

JESPERSEN RECYCLED

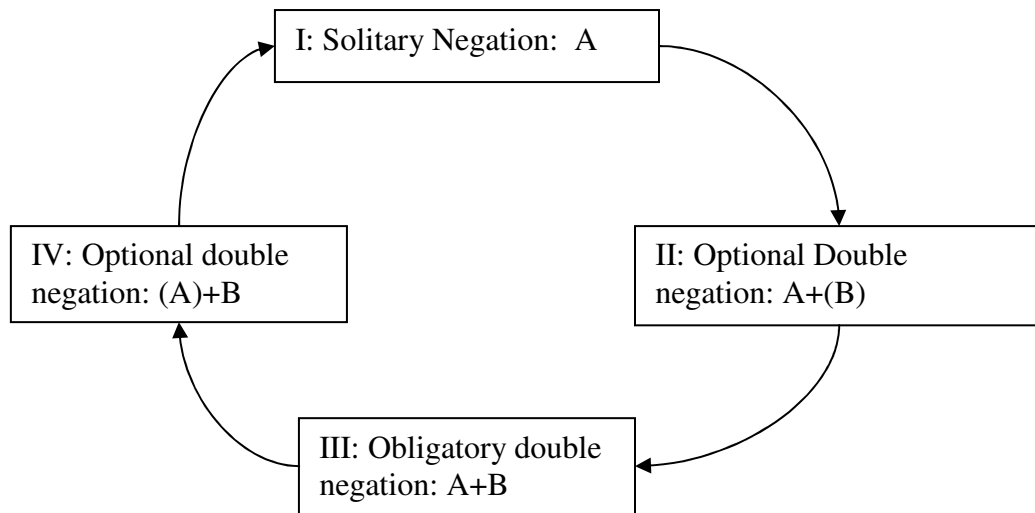
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1. Introduction¹

In this paper, I take a look at certain aspects of the so-called Jespersen cycle. In particular, I want to consider more closely the role of negative polarity items in the renewal of negation, and at the grammatical interpretation of this renewal in terms of the NegP hypothesis.

The Jespersen Cycle is a series of processes by which negation markers get renewed in the manner depicted in Figure 1:

Figure 1: The Jespersen Cycle



By ‘double negation’, I am referring here to formal features only, since the usual interpretation of such double negation is single negation. The phenomenon of double negation serving to express a single negation, is also known as Negative Concord (Labov 1972, Ladusaw 1992, 1993).

The cycle in Figure 1 turns out to be quite common, and has been attested in Latin (Jespersen 1917, Bernini and Ramat 1996), French (Jespersen 1917, Rowlett 1998, Deprez 2000, Roberts and Roussou, 2003, among others), Greek (Kiparsky and Condoravdi 2006), German (Jäger 2006, Breitbarth 2008), English (van Kemenade 2000, van Gelderen 2004), Dutch (Hoeksema 1997, Postma 2002, Zeijlstra 2004), Welsh (Willis, 2008), Arabic and Berber (Lucas 2007), Chinese, and Athabaskan (van Gelderen 2007). As Johan van der Auwera has pointed out (van der Auwera 2008), Jespersen was not even the first to discuss the cycle of negation, as he was preceded by Gardiner (1904) and Meillet (1912), at the very least.

¹ The material in the paper was presented at the Linguistic Cycles workshop, organized by Elly van Gelderen at the Arizona State University, in Tempe, April 2008. I am grateful to Elly and to the audience at this meeting for feedback and discussion, as well as to Johan van der Auwera for his comments on an earlier draft.

The structure of this paper is as follows. I will start with a discussion of stage I, and then work my way around to stage IV and back to stage I. Along the way, I will be looking at the changes involved, their nature, what might prompt them, as well as the question to what extent the changes are unidirectional.

2. Stage I

Stage I would seem not to require a whole lot of attention. It is the starting point of the cycle, and has what one might call the most parsimonious and simple system of negation. Indeed, one might wonder why a language would ever want to drift away from this stage. At the same time, one may wonder which language ever completely conformed to this rosy picture. Simple, solitary negation is often found in sentences, but rarely in a whole language. First of all, languages tend to have multiple ways to express negation. A language like modern standard Dutch, which many would probably classify as being in Stage I, usually expresses negation by single negation:

1. Hij is niet sterk
He is not strong
'He is not strong'

but there are several optional ways to strengthen negation by adding modifiers, as well as a number of expressions which serve as occasional, marked, alternatives to *niet*:²

2. Hij is allerminst sterk
he is all-least strong
'He is not strong at all'
3. Hij is geenszins sterk
He is no-way strong
'He is not strong at all'
4. Hij is allesbehalve sterk
he is all-but strong
'He is not strong at all'

and I have not even begun to discuss negative polarity items.

² The negative character of these expressions is not just indicated by the fact that they can be paraphrased by regular negation, but also by the fact that they trigger items which are otherwise only triggered by negation (cf. Van der Wouden 1994, 1997, Zwarts 1998), such as the Dutch polarity-sensitive predicate *mals* 'mild', which fails to be triggered by weaker forms of negation, such as n-words and quantifiers like *weinig* 'few/little':

- (i) a. Zijn oordelen waren niet / allesbehalve / geenszins mals
his judgments were not / all-but no-way tender
'His judgments were not (at all) mild'
- b. *Geen van zijn oordelen was mals
none of his judgments was tender
'None of his judgments was mild'
- c. *Slechts weinige oordelen waren mals
only few judgments were tender
'Only few judgments were mild'

In this respect, modern Dutch is not in any way unusual, but probably quite typical of languages in general: they have multiple means to express negation, even at Stage 1, and these means may differ in syntactic properties, such as whether they appear in finite or non-finite clauses, or in indicative, interrogative or imperative constructions, but also in their semantics and pragmatics. Some negation markers are emphatic in nature, leading to stronger, more expressive statements, others may have some special discourse function. Schwenter (2006) has pointed out that Catalan *pas* and Italian *mica*, for instance, are used for denying discourse-old propositions. I do not know whether there are any languages (with the exception of artificial languages such as Esperanto or predicate logic, and impoverished languages such as pidgins or early stages of child language) which have only one marker for negation.

3. From Stage I to Stage II

Given the availability of alternative negation signs, one may wonder why lexical renewal of negation does not simply involve some process of competition, at the end of which one of the alternative signs wins out, and replaces the old unmarked negation sign. That would turn the Jespersen cycle into a one step process, and clearly take all the fun out of it. But to be frank, it is not entirely clear to me, why this is not, as far as I can tell, the most common way for the negation system to change. Presumably the thing that makes the Jespersen Cycle such a common process is its conservative nature. Rather than replacing one negation sign by another, we keep the old one, but add another one, and only when the new sign is as familiar as the old one, do we drop the old sign.

For Jespersen, the driving force behind the cycle was phonetic erosion. Grammatical markers such as negation often undergo phonetic reduction, leading to a point where they become almost inaudible. Given that negation is too important to let go unnoticed, something has to be done. A polarity item is enlisted to prop up the faltering negation marker.

Now this kind of process can be witnessed in many areas of the grammar, not just negation. Grammatical markers often undergo reduction, leading to changes in the grammar. Sometimes they are renewed, and sometimes they are not. One may think of the loss of case marking in English or Dutch, a complex process in which a great many factors are at play, but reduction is clearly one of them. However, here there seems to be no sign of a cyclical process. Case marking was lost, and whether it will ever be renewed by some future process is very doubtful. Clearly, there is a difference between case marking and negation. While case marking is not essential for the expression of meaning, given that there are other means to encode grammatical functions, negation is, at least to a much higher degree. It would be very hard to do away with negation. One could of course imagine a language where every verb and every adjective has a negative counterpart. Not just an antonym expressing contrary negation, but a true contradictory counterpart. Such a language would seem possible, given that contradictory antonyms exist. For example *present* and *absent* seem to be perfectly contradictory in the sense that everything is either present or absent, and nothing is both. However, a grammar without the category of negation would entail doubling large parts of the vocabulary, a very costly move. Natural languages are not optimally parsimonious in their vocabulary, but neither are they utterly wasteful. Moreover, it would seem that some negative verbs might be exceedingly hard to learn. Just consider the problems a child may have in mastering a verb that means 'not to hiccup', if, first of all, that verb is not related in its form to the verb for hiccup, second, is probably not used a whole lot, and third, there is no negation in the language that might help the parent to explain the meaning of the verb. The evolutionary advantages of having negation in your grammar are so strong that no language would want to do without it. So even without assuming that the presence of negation is an innate property of

natural language, one may, for purely functional reasons, expect it to be universal. Clearly, when erosion threatens to destroy the expression of negation, something has to be done. Negative polarity items to the rescue!

For Jespersen himself, this is pretty much where the story ends. The cycle is driven by phonetic erosion and the desire to keep the category of negation intact. The rest is details.

Now one thing where Jespersen may well be wrong is in his insistence on the causal role of reduction. Jespersen argued that the reduction of French negation to *ne* inevitably led to the emerge of double marking as a way to reinforce the weakened sign of negation. This in turn rendered *ne* entirely superfluous, leading ultimately to its disappearance in the spoken vernacular. However, one might also argue the other way around. If negation is so important, and clearly it is, why would one want to reduce it at all? Ease of articulation is certainly not of such paramount importance that speakers should let it prevail over the clarity of their message. Perhaps it is the fact that negation is often predictable, because of double marking, or because of constructional features, that makes it easy prey for phonetic reduction. Consider in this connection English. The contracted forms of negation only came about after *do*-support had made the presence of negation easier to detect. I would not want to say that *do* is a marker of negation, but it certainly helps identify a sentence as negative. So it is a construction feature that made it relatively unproblematic for *not* to turn into *n't*. In addition to this point, I might note that not every instance of the Jespersen cycle seems to necessarily involve phonetic reduction (cf. Kiparsky and Condoravdi 2006 on Greek).

It is arguable that a more essential characteristic of negation driving the Jespersen cycle is its double role as a device for the expression of logical polarity, and a rhetorical device. Negation is first and foremost a logical operator, changing the truth-value of a proposition to its opposite. This basic function is what makes it indispensable. However, negative sentences often express more than just the negation of their positive counterpart. They may develop special pragmatic uses such as understatement, or emphatic denial. For these pragmatic functions, regular negation may be used, but various colorful alternatives are on offer as well. If someone tells you it will rain tonight, you might respond with *it won't rain tonight*, if you want to contract him, but also with *Like hell it will*, or *no way will it rain*. Negative polarity items often start out as colorful terms intended to strengthen, or weaken the force of negation. From what I can tell, every documented language has such polarity items. Apparently, there is great need for expressions that serve to boost the rhetorical effect of negation. And it is precisely the availability of negative polarity items which is essential in setting up a system of double marking which eventually leads to complete lexical replacement of the original marker of negation. In the course of this process of replacement, the rhetorical character of the polarity item gets lost (Kiparsky and Condoravdi 2006, Schwenter 2005).

4. Polarity items

Polarity items come in a great many varieties. Only some are ever chosen to become the main sign of negation in a language, like *pas* in French or *not* in English. However, some of the typical changes involved in the Jespersen cycle may be witnessed among the less important polarity items as well. One such change is the one from nonnegative item in the scope of negation to a negative item that no longer requires licensing.

Horn (2001), referring to as-of-then unpublished work by Ross and Postal (but see Postal 2004), discussed a set of English taboo items which still take, but no longer require, negation:

5. a. He didn't tell me fuck all about the car.
 b. He told me fuck all about the car.
6. a. Fred doesn't know jack shit about the car.
 b. Fred knows jack shit about the car.
7. a. There isn't diddly squat in the fridge.
 b. There's diddly squat in the fridge.
8. a. The cops didn't tell me dick.
 b. The cops told me dick.

What is striking about these items is their uniform behavior, and their lack of a determiner. Most minimizers in English, such as *an iota*, *a word*, *a thing*, *a hope in hell* etc. are preceded by *a(n)* or *one*. The reason might be that they are mass nouns, but that in itself is rather unusual for minimizers.

In German, various words for bowel movements (for which Horn 2001 has coined the term *dreccative*) show a very similar behavior:

9. a. Google schert sich keinen feuchten Dreck um den Datenschutz.
 Google bothers self no moist shit about the data protection
 'Google does not give a damn about data protection'
- b. Google schert sich einen feuchten Dreck um den Datenschutz
 Google bothers self a moist shit about the data protection
 'Google could care less about data protection'

Dutch has an expression that underwent a quick change from polarity item to negative idiom within a short period (Hoeksema 2002). It is likewise a taboo term:

10. a. Hij begrijpt er de ballen niet van.
 He understands there the bollocks not of
 'He doesn't understand jack shit (about it)'
- b. Hij begrijpt er de ballen van.
 He understands there the bollocks of
 'He understands jack shit (about it)'

Semantically, the expression belongs to the group of taboo expressions with minimizing properties, but syntactically it stands out as unusual within that set because it is formally definite, rather than indefinite. I cannot help but think that it is the exceptional features of these expressions which allowed them to split off from the pack, and to undergo a turn of the Jespersen cycle which other minimizers in English and Dutch do not seem ready yet to submit to. In addition, one may note that the taboo items in question belong to the domain of substandard usage, where some form or other of negative concord is common enough. In order to get at sentences like (1b), we first need to have a reanalysis of (1a) where the taboo expletive is interpreted as a negative quantifier, a rude counterpart to *nothing*, and *not* as semantically vacuous. Such a reanalysis is natural enough in varieties of English or Dutch that have negative concord, but would be odd in languages that otherwise have no traces of it.

After this reanalysis, *dick* or *bugger all*, have taken on many of the characteristic properties of English *nothing*, including some of the typical collocates of that word, like *sweet* or *next to*, as the examples in 11 and 12 show:

11.
 - a. I know sweet bugger all about politics³
 - b. When all's said and done, so-called concurrent processing means sweet diddly squat in terms of saving time⁴
 - c. Your advice on Australian Idol means sweet jack shit.⁵

12.
 - a. Admittedly, I know next to jack shit about electronica music.⁶
 - b. He won us nothing in the last 2 season and sold our best players for next to fuck all.⁷
 - c. Sadly, he's recently admitted he knows next to squat about how the economy works.⁸

I did a small corpus study of these taboo expressions, by informally collecting occurrences of these items from printed sources, Internet, as well as TV shows and putting them in a database. The sentences were classified according to type of environment. After analyzing the data set, it emerged that these taboo terms appear pretty much only in strictly negative contexts: see Table 1.

Table 1: Distribution of English taboo expressions:

Shit, diddly squat, dick, fuck all etc

Environment	N	%
Not	150	92%
n-word	12	67.3%
Without	1	0.7%
Total	163	100%

In this small sample, nearly all occurrences were from negative contexts.⁹ None were found in questions, conditionals, comparatives, in complements of negative or adversative predicates, etc. There are two lessons to be learned from these items. First of all, they clearly show that polarity items do not just get reinterpreted as negative elements after they have become virtually obligatory in negative sentences. On the contrary, these taboo items are fairly infrequent in most people's speech, with the possible exception of the likes of Tony Soprano, and still they got reinterpreted. Second, it may be more important for this semantic change that the items that undergo it *only* appear in negative sentences.

From the historical record, it emerges that the types of polarity items that undergo grammaticalization as new negation markers are typically minimizers, indicating some minimal quantity or extent, polarity sensitive indefinites, meaning 'something/anything', or generic nouns, meaning *thing*. In French and Catalan, the markers of negation are derived

³ From: [http://forums.vault9.net/..](http://forums.vault9.net/)

⁴ From: <http://ungratefulimmigrant.blogspot.com>

⁵ From: <http://www.defamer.com.au/2007/08/144>

⁶ From: http://www.byroncrawford.com/2005/11/the_best_songs.html

⁷ From: <http://arseblog.com/columns/2007/07/09/gallas-says-players-are-questioning-arsenals-future/>

⁸ From: <http://oncommonground.blogspot.com/2008/02/weekly-poll-it-takes-woman-to-stimulate.html>

⁹ The fact that the only not strictly negative environment is a PP headed by *without* does not come as a surprise. Of all the environments in which polarity items may appear, *without*-PPs seem to be most strongly akin to regular negation. Thus in Greek, emphatic elements of the *kamenas*-series, the n-words of that language, appear in negative clauses and clauses initiated by *xoris* 'without' (cf. Giannakidou 1998, 2000). In French, *aucun* and other negative elements appear with negative *ne* and in PPs introduced by *sans* (cf. de Swart and Sag, 2002, Deprez and Martineau 2004). In Giannakidou's (1998) terms, *without* is antiveridical, in the sense that it implies negation: *p without q* entails $\neg p$. Other types of environments maybe downward entailing, or nonveridical, but antiveridicality is a stronger property, since it entails the others.

from minimizers. In Welsh (Willis 2008) the marker *ddim* derives from a generic word meaning ‘thing’ that had turned into a polarity-sensitive indefinite in the Middle Welsh period. The same can be said about the Arabic postverbal marker of negation *ši* (Lucas 2007). In Germanic, an indefinite pronoun gets merged with an extra copy of clitic negation, and becomes the new marker of negation (Jäger 2006). Given the wide variety of polarity items, it may come as a bit of a surprise that negation markers are selected from such a small subset. In (12), an incomplete list of English types of polarity items is given. In Dutch and German the list of polarity items, in spite of some minor differences here and there, is much the same.

13. Types of polarity items in English

- Minimizers: *a word, a thing, a syllable, a moment, an inch*
- Adverbial minimizers: *in the least, in the slightest, one bit, the least bit*
- Taboo items I: *a fucking thing, a bloody word, a damn thing, a blasted thing*
- Taboo items II: *shit, jack shit, diddly squat, squat, dick, fuck all, bugger all*
- Minimizing predicates: *say boo to a goose, lift a finger, sleep a wink, bat an eyebrow, know the first thing about, have a clue, have a prayer*
- Particles: *anymore, yet, as yet, either*
- Indefinite pronouns: *any, anybody, anything, anywhere, anyone*
- Domain wideners: *whatsoever, on earth, in the world, at all, in years, in ages, in decades*
- Domain restrictors: *in his right mind, self-respecting, worth his salt*
- Modal strengtheners: *for the life of me, if my life depended on it, for the world, for love or money*
- Downtoners: *all that, exactly, the sharpest knife in the drawer*
- Modal verbs and idioms: *need, humanly possible, strictly necessary*
- Verbs: *budge, faze, mind*
- Verbal idioms: *can be bothered, can care less, can stand/abide, take long, make bones about, give the time of day, would be caught dead in*
- Litotes: *take no for an answer, miss a beat, can deny, a day goes by without*
- Scalar items: *so much as, much less, least of all*

The distributional characteristics for a number of minimizers are given in Table 2 (data from the same corpus as data in Table 1).

Table 2: Distributional properties of some English minimizers

environment	a thing	%	a word		a damn thing	%	one bit	
Not	78	84%	120	55%	35	88%	41	93%
n-word	10	11%	36	16%	4	10%	2	5%
Without	2	2%	40	19%	1	2%	-	-
Question	-	-	4	2%	-	-	1	2%
Other	3	3%	18	8%	-	-	-	-
Total	93	100%	218	100%	40	100%	44	100

Similar distributional properties can be observed for Dutch and German:

Table 3: Some Dutch and German minimizers

environment	een woord (D)	%	ein Wort (G)	%	Een bal	%
negation		3%	-	-	-	-
n-word		70%	43	88%	440	98%
Without		20	4	10%	5	1%
Other		7%	1	2%	6	1%
Total	1684	100%	48	100%	451	100%

For minimizers and taboo expressions, we see a very strong affinity with negation. Only the items meaning ‘word’ show up in a different environment as well, the complement of *without*. This is due to a special idiomatic use of the items. Compare the examples in (13):

14. a. Jones left without saying a word
 b. Jones left without a word
 c. Jones left without saying a thing
 d. *Jones left without a thing [* on the interpretation of 12c]
 e. Jones left without a coat

Normally, *without NP* means *without having an NP*, as in (13e). Only *without a word* has the special interpretation *without saying a word* (not: without understanding a word, without regretting a word, without receiving a word, etc.). Other minimizers, like *a thing*, do not have this special interpretation, as you see in (13d). If you take out the idiomatic *without a word*, but keep cases like *without saying a word* and so on, the percentage of occurrences in *without*-clauses drops to about 10%, and you have a distribution rather like that of the other minimizers.

Comparing minimizers with other polarity items, such as *ever* or *any*, you will notice a sharp contrast. In Table 4, I have listed the results of a corpus study of English *ever* and its counterparts in Dutch and German, *ooit* and *je(mals)*.

Table 4 : *Ooit, ever, je(mals)*

environment↓	Item→	ooit N=17.304	ever N=3082	je(mals) N=792
Comparative		20	13	21
Conditional		10	8	5
Hardly		1	2	5
Negation		22	25	18
Negative Predicate		3	5	4
Superlative		10	17	13
Question		24	19	21
Without		5	1	6
Other		5	10	5

The main thing to notice here, is how these expressions are all over the map, showing up in all sorts of environments, not merely in negative sentences. The same can be noted for English *any*. Occurrences of free choice *any*, by the way, are excluded from this table.

Table 5: Distribution of polarity-sensitive *any*

environment↓ item→	any N=3718	%
comparative	216	6
conditional	401	11
hardly	20	0.5
negation	1736	36
negative predicate	343	9
superlative	45	1
question	699	19
without	141	4
Other	117	3

Perhaps you have wondered why English *any* or *ever* have not undergone negative reinterpretation. If words like *shit* or *squat* can develop into negative quantifiers, why not their more respectable cousins *any* and *ever*? Part of the explanation here might be prescriptive grammar, which has fought hard to keep negative concord out of the standard language. If a sentence like *I will ever love you* is to develop the meaning *I will never love you*, there must be a prior stage in which *I won't ever love you* is reinterpreted as *I won't never love you*, with negative concord:

15. Stage I: I won't ever love you [standard interpretation]
 Stage II: I won't ever love you [ever = never; due to negative concord equivalent in interpretation with Stage I]
 Stage III: I will ever love you [ever = never; loss of redundant negation]

This is probably why the taboo expressions, which are not subject to prescriptive grammar to the same degree, are more prone to undergo semantic reinterpretation than other polarity items. However, we may also consider the distributional characteristics of the items in question as important preconditions. It would seem to be much harder to reinterpret an item like *ever* as a negative quantifier, if the majority of its occurrences are not even in negative sentences. My expectation, therefore, is that *any* and *ever* are unlikely to undergo the kind of reinterpretation needed to partake in the Jespersen Cycle, and that one will be hard-pressed to find a dialect or variant of English where it does, unless, of course, it is from a dialect where these words have come to have a rather more restrictive distribution, comparable to the minimizers we have looked at. At the same time, we have a little bit more grip on the issue why languages typically employ minimizers in the Jespersen Cycle. I take semantic reinterpretation of indefinites as negative quantifiers to always involve, at least initially, an interpretation error, not unlike the errors in noisy channels studied by information theory. The overall interpretation of an utterance is correctly computed, but not in a compositionally-correct manner. The wrong item is taken to express negation.

A notion from information theory might come in handy here, namely *mutual information*, which is a measure of redundancy. When two items tend to co-occur, like negation and polarity items, their relative informational value decreases. If two variables x and y are completely independent, the chance of the two co-occurring is $p(x)$, the probability of x , times $p(y)$, the probability of y . If the two items are not independent, the probability of the two co-occurring, $p(x,y)$, is greater than or smaller than $p(x)$ times $p(y)$. So if you divide $p(x,y)$ by $(p(x) \text{ times } p(y))$, you get a measure for whether the two are more likely to co-occur or less likely to co-occur than would be predicted on the basis of their individual probabilities. By taking the log of that division, you get a measure, called *specific pointwise mutual*

information. If it is 0, there is no effect of one variable on the other, if it is below zero, the two variables are less likely to co-occur than their individual probabilities would predict, and if it is positive, the two are more likely to co-occur than you might have guessed given their individual probabilities. See the formula in (15):

$$16. \quad MI(x,y) = \log \frac{p(x,y)}{p(x) \times p(y)}$$

The notion of mutual information is used in corpus-based study of collocations (Church and Hanks 1990, Manning and Schütze 1999). Clearly, minimizers are prime examples of expressions with high mutual information with respect to negation, other polarity items less so.

Since we want to look at the probabilities of various polarity items co-occurring with negation, one of the two variables x and y in (15) is given, namely the probability of negation itself. If we likewise forget about the logs, we can simplify the formula to the one in (16)

$$17. \quad \frac{p(x,y)}{p(y)} = p(x|y)$$

which is the *conditional probability* of x given y . In our case, the conditional probability of negation, given some polarity item. The larger this probability, the greater chances of misconstrual and reinterpretation. For minimizers and taboo terms, this conditional probability is well in the 90% range. For other items, it is a lot lower. Note that conditional probability is not a symmetric notion. The probability of negation, given the presence of some minimizer, may be very high, while the probability of that minimizer, given the presence of negation, is very low. As we see from the example of the English taboo NPIs, the latter probability does not seem to matter much. They underwent reinterpretation, regardless of their low overall frequency.

Unfortunately for the historical study of the Jespersen Cycle, we usually lack good corpus data that might help inform us about conditional probabilities. This is why it is important to study these changes in contemporary stages of languages, using the present to explain the past, to quote Bill Labov.

Another point of interest is the reversibility of the change. If we can reinterpret polarity items as negative quantifiers, can we also reinterpret negative quantifiers as nonnegative polarity items in negative concord languages? The answer to this question appears to be affirmative (cf. Hoeksema 1997). In languages like Middle Dutch, we see negative quantifiers, clearly marked as such by the presence of the negative prefix $n-$, showing up in polarity contexts without a negative meaning:

18. Die bliidste soudic wesen dan
 the happiest would-I be then
 Die nie man sach op erterike;
 That never man saw on earth¹⁰
 “I would be the happiest [woman] that one ever saw on earth”

¹⁰ Example taken from Hein van Aken’s medieval Dutch romance *Roman van Heinric ende Margriete van Limborch*.

The lack of concord marking on the finite verb, typical for such cases, shows that we are no longer dealing with an n-word, but with a homophonous polarity item.

5. Adverbials from minimizers

Now that we have seen how minimizers might be prone to reanalysis as negative quantifiers, we are still at a loss how these negative quantifiers may become negative adverbs. Clearly, the change from the quantifier *naught* to the adverb *not* is a big one. There are several scenarios describing how this might have happened. One is misanalysis of negative quantifiers that serve as objects to optionally transitive verbs as adverbial modifiers (cf. Jäger 2006, Lucas 2007, Bayer 2009 for suggestions along these lines):

19. Jones [neg ate naught_{DP}] → Jones [[neg ate] naught_{ADV}]

This adverb then spreads to other types of VP, on its route to becoming the main exponent of negation.

A slightly different scenario is one where the n-word is used as a measure-like argument with verbs like *matter* or *care*. These verbs take on a variety of nominal adjuncts which measure the degree of indifference felt by the human experiencer:

20. a. Jones did not care much.
 b. Jones did not care a whit.
 c. It does not matter a jot to Jones.
 d. It does not matter much to Jones.
 e. It matters nothing to Jones.
 f. Jones cares nothing about it.
 g. It matters very little to Jones.

Note that these nominal adjuncts are entirely optional:

21. a. Jones did not care.
 b. It does not matter to Jones.

Dutch also has a largish class of similar verbs and verbal expressions. What is interesting for our purposes about these particular verbs is that they are quasi-polarity items, in the sense that 80% or more of their occurrences are in environments that are well-known contexts for negative polarity items (cf. Hoeksema 1994). Table 6 lists some data from that paper:

Table 6: Some English verbs of indifference

Environment	CARE (N=792)	MATTER (N=406)
Negation	53%	57%
Other negative	12%	7%
Interrogative	15%	13%
Affirmative	20%	20%

While these verbs are probably not as frequent as some of the most common optionally intransitive verbs, they are much more likely to cooccur with negative quantifiers. After all, how often do we say ‘John ate nothing’ or something of the kind? And so these verbs of indifference might deserve some special scrutiny as possible hosts for the change from nominal argument to adverbial modifier. However, as soon as this change has taken place,

there is likely to be a quick spread to other contexts, and so it may be impossible to tell, with any degree of certainty, where the change actually originated.

Adverbial uses are by no means restricted to negative quantifiers turning into negation proper, like English *naught*, Dutch *niet* or German *nicht*. We see similar changes among minimizers. For instance, *one bit* is clearly adverbial in English. When it is used as a nominal complement, the result is degraded:

- 22. a. Jones did not like her one bit.
- b. ?Jones did not feed her one bit.
- c. *Jones did not eat one bit.

Even more striking is the case of adverbial *any*:

- 23. a. That did not help the soldiers any.
- b. It hasn't changed him any.
- c. Would that bother her any?
- d. Don't you worry about it any.

So in some cases, the indefinite that became the marker of negation in the course of a Jespersen Cycle may well have been adverbialized even before it got reinterpreted as a negative quantifier. We will need extensive and refined corpus data, to see for each case in what way a nominal quantifier may have developed into a negative head.

6. The Neg-P hypothesis

This leads me to the final part of this paper. We have looked at polarity items turning into negative quantifiers which turned into adverbial elements. At some point there usually is a system of double negation, involving some kind of negative head and the new adverb of negation. Commonly, this situation is given a grammatical treatment in terms of some version of the NegP-hypothesis (cf. Pollock 1989, Haegeman and Zanuttini 1991, Ouhalla 1991, Zanuttini 1997, among others). The old negator is typically the head of NegP, and the new adverb is a specifier of that head. The final stage of the Jespersen Cycle is the one which involves the disappearance of the old negator, and its replacement by the new item. To make the Cycle truly circular, one needs to place the specifier in the position of the head. Under most people's understanding of modern generative syntax, this cannot be done by regular rules moving elements from SpecNeg to Neg⁰. The Spec position is a phrasal position, and Neg⁰ is a lexical head. So how do we get from Spec to head? The only remaining road seems to be syntactic reanalysis, by which the former specifier is reanalyzed as the head of the construction. This is an option which is especially attractive when the specifier is already a single word, such as is the case with French *pas*.

Elly van Gelderen has proposed a principle called Head Preference Principle:

- 24. *Head Preference Principle* (Van Gelderen 2004)
Be a head, rather than a phrase

For items in the Spec of NegP that are small enough to look like heads, rather than phrases, this principle is a call to arms, to rise from the ranks to assume a commanding position as the head of NegP when this position is no longer occupied by another element.

In part, as van Gelderen points out, the Head Preference Principle is a restatement of an old observation from grammaticalization theory, namely that function words tend to originate as nonfunctional words from open classes. However, by combining this older insight with notions from modern syntax, in particular the complex array of mechanisms surrounding the NegP hypothesis, with its associated verb movements to various head positions, we reach a stage where a principle such as the HPP actually makes some predictions. For modern spoken French, for instance, it predicts imminent reanalysis of *pas* as a head. This will entail that it changes position with respect to the verb, either by becoming a clitic to it, like *ne* used to be, or, if it is not, by blocking movement of the verb to positions higher than NegP due to the Head Movement Constraint (Travis 1984). Whether this prediction is likely to ever come true, is of course mere speculation at this point. However, I submit that in languages with stable word order patterns, such as modern French or English, such changes are unlikely to occur. Word order patterns of functional elements are especially resistant to change. We see this clearly in a language like Dutch, which has had simple negation by a single adverb ever since the demise of negative concord in the 17th century. During this period, the position of the negation element *niet* has never changed. Well, actually, there is one in the literature that there was a change, a recent one in fact. In their history of Dutch in the 20th century, Van der Horst and Van der Horst (1999: 286) state:

“Het ziet er naar uit dat het woord *niet* in de afgelopen eeuw een andere plaats gekregen heeft, namelijk meer naar voren.”

“It appears that the word *niet* has received a different position in the course of the last century, namely more to the left.”

They illustrate this with examples such as

25. ge hoeft dien brief zoo stevig niet vast te houden (L. van Deyssel, 1889)
 you need that letter so tight not to-hold-on-to
 ‘You need not hold on to that letter so tightly’

where more modern writers would prefer to write

26. ge hoeft die brief niet zo stevig vast te houden

However, these examples are not so much evidence for a different position of negation as they are of the decline of scrambling in the 20th century. Example 24 is an instance of scrambling of the adverbial phrase *zo stevig* across negation. As I have shown elsewhere (Hoeksema 2003, 2006), scrambling has been declining since the 18th century, at differing rates for different types of expressions. Scrambling, of course, does not involve heads changing position, but constitutes an optional movement process of phrasal material in the middle field, both in Dutch and German. When you focus on the position of negation in sentences like 25, it may seem that the position of negation has changed, but actually, it is the position of the scrambled element. This is clear from the fact that scrambling across other elements than negation is also on the decline, something that would be unaccounted for if only the position of negation were to have changed.

But that leaves us with a bit of a puzzle. If the position of negation in Dutch has not changed at all since the Middle Ages, in spite of the disappearance of negative concord in early modern Dutch, what does that tell us about the Head Preference Principle? At this point, a number of options suggest themselves. One might suppose that the Head Preference Principle is held in check by countervailing forces. One might postulate an Inertia Principle

for historical change, that prefers changes which do not affect the surface order of constituents. In the absence of catastrophic changes due to heavy language contact, or severe paradigmatic pressure, the position of functional elements is quite fixed. Alternatively, it might be worthwhile to consider abandoning the NegP hypothesis, and to view negation as either adverbial in nature, for languages such as Dutch, German or Norwegian, or part of the inflectional system, in languages such as English. Treating negation as an adverbial adjunct in Dutch or German has the advantage that we do not have to say anything special about constituent negation in sentences such as (27), where the negative adverb acts like any other focus adverb, being adjoined to a phrasal projection:

27. a. Niet in alle landen sneeuwt het in de winter
 not in all countries snows it in the winter
 ‘It does not snow in all countries in the winter’
 b. Niet eens zo lang geleden sneeuwde het nog
 Not even so long ago snowed it yet
 ‘It snowed not even that long ago’

The fact that verbs move to C in Germanic without any hinder from negation is then simply what is expected, and not something that could change as soon as negation gets reassigned from Spec of NegP to being a Neg-head.

Of course I don’t want to claim to have found the solution to all or even many syntactic problems surrounding negation. To the contrary. However, it does not seem right to treat constituent negation as completely divorced from constituent negation, as the NegP theory requires one to assume, even for languages which employ the same expression for both kinds of negation, such as English or French.

To return to the Jespersen Cycle, let me conclude this section with the following remarks. For Dutch or German, my account no longer assumes a cyclical change from negative head to double negation by Spec-Head agreement, followed by Spec-only negation, possibly to be turned into head only negation. Rather, we have clitic negation on an inflectional head in the first stage, let us say early Old Dutch, then n-word + clitic negation in Middle Dutch, and finally adverbial or n-word negation in modern Dutch. It is unclear whether or how the current system might ever turn back into one of clitic negation. I suspect the system is stable, and that the new millennium won’t see too much change in this area, assuming, of course, that Dutch and German do not disappear under the onslaught of English. But that is a different story altogether.

7. Conclusions

In this paper, I review the various linguistic changes that together constitute the Jespersen cycle. My focus in this paper has been on the European languages mainly, and so certain types of change, say from prohibitive verb to marker of negation, have not been discussed here. I have argued that one particular change, from negative polarity item without negative import to negative quantifier, is limited to those items which occur primarily in strictly negative environments, rather than the much larger set of contexts where e.g. English *any* may show up. I have motivated this claim with data from English taboo terms such as *diddly squat*, and I hope that others will feel inspired by this hypothesis to test it further.

I have also made a suggestion regarding the change from nominal quantifier to adverbial negation that takes place in many (though certainly not all) languages as part of the Jespersen cycle. The suggestion is that the change may be the result of reanalysis in

constructions with polarity-sensitive verbs that take measure-like complements, such as *matter* and *care*. At the moment, this suggestion is very speculative, as are alternative suggestions.

The paper ends with a brief discussion of the Head Preference Principle (van Gelderen 2004) and the status of NegP. I am skeptical about the possibility that negation will change linear position as a result of reanalysis when Spec of NegP turns into Neg⁰. This may happen whenever verb movement through NegP interferes with the position of negation. Here, too, more evidence needs to be gathered, in this case for sudden jumps in linear position, to ascertain the validity of such an account.

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