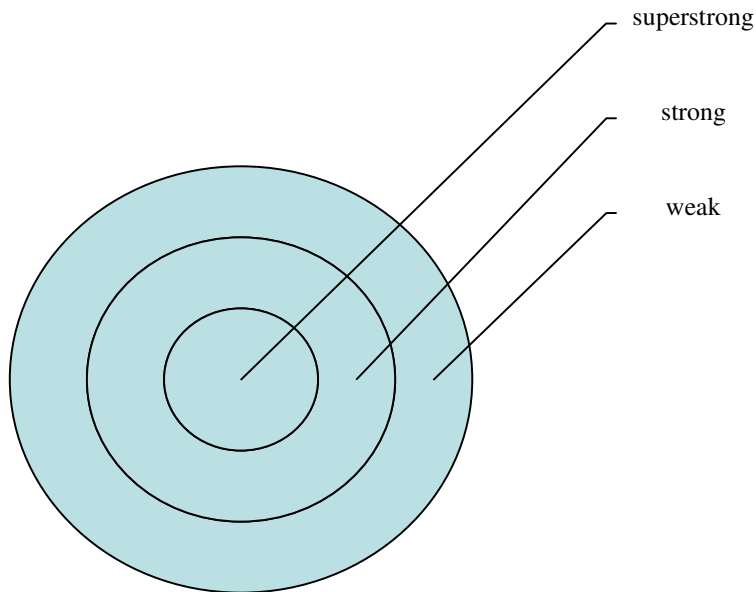
While this may be a pleasing picture to behold, and one that is relatively easy to formalize in one way or another, using a set of semantic conditions, we have seen that the concentric property does not hold for polarity licensing. The set of contexts for any two polarity items may overlap, without it being the case that one set is a superset of the other. We have shown this for *in years* and *need*, for example, and for American *anymore* (OK with *the only*, not OK with *only*) versus Dutch *meer* (OK with *maar* 'only/but', not OK with *de enige* 'the only'). Since only a small subset of all contexts have been looked at in detail in this paper, more such discrepancies are likely to crop up when the scope of the present study is expanded.

In spite of decades of research on polarity items, the search for a proper account of licensing variation has only just begun. Using a variety of polarity items, rather than just the usual suspects *any* and *ever*, it is possible to pry apart various contexts that look, at first blush, to pattern alike, such as *the only* and superlatives, and to look for factors that might distinguish them.

Notes

[2] In particular, Linebarger assumes syntactic licensing by negation (at LF) as well as pragmatic licensing by negative implicatures.

[3] The work of Kadmon and Landman (1993) on English *any* and that of Chierchia (2004, 2006) has also been very influential. Chierchia's proposals make heavy use of a new theory of scalar implicatures, and build on the earlier work of Kadmon and Landman. However, their scope extends far beyond the problem of polarity sensitivity, and has been extensively debated elsewhere (e.g. Homer 2011).

[4] Instead of using the context of a polarity item as licensing its occurrence, one also finds proposals in the literature in terms of operators. In that case a nonveridical polarity item is licit in the scope of a nonveridical operator. See Homer (2012) for some discussion of empirical differences between the two approaches in cases of multiple operators (see also note 8 below). There are other cases where environments make better predictions than operators, such as:

(i) His chances of ever winning the cup are slim/*excellent.

It is neither the presence of *chances* nor that of *slim* that licenses the polarity item *ever*, but rather their combination, which turns the context into a downward entailing one. Note that (ii), for instance, entails (iii):

(ii) His chances of winning the cup or coming in second are slim.

(iii) His chances of winning the cup are slim.

This entailment is not valid if we change *slim* into *excellent*. To see this, suppose that excellent chances are chances of 80% or higher, and that the person under discussion has a 40% chance of winning the cup and another 40% chance of coming in second. Given that the two options are mutually exclusive, there is a 80% chance of either winning the cup or coming in second (which is excellent), but only a 40% chance of winning the cup, which, according to our criterion, is not excellent.

[5] The facts are slightly more complicated than in the case of superlatives, however. See von Fintel (1999) for discussion. In particular, it is possible to say: Jones regrets being a farmer, but given that he is a farmer, he does not regret being a sheep farmer. This indicates that verbs such as *regret* (and *prefer*, etc.) are highly sensitive to context. The validity of (11) therefore depends on the context remaining fixed.

[6] Note that the nonveridicality theory of Giannakidou (1998) has no problems with the appearance of polarity items in questions, since questions are by their very nature nonveridical. For a pragmatic approach, building on insights van Kadmon and Landman (1993) and Krifka (1995), see Van Rooy (2003). There are many complicating factors involved, including differences between rhetorical and nonrhetorical questions, between direct and indirect questions, and between yes/no and wh-questions. Note that nonveridicality in and of itself does not shed light on these finer-grained distinctions, and will have to be supplemented by additional requirements.

[7] The set of items considered in Gajewski (2011) is somewhat larger, but the binary classification proposed in that paper does not suffice to deal with the range of variation to be discussed in the present paper.

[8] There is actually even a third *any*, so-called adverbial *any*, as in *The weather is not getting any better*. Adverbial *any* behaves like a regular polarity item, and does not have a free choice use.

[9] Cases of double negation and other types of double licensing are of interest in their own right. They are well-known environments for positive polarity items as well (cf. Baker 1970, Szabolcsi 2004). In many cases, they still host negative polarity items, even though at the level of the entire sentence, the two negations cancel out and do not support downward entailing inferences (cf. Hoeksema 1986b). A forthcoming paper, Homer (2012), has identified cases where double negation contexts do not license polarity items, e.g. in cases where both licensing elements are in the same higher clause, and the polarity item in a subordinate clause, such as *I am not surprised he would ever do a thing like that*, cf. *I am surprised he would ever do a thing like that*. Using carefully defined licensing domains, Homer is able to predict both cases where two negations do not license polarity items, and cases where they do.

[10] One of the reviewers suggests using Stefanowitsch' (2008) notion of *negative entrenchment*. Using statistical methods, Stefanowitsch distinguishes between systematically absent and accidentally absent data. His study concerns a number of ditransitive verbs which may or may not appear in the double-object construction. For the relation between polarity items and their contexts, one may do something similar, although it should be noted that not all differences to be found are due to licensing behavior alone. Unlike ditransitive verbs, negative polarity items vary along a great many dimension, including syntactic category,

semantic type, rhetorical value, etc. For this reason, I restrict statistical testing in the present article to cases where items are very similar.

[11] Included in the category *the only* are a few instances of items in the restriction of the equivalent expression *the one*. Compare: *the only man who ever loved her = the one man who ever loved her.*

[12] It may also be found in combination with *too* (*He wasn't any too friendly*), some adjectives (*Is it any good?*) and a few verbs (*That won't hurt them any*).

[13] For those North-American or Irish speakers of English who use so-called positive *anymore*, this sentence should be acceptable.

[14] Adverbial *any* in the fixed expression *any longer* is not included here, because the high frequency of *any longer* would create a slanted picture. However, with regard to occurrences in the restriction of superlatives, *the only, the first* and *the last*, *any longer* patterns with adverbial *any*: among 128 occurrences, not a single one appeared in one of these contexts. A difference between *any longer* and adverbial *any* that can be noted is that *any longer* is far less common in questions.

[15] The spelling difference *anymore* versus *any more* is not a very reliable test for distinguishing British from American data, and so all material was checked by hand as well as much as possible. In the case of newspapers and novels, attributing usage is easy, in the case of anonymous Internet postings, it is harder, and here I had to use spelling as the decisive criterion. However, I note that relatively little of the material comes from Internet sources.

[16] Note that Dutch is the only language of the three languages compared which allows a counterpart of *anymore* to combine with a restrictive adverb. In most cases, this involves a scalar use of *only*, in Dutch often expressed by *maar* 'but', as in the following, from André Demedts, *De levenden en de doden*, Davidsfonds, Leuven, z.j. [1st ed. 1959], p. 212:

(i) Nu waren er   maar twee middelen meer   om de tijd te doden.
     Now were there but   two   means   anymore for the time to kill
     'Now there were only two means for killing time'

Typical for this scalar use is the combination of *maar* 'but' or *slechts* 'merely, just' with a low numeral or a measure noun indicating a small quantity or amount. In Dutch, this usage is considered by some as substandard (however, the claim in Sassen 1977 that it is a dialectism from the northern Dutch area of Groningen has to be rejected, given examples like (i), from a Flemish novel), and an alternative construction, involving the non-polarity-item *nog*, is preferred: *nog maar twee* 'yet but two' is equivalent to *maar twee meer* 'but two anymore' (at least in most contexts – for more extensive discussion of the various factors involved, see Vandeweghe 1983). Differences between scalar and nonscalar uses of *only*-type adverbs have frequently been discussed in the literature (e.g. Jacobs 1983, Bayer 1996).

[17] The New York Times, May 13, 2010.

[18] Jonathan Franzen, *The corrections*, Farrar, Straus and Giroux, New York, 2001.

[19] Regarding *ever* in the restriction or focus of *only*, see Beaver and Clark 2003.

[20] One difference between English and Dutch concerns the size of the category *superlative*. Some of this difference may be due to a slightly greater preference for comparatives in Dutch. Note that *Seabiscuit is the fastest horse we have seen in years* and *Seabiscuit is faster than any horse we have seen in years* are equivalent, and hence, for speakers and writers, competing options to choose from. Trade-off effects having to do with language-specific preferences for using either superlatives or comparatives may be noted with other polarity items as well (cf. Hoeksema 2008).

[21] One of the reviewers is not convinced that *remotely* is a negative polarity item. I agree that it is not always that simple to distinguish among uses of words, in order to establish that one of them is polarity-sensitive, if other uses are sufficiently close in meaning. However, I hope the following paradigm will help make my point:

(i)   *That is remotely true.
(ii)   That is not remotely true.
(iii)   None of it is remotely true.
(iv)   *Some of it is remotely true.
(v)   If it is remotely true, I will eat my hat.
(vi)   Is that even remotely true?
(vii)   Anything that is remotely true, you should tell the police.
(viii)   The only thing that is remotely true is that we are understaffed.
(ix)   *Fred told me something that is remotely true.

Note that in combination with *true*, the adverb *remotely* cannot be interpreted literally, but has a metaphorical sense as a degree modifier, indicating a minimal degree or extent. The reviewer offered as grammatical the following sentence: *Someone who's remotely interested in the matter could object.* Indeed similar examples can be found by doing some googling on the Internet, e.g.

    (x) Someone who is remotely competent or sentient recognizes that 97% of the world's scientists are right about climate change (http://my.firedoglake.com/cenkuygur/2011/10/28/why-republican-voters-cant-make-up-their-mind/, accessed on June 4, 2012)

I take it that such cases are generic in nature, and differ from non-generic statements like (ix) and (xi) below in acceptability:

    (xi) ?Fred met someone who was remotely competent.

The Oxford English Dictionary (s.v. *remotely*) notes as usage 3: "In the slightest degree, in any respect. Chiefly in negative contexts."

[22] The term is from Bolinger (1972). Typical minimizers are *a word* (*He didn't say a word about the proposal*), *a thing* (*He didn't do a thing to protect our interests*), *a dime* (*Don't give him a dime for that crappy job*), as well as idiomatic expressions such as *a red cent, a plugged nickel, a damn thing*, etc. See Vallduví 1994, Israel 1996, 2001, 2011, Hoeksema 2002, Eckardt 2006 (chapter 5), among others.

[23] http://www.songmeanings.net/songs/view/3530822107858719355/ , accessed on June 4, 2012.

[24] Minimizers are only very marginally licensed by *only*. See Beaver 2004 for some discussion.

[25] Simon Sebag Montefiore, *Stalin – The Court of the Red Tsar*, Phoenix, London, 2004, p. 510.

[26] Colin Dexter, *The remorseful day*. Pan Books, London, 2004 [1st ed 1999], p 103.

[27] J.B. Bury, *A history of Greece*, New York: The Modern Library, n.d. [1900], p 675.

[28] *Philadelphia Citypaper*, June 1, 2006, p. 16.

[29] Other nominal modifiers that function as polarity items are *worth his salt, to speak of* and *self-respecting.*

[30] Or as the coda element in an existential clause: *There isn't a man alive who loves you better than yours truly.*

[31] Chinua Achebe, *Things fall apart*, p 82. Heinemann, London, 1981 [1st ed. 1958]

[32] James Boswell, *Life of Johnson*, Oxford University Press, Oxford, 1985 [1791], p. 52.

[33] Richard Adams, *Shardik*. Penguin 1977 [1974], p. 68.

[34] See Johannesen (2003) for Norwegian modal verbs, and De Haan (1997) for a typological study of the interaction of negation and modality. See also Iatridou and Zeijlstra (2010) and Homer (2011).

[35] For an unusual case of a polarity item with a preference for nonveridical contexts, see Hoeksema and Sailer 2012, where the German expression *aus Dummsdorf kommen* ("come from Stupidville") is discussed. Dutch has an expression *het fijne weten van* 'know the fine [details] of', which appears with negation, in questions, but also quite frequently with *willen* 'want', a typical nonveridical predicate.

[36] For some other types of problems with Von Fintel (1999), see Giannakidou (2006) and Homer (2008). One interesting problem these papers point out is the status of polarity items in the restriction of universals. While the restriction of *all* and *every* may serve as a host to polarity items, the restriction of *each* may not (Seuren 1985):

    (i)   Every student who has ever taken Linguistics 101, has heard this joke.
    (ii) All students who have ever taken Linguistics 101, have heard this joke.
    (iii) *Each student who has ever taken Linguistics 101, has heard this joke.

It has been suggested (see e.g. Hoeksema 1986b) that *each* differs from *every* in having an existential presupposition. (Usually, it quantifies over a contextually-given group, unlike *every*.) However, under the Strawsonian account, this ought not make any difference.

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