On the grammaticalization of negative polarity items[*]

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0 Introduction

The phenomenon of polarity sensitivity is not, in general, very well under-stood. Why is it that certain words and idioms have the peculiar property of occurring only in negative, interrogative or conditional contexts? It is intuitively clear that negative polarity items (NPIs) are not arbi-trarily distributed over the lexicon. A field-worker analyzing an unknown language would probably not ask if the word for *knife* is limited only to negative statements. On the other hand, indefinite pronouns, or certain modal verbs, are generally good candidates for NPIs. On the basis of these limited observations, one might venture the guess that negative polarity is a reflection of word meaning. More precisely, certain expressions are predestined to become polarity sensitive due to their semantic properties.

In the case of English *any*, this idea has been put forth by Kadmon and Landman (1993), who argue that all its uses can be explained by reference to its lexical-semantic properties. Fauconnier's (1975, 1978) work on minimal-quantity NPIs like *budge an inch* or *hurt a fly* suggests that their occurrence in negative contexts is directly related to their pragmatic force. They have an intensifying character and are used to make universal statements. Given the indefinite meaning of the minimal-quantity NP, this goal can only be achieved in implication-reversing contexts (e.g. negation, cf. Ladusaw 1980).

However, the rhetorical force of these expressions is idiomatic because it cannot in general be predicted from their literal meaning. Compare e.g. *one bit*, an NPI with *a bit*, which is not an NPI (cf. *I am (not) a bit worried*), but may be used to strengthen negation, and *a little bit*, which is also not an NPI, but differs from *a bit* in negative clauses. Thus *I am a little bit worried* is roughly equivalent to *I am a bit worried*. The negative counterpart of the first sentence, *I am not a little bit worried,* indicates a fairly strong degree of worry, while the negation of the second sentence, *I am not a bit worried*, expresses the absence of any worry. Arguably, these items have the same basic interpretation, but developed special uses which have to be learned separately. If this is so, then *a bit, one bit* and *a little bit* are all possible candidates for NPI-status, but only *one bit* has been grammaticalized as such (cf. also Bolinger 1972).

In using the term 'grammaticalization', I assume that the creation of NPIs shares some important features with other changes whereby lexical items acquire a special place in the grammar of a language. Traugott and Heine, in their introduction to the book *Approaches to grammaticalization* (Traugott and Heine, eds., 1991) mention the fact that only certain lexical classes are likely to become grammaticalized:

> "What we find in language after language is that for any given grammatical domain, there is only a restrictive set of lexical fields, and within them only a restricted set of lexical items, that are likely to be sources. For example, case markers, including prepositions and postpositions, typically derive from terms for body parts or verbs of motion; tense and aspect markers typically derive from specific spatial configurations; modals from terms for possession, or desire; middles from reflexives, etc." (1991: 8)

Rather similar things could be said about negative polarity items. They cluster in certain semantic domains, and undergo processes of semantic bleaching, typical of grammaticalization

phenomena in general. E.g., the phrase *lift a finger* as used in *The police didn't lift a finger to stop him* means something like *do anything*; all other aspects of its etymological meaning have become irrelevant.

Another aspect of grammaticalization is a shift from objective reference-based meanings to subjective meanings which involve aspects of speaker attitude. Again, this is can be illustrated for NPIs. Compare for instance the sentence *John didn't move his left index finger*, which is simply descriptive, with *John didn't lift a finger*, in its idiomatic reading, which has the added property of emotional intensity.

A final relevant property of grammaticalization is "layering": next to the grammatic-alized use, older, nongrammaticalized uses often stay around. For example, the polarity item *need*, used as a modal auxiliary, has a main verb counterpart which is not polarity-sensitive (cf. *You need not worry* and *I need you*). Layering is in fact so rampant that there are hardly any "pure" NPIs that have no other uses as well. This makes it virtually impossible to automatically detect NPIs in a corpus: first the different uses have to be distinguished. A number of examples of this phenomenon will be discussed below.

In this paper, I investigate the grammaticalization of NPIs in the largely unexplored area of verbs and verbal idioms, basing my conclusions on a comparison of English and Dutch data. These data, I should add, are mostly not diachronic in nature, but present tendencies in current usage, as reflected in various text corpora. I show that some verbs have a strong tendency to occur in negative contexts, although they are not, strictly speaking, NPIs. For these, I will introduce the term "semi-NPI".

1 Verbs of indifference

The first set of verbs to be considered here I call "verbs of indifference". These verbs are psychological verbs which assess the affective aspects of the relation between a human subject, the "experiencer", and a "stimulus".

The basic verbs in this domain are *care, matter, mind* and *bother*. They can be classified as in Table 1, used two binary oppositions:

Table 1: Classification of verbs of indifference

	positive	negative
personal	care	mind
impersonal	matter	bother

The personal verbs in this table assign the experiencer role to the subject and the impersonal ones assign the stimulus role to the subject. Compare *I don't care about it* with *It doesn't matter to me* and *I don't mind it* with *It doesn't bother me*. The positive verbs entail a positive evaluation, the negative ones a negative evaluation.

The intimate relationship between *matter* and *mind* is suggested by some obsolete uses, listed in the OED: *mind* with the meaning of *matter*, as in the OED example *Bullets don't mind much* and *matter* with the meaning of *mind*, as in the following example cited from Fielding's "Tom Jones":

(1)   If it had been out of doors I had not mattered it so much.

Note that these verbs are polysemous. Both *care* and *mind* can be used in a nonpsychological sense, meaning "look after" (cf. *One nurse had to care for 70 patients, Who is minding the store?*). In the psychological use, there is a strong tendency to use these verbs in a negative, interrogative or conditional context. I have checked this in an 11-million corpus of English texts posted on the Internet. My findings are presented in Table 2:

Table 2: Four verbs of indifference: distribution[1]

Environments	CARE N=792	MATTER N=406	MIND N=341	BOTHER N=377
negative	53%	57%	72%	35%
other neg	12%	7%	20%	7%
interrogative	15%	13%	7%	11%
affirmative	20%	20%	1%	48%

Especially the scores for *care* and *matter* are very close. Among the affirmative uses of these two verbs, quite a few are emphatic in character, either by displaying emphatic DO, as in *But I do care, my dearest!*, or by occurring in a cleft or pseudo-cleft construction. The verb *mind* is more nearly a negative polarity item than the others, as is evidenced by the paltry 1% of affirmative contexts. It is sometimes cited as a negative polarity item in the literature, but this is not entirely correct, since it is, after all, grammatical to say that you mind being left out.

Within the modern English period, the negation system shifted rather radically from postverbal negation (as in the jocular *I kid you not*) to preverbal negation with do-support. While the change was going on, some verbs resisted the new form of negation more than others. In the 18th century, the verbs that maintained the old form the longest were semi-polarity items, such as *care* and *matter* (cf. Tieken-Boon van Ostade 1987). In fact, Jespersen (1917) already suggested that the verbs which resisted the change the longest had a special affinity with negation. This, then, illustrates one of the ways in which semi-polarity status may become grammatically relevant.

In the case of *bother*, the association with nonaffirmative contexts is by far the weakest. I have no explanation as to why this might be. Interestingly, this verb is ambiguous, and also has another sense, which is easily distinguished and can be paraphrased roughly as "to take the trouble", as in *Fred did not bother to call* or *You need not have bothered*. With this meaning, the verb is actually a true negative polarity item[2], as you can see in Table 3, where the two uses are compared:

Table 3: Two types of BOTHER

contexts	=to annoy N=377	=to take the trouble N=253
negation	35%	65%
other neg	7%	14%
interrogative	11%	21%
affirmative	48%	0%

As you can see, all nonaffirmative contexts have roughly doubled their frequency, while the affirmative contexts have disappeared. In the second use, *bother* seems to belong to the class of minimal-extent verbs, indicating, in a nonaffirmative context, a minimal degree of effort or involvement. This seems to be underscored by the frequent use of *even* with this particular sense. All 30 examples in my corpus of *even* modifying *bother* involve the sense 'take the trouble'. Given that the other use is more common overall, this is no doubt a highly significant finding. Some examples from the corpus are given in (2):

(2)   a.   I won't even bother to answer that narrow-minded question.
       b.   She becomes concerned when he doesn't even bother to give her a hard time about it.

For both senses of *bother*, the incidence of negative contexts is higher than one would expect for an arbitrary verb. For instance, compare the psychological sense of *bother* with the distribution of two other psychological verbs, *like* and *amuse*:

Table 4: Some psychological verbs.

contexts	bother N=377	like N=128	amuse N=126
negation	35%	24%	23%
rest neg	7%	5%	1%
interrogative	11%	12%	4%
affirmative	48%	59%	72%

In a semantic domain such as the verbs of indifference, with lots of semi-NPIs, one may expect the emergence of true NPIs. In these NPIs the strong tendency to appear in a negative context has become grammaticalized, that is to say, categorical. Examples are the various strengthenings of *care*, among which the OED lists:

(3)   *Strengthenings of CARE (Source: OED on CD-ROM)*

            care a pin   a fig
            a button   a farthing
            a straw   a rap
            a rush   a damn

and also the idioms of the pattern *give an X*: *give a damn/shit/fuck/flying fuck/hoot/tinker's damn*. There seems to be a much greater variety in the ways you can say that you just don't care than there is in the more polite domain of saying that you don't mind.

An investigation of Dutch verbal polarity idioms also revealed a substantial number of idioms expressing indifference, such as

(4)   *kunnen schelen*   *uitmaken*
         kunnen bommen   *malen om*
         kunnen verdommen   *talen naar*
         (kunnen) donderen   *zich bekreunen om*

all of which express various shades of indifference, and all of which have a strong, sometimes absolute tendency to occur in negative contexts. They correspond mostly to the English pair *care-matter* and not to the pair *mind-bother*. For the latter, only the counterparts *deren* and *hinderen* come to mind. The Dutch, like the English, appear to be more preoccupied with the rude than with the polite part of the verbs of indifference. It would be interesting to say more about the etymological meanings of the various expressions listed in (4), but a full discussion would take far too long. Let me just point out that *kunnen schelen* contains the verb *schelen* which is related to the noun *verschil* "difference". So *kunnen schelen* literally means something like "to be able to make a difference (to somebody)". There is also a related adjective, *onverschillig* "indifferent", which like its English counterpart cannot drop the negative suffix, and therefore constitutes a NPI at the morphological level.

Another expression of indifference is *geven om* "give about = care about", which is clearly related to the English pattern *give a damn* etc. It has an impersonal variant, cf. the examples in (5):

(5)   a.   Ik geef niet om boontjessoep
                 I give not for bean soup
                 "I don't care for bean soup"
         b.   Dat geeft niet.
                 that gives not
                 "That doesn't matter"

The impersonal expressions often optionally take two nonsubject arguments as well as a subject argument. One of these indicates a measure, e.g. the extent to which something matters, or rather, doesn't matter, the other indicates the experiencer:

(6)   Dat kan me niets/niet veel/weinig/*niet alles/geen bal schelen
         that can me nothing/not much/little/*not all/no ball differ
         "It makes no/no big etc difference to me"

The measure expressions must be indefinite, which is why negated universals, which are otherwise possible triggers for negative polarity items (Ladusaw 1980), are ruled out here. In this regard they are much like measure NPs elsewhere, which also frequently exhibit a definiteness effect, compare:

(7)   *It took no/little/some/*the/*all time to build it*

Due to the optionality of the measure phrase, *niet* "not" and *niets* "nothing" can be used interchangeably with these verbs:

(8)   Dat kan me niet(s) schelen.
         That can me not(hing) differ
         "I don't care about that"

All Dutch verbs and verbal idioms reviewed here can be used affirmatively with the affirmative adverb *wel*, which plays the same role in Dutch as emphatic DO in English. This adverb is typically used to deny an earlier negative statement or a negative presupposition. In Table 5, the distribution of some of these verbs is laid out.[3]

Table 5: Some Dutch verbs of indifference

context	kunnen schelen N=140	uitmaken N=39	malen om N=34	deren N=110
negation	51%	59%	71%	92%
other neg	35%	19%	3%	6%
interrogative	12%	13%	24%	1%
affirmative	2%	11%	3%	1%

2 Verbs of intolerance

Another set of semi-NPIs consists of what I will call verbs of intolerance. This category includes such items as *can stand, can take, can bear*. Unlike the previous category, this class tends to consist of verbal combinations, with a modal element (usually *can*) and a verbal element. However, the modal element is not lexically fixed, as is evident from pairs such as:

(9)   a. I could not stand it any longer.
        b. I was unable to stand it any longer.

An adjective which expresses a similar meaning is *insufferable*. The suffix *-able* represents the modal element, and *suffer* the verbal element. Its polarity sensitivity is obvious from the fact that the negative prefix *in-* is obligatory.

All expressions in this class appear to be firmly semi-NPIs. That is to say, they have a robust tendency to occur in nonaffirmative clauses, while at the same time being genuinely acceptable in purely affirmative use (cf. also the discussion in Linebarger 1980 and Von Bergen and Von Bergen 1993). For *can stand*, this is shown by the following examples from my Internet corpus:

(10)   a.   Now, patriarchism can stand some criticism, but I think Tepper goes way too far in saying that having a father is a bad experience for men.
        b.   "Are you tired, Sufi?" "I could stand a nap, M'lord."
        c.   Looks like he could stand to do some heavy labor out at the farm to burn away some of those extra calories....
        d.   This is a "Gotterdammerung" that can stand the test of time.

Some relevant numbers are presented in the following table:

Table 6: Some English verbal expressions of intolerance.

context	can stand N=137	can bear N=60	can take N=36
negation	72%	67%	72%
rest neg	14%	26%	12%
interrogative	7%	3%	6%
affirmative	7%	5%	11%

There is a plenitude of meaning-related NPIs in Dutch, such as

(11)   *kunnen uitstaan*   *kunnen velen*
       kunnen verkroppen   *kunnen luchten of zien*
       kunnen zetten

The adjective *onuitstaanbaar* is a direct counterpart to English *insufferable*, and the negative prefix *on-* is the (likewise obligatory) marker of negation. Table 7 presents usage data from our Dutch database.

Table 7: Some Dutch expressions of intolerance.

context	kunnen uitstaan N= 27	kunnen velen N=36
negation	81%	84%
rest neg	15%	6%
interrogative	0%	0%
affirmative	4%	12%

3 Modal verbs

Next, I want to briefly mention the case of NPIs which are auxiliary verbs[4], such as English *need* (*Engineers need *(not) apply*), Dutch *hoeven*, German *brauchen* and Mandarin *yòng*. Although not historically related, these modals have all developed into NPIs in the course of history and express the same meaning, which suggests strongly that NPI-status is not an arbitrary feature of these verbs. They also have largely the same sets of triggering contexts.

4 Verbs of minimal degree

A very large class of verbal expressions with NPI-status are the expressions of minimal degree or extent. These include well-known items such as *budge (an inch), lift a finger, bat an eyelid, move a muscle* and the like. Usually, these contain an indefinite NP, often a measure expression, such as *inch* or *second*.[5] Less easily identifiable are solitary verbs whose negative affinity derives from the fact that they express some minimal action or relation. We have already seen the case of *bother* in the sense of *take the trouble*. Other verbs which may express minimality

are *begin* or *touch* in sentences such as the following:

(12) a. He did not even begin to answer the problem.
      b. You have not touched your meal yet.

Note that it is usually idiomatic to add *even* to these verbs, as in (12a), which fits the fact that they point to some endpoint of a scale.

Nonpsychological verbs which exhibit polarity sensitivity often can be placed in this category. Take for instance the Dutch verb *reppen*. In one of its meanings, this verb means *to mention, to speak of*. Until recently, this item was a negative polarity item for many speakers. Etymologically, this verb meant something like "to hit, to touch", compare the English idiom *to touch upon something*. Perhaps it was this meaning of 'touching' which gave the verb its character of expressing some minimal extent, which is often enhanced by adding the phrase *met (g)een woord* "with a (no) word", a clear minimizer. The same sense of 'barely touching (with the tips of your fingers)' can be found in the expression *kunnen tippen aan* "to be able to match = hold a candle to", as in (13)

(13) Niemand kon aan haar tippen.
      nobody could to her touch
      "Nobody could hold a candle to her"

Note that impersonal verbs, verbs which I loosely define here as taking a nonhuman, nonagent subject, and verbs with an auxiliary indicating ability, such as *can* in English, are rather overrepresented within the class of polarity sensitive verbs. In the case of *can*, there seems to be a semantic explanation: This item often sets up a pragmatic scale (cf. Fauconnier 1975). Usually, if I did not do something minimal, it does not follow that I did not do anything less minimal. However, if I could not do something minimal, it follows (pragmatically, not logically) that I could not do anything less minimal either.

5 Other verbs

The classes identified so far appear to be the most significant among verbal polarity items. However, I am aware of others that do not fit into these categories, such as the Dutch verb *boteren*, lit. "to butter", an impersonal verb:

(14) Het boterde niet tussen de Koningin en de premier.
      it buttered not between the Queen and the prime minister
      "The Queen and the prime minister did not get along"

Another Dutch verb, with a similar meaning, is *klikken*. Here we see a much weaker affinity for nonaffirmative contexts, cf. Table 8.

Table 8: A comparison of two Dutch verbs for getting along

context	boteren N=50	klikken N=34
negation	98%	40%
rest neg.	0%	0%
interrogative	0%	0%
affirmative	2%	60%

A more detailed discussion of the remaining cases must be set aside for another paper, due to considerations of space.

6 Conclusions

I have identified the main lexical domains in English and Dutch in which verbal NPIs occur, in order to argue that NPIs and semi-NPIs do not arise out of thin air or spring up randomly in the lexicon, but cluster in certain semantic areas. For largely pragmatic reasons, some verbs tend to occur in nonaffirmative contexts more than other verbs. This may set the stage for further specialization, but the main point here is, that there is no necessity for this at all. Grammaticalization is not an inevitable process. We do not need to appeal to pragmatics to explain the distributional properties of NPIs and semi-NPIs, as some authors appear to want to do (cf. e.g. the discussion in Von Bergen and Von Bergen 1993). Compare for instance the English verb *bother* in its psychological sense with Dutch *deren*. Whereas affirmative clauses make up 48% of the environments in which *bother* may occur, they make up only 1% of occurrences for its Dutch counterpart (cf. Tables 3 and 5). The same point is made in Table 8, where two verbs for getting along are compared. Pragmatics cannot and need not explain such differences, which are a matter of one verb being further along the way in the grammaticalization process than the other.

Another conclusion is that attraction to negative environments is semantically-induced, but independent of argument-structure (unlike what Linebarger 1980 suggests). This is what pairs such as *care-matter* or *mind-bother* have to tell us.

I have concentrated here on the lexicographical aspects of verbal polarity items. Much could be said about other important aspects, such as the fact that all of them may appear before their triggers, in spite of the leftness condition on polarity licensing (Jackendoff 1972, Ladusaw 1980), a condition which seems otherwise valid for English. Cf.:

(15)   a. You need not worry.
        b. I could stand it no more.
        c. It matters less and less.

Notes

1. By "negation", clausal contexts are meant where *not*, *n't* or a negative quantifier, such as *nobody, nothing, never, no* is present. By "rest neg.", clausal contexts with other downward entailing operators are meant, such as *at most three students*.

2. *Bother* also occurs in the polarity-sensitive collocation *can be bothered*. This usage was not included in the data for Table 3.

3. Taken from a database of naturally-occurring examples compiled at the University of Groningen.

4. For discussion of polarity sensitive auxiliaries from a typological perspective, see Edmondson (1983).

5. A rare case of a (formally) definite NP in a verbal idiom of minimal extent is *the first thing* in *Ned does not know the first thing about topology*.

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