Minimizers and maximizers as different types of polarity items[*]

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Abstract
This chapter examines the properties of minimizers and maximizers (i.e. minimal and maximal extent- or quantity-denoting expressions) in English, Catalan, and Spanish. Special emphasis is put on (i) establishing which type of polarity item these expressions align with, and (ii) identifying connections between them and other elements of the polarity landscape such as negative quantifiers and Negative Concord Items. It is shown that different minimizers and maximizers pattern with Affective Polarity Items, Negative Polarity Items, or Positive Polarity Items in the three studied languages, and that English minimizers behave similarly to negative quantifiers when negation is adjacent to them, while in Catalan and Spanish they behave like Negative Concord Items when headed by the particle *ni* 'not even'. Vulgar (taboo word) minimizers, which have been argued to carry an incorporated zero numeral in the literature, are claimed to be lexically ambiguous between zero-incorporated structures and Affective Polarity Items.

Keywords: minimizers, maximizers, affective polarity items, negative polarity items, positive polarity items, English, Catalan, Spanish

1. Introduction

Minimizers (Pott 1857; Wagenaar 1930; Bolinger 1972; Horn 1989; among others) are minimal measure-denoting expressions such as English *a word*, *a wink*, *an inch*, Catalan *una engruna* 'a crumb', *un pèl* 'a hair', Spanish *un alma* 'a soul', *(una) pizca de* '(a) pinch of', Dutch *ook maar een rode cent* 'even a red cent' (Rullmann 1996), or Chinese *yiju hua* 'a word' (Shyu 2016) that denote low endpoints on a scale and, unlike regular Polarity Items (PIs), give rise to an *even*-reading (cf. Pott 1857: 410; Wagenaar 1930; Fauconnier 1975a, b; Schmerling 1971; Horn 1972, 1989; Linebarger 1980; Heim 1984; Abels 2003; Giannakidou 2007, 2011). This has motivated analyses of minimizers as containing a tacit *even* particle (cf. Lahiri 1998; Lee and Horn 1994; Eckardt and Csipak 2013; Tubau 2016), which would explain why minimizers align with PIs in syntactic distribution, but not semantically. For example, in English both minimizers and PIs can occur in interrogatives, but the former give rise to rhetorical readings while the latter do not (Guerzoni 2004; Abels 2003).

Given the potential use of minimizers as negation strengtheners, they have most often been characterized as negative polarity items (NPIs, see chapter 22). It is shown in this chapter, however, that this cannot be said to hold cross-linguistically.

As observed by Suleymanova and Hoeksema (2017: 178), minimizers have a non-literal or idiomatic meaning (cf. Tubau 2016), which may coexist with a literal meaning as regular DPs. Compare, for example, the interpretation of the DP *a word* in (1a) (literal reading) with its idiomatic reading as a minimizer, (1b-c). Only in (1b-c) can *a word* be considered a PI that activates alternatives along a scale (with the minimizer being at the low end).

(1) a Speaker A: Say *a word*.   (English)
       Speaker B: 'Chocolate.'
    b Speaker A: Did she say *a word* about the incident?
       Speaker B: No, she didn't say anything.
    c She didn't say *a word* at all.

In Catalan, minimizers have to be obligatorily headed by the particle *ni* 'not even' for their interpretation to be an idiomatic (non-literal) one, while in Spanish, *ni* is optional (Vallduví 1994; cf. Section 4). Furthermore, Catalan minimizers can only occur in negative contexts, while the distribution for Spanish minimizers is wider. Interestingly, the wider distribution of Spanish minimizers reduces to negative contexts when *ni* is present. This supports the view that while minimizers may be considered a semantic class, they come with some particular syntactic properties that vary from language to language (Suleymanova and Hoeksema 2017: 179) (e.g. the aforementioned obligatory use of the particle *ni* 'not even' in Catalan; the optional co-occurrence of the numeral *ene* 'one' after the negative determiner *geen* 'no' in Dutch, cf. Suleymanova and Hoeksema 2017; among others).[1]

Maximizers, by contrast, are expressions denoting large quantities or extents such as English *all the time in the world*, *an eternity*, Catalan *ni per tot l'or del món* lit. not even for all the gold of the world, or Spanish *pesar una tonelada* lit. weigh a ton, and although they have not received as much attention in the literature as minimizers, they have in common

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[1] As reported by Hoeksema (2009), the class of minimizers is very heterogeneous, including (i) DPs (e.g. English *a word*, *a thing*, *a syllable*, *an inch*); (ii) adverbial minimizers (e.g. English *in the least*, *one bit*); (iii) minimizing predicates (e.g. English *sleep a wink*, *lift a finger*, *give a damn*); and (iv) vulgar (taboo) items (e.g. English *a fucking thing*, *shit*). The same heterogeneity is observed in Spanish and Catalan.

with the latter that, as observed by Israel (2001), they do not uniformly correspond to a particular type of PI either. Hence, the aim of the present chapter is to explore the nature of minimizers and maximizers as different kinds of PIs in English, Catalan, and Spanish, and identify connections between these lexical items and other elements in the polarity landscape such as negative quantifiers and Negative Concord Items (NCIs).[2]

The chapter is organized as follows. In Section 2, some assumptions on the definition and classification of PIs that underlie the discussion in further sections are outlined. Section 3 explores the distribution of maximizers and minimizers in English, while Section 4 studies the distribution of maximizers and minimizers in Catalan and Spanish. Section 5 addresses the nature of vulgar (taboo word) minimizers in the three languages under study and, finally, Section 6 summarizes and concludes the chapter.

2. Different types of PIs and their licensing conditions

A PI is a linguistic expression that is sensitive to the polarity of the context it occurs in (Giannakidou 2001). PIs that usually occur in negative contexts have been traditionally referred to in the literature as NPIs (see chapter 22), although their distribution might not be limited to the scope of negation. This latter observation has motivated the distinction between *weak*, *strong* and *superstrong* NPIs (Zwarts 1981, 1986, 1998; van der Wouden 1994, 1997), which is directly linked to the notion of Downward Entailment (DE) (Fauconnier 1975a, b, 1978; Ladusaw 1979). These three different kinds of PIs are defined according to the kind of operators that can license them: weak NPIs (e.g. *any*, *ever*) can be licensed by any DE operator, while strong and superstrong NPIs have further constrains with respect to the operators that can license them. Strong NPIs (e.g. *in years,* punctual *until.*) are only licensed by a subset of DE operators, namely those that are anti-additive (e.g. *no, never, not*) (Zwarts 1996; van der Wouden 1997), and superstrong NPIs (e.g. *one bit*) by a subset of anti-additive operators, namely those that are anti-morphic (e.g. sentential negation).

Those PIs that repel negation, by contrast, have been referred to in the literature as positive polarity items (PPIs). PPIs (e.g. English *some*, (2), Catalan *força* 'much', (3), and Spanish *también* 'too', (4)) are incompatible with negation (as shown in the (a) examples) but, as is the case for weak NPIs, they can occur in questions and conditionals (the (b) examples).

(2) a I would (*not) like *some* coffee. (English)
    b Would you like *some* coffee?

(3) a La Laia (*no)   menja *força.* (Catalan)
       the Laia (*not) eats   much
       'Laia eats quite a lot.'
    b Si en Joan menja *força*, creixerà   molt.
       if the Joan eats   much grow.FUT.3SG much
       'If Joan eats a lot, he will grow up a lot.'

(4) a María (*no) viene   *también*. (Spanish)
       María (*not) comes too
       'María is coming too.'

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[2] For diachronic approaches to minimizers see, among others, Meillet (1912), Jespersen (1917), Croft (1991), Hoeksema (2002, 2009), Eckardt (2006), Mosegaard-Hansen (2013), Willis, Lucas and Breitbarth (2013), and Wallage (2016).

b ¿Viene María *también*?
     comes María too
     'Is María coming too?'

In light of the heterogeneous licensing requirements of different kinds of PIs, Giannakidou (1998) suggests (i) restricting the use of the label 'NPI' to PIs that are exclusively licensed by negation, and (ii) embracing (non)veridicality –of which DE is a subproperty– as the core property of PI-licensing operators. A PI, therefore, would be defined as in (5), with the different particular licensing conditions associated with different types of PI following from the various particular subproperties of (non)veridicality:

(5) A linguistic expression α is a PI iff:
    (i) The distribution of α is limited by sensitivity to some semantic property β of the context of appearance; *and*
    (ii) β is (non)veridicality, or a subproperty thereof: β ∈ {veridicality, nonveridicality, antiveridicality, modality, intensionality, extensionality, episodicity, downward entailingness}

                                                                    (Giannakidou 2001: 669)

Hoeksema (2012) suggests a classification for different types of PIs that combines the strong/weak divide in Zwarts (1981 and ff.) and van der Wouden (1994 and ff.) with Giannakidou's (1998 and ff.) approach to polarity and calls it 'the extended Zwarts' hierarchy'. As shown in Table 1, the model features a concentric four-level classification where each type of PI is licensed by an increasingly restrictive subset of operators. In the present chapter, I explore how maximizers and minimizers fit into this hierarchy. I reserve the use of the term 'NPI' for strong and superstrong PIs, while I use 'API' (Affective PI, cf. Klima 1964) for weak and superweak PIs.

<insert Table 1 here>

In addition, given that it has been suggested in the literature that PPIs (Baker 1970; Szabolsci 2004; Nilsen 2004; Ernst 2008) are anti-licensed in the contexts where APIs and NPIs are licensed, they can also be modeled into the typology in Table 1 by looking at their potential anti-licensors (see Table 2).[3] Last but not least, while APIs and NPIs are not licensed in veridical contexts, all PPIs are felicitous in them.

<insert Table 2 here>

Returning to minimizers and maximizers, let us point out that Israel (2001) observes that the former can be used to strengthen negation (i.e. they can be APIs, or NPIs, see Table 2), but it is also possible to find them in the form of emphatic PPIs. Similarly, he notes that some maximizers are PPIs, while others are NPIs. Establishing what type of PI minimizers and maximizers and exploring their particular (anti-)licensing requirements across languages is thus an interesting research avenue. In the remainder of the chapter, I consider how minimizers and maximizers in English (Section 3), and Catalan and Spanish (Section 4) fit into the classification given in Table 2, and relate them to other elements in the constellation

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[3] Notice that the parallelism that is being established requires that a type of superweak PPIs be hypothesized, too. This is not without problems, though: these PPIs actually lack anti-licensors, which questions the role of anti-licensing as the defining property of PPIs.

of polarity sensitive items such as negative quantifiers (English), and NCIs in Catalan and Spanish.

3. Maximizers and minimizers in English

In English, a maximizer such as *in weeks/months/years* can occur in negative sentences that contain the negative marker (i.e. an anti-morphic operator), (6a), and also an anti-additive operator such as *nobody*, (6b). They cannot occur in the scope of a non-veridical DE operator, though, (6c). According to the classification in Table 2, therefore, the maximizer *in weeks/months/years* is a strong NPI.

(6) a She has *(not) visited me *in weeks/months/years*.
   b Nobody has visited me *in weeks/months/years*.
   c *Few students have visited me *in weeks/months/years*.

     By contrast, other maximizers such as *for all the tea in China*, *in a dog's age* and *in donkey's years* are only licensed by an anti-morphic operator, hence being superstrong NPIs, (7).

(7)   a I would *(not) do it *for all the tea in China.*
    b *Nobody would do it *for all the tea in China.*

     Variants of these expressions (namely *all the tea in China* and *for donkey's years*), however, show a dramatically different distribution. They occur in veridical contexts, (8a), in non-veridical –but not DE– contexts (e.g. under the scope of a modal, 8b), but not in DE contexts (e.g. under the scope of *few*, 8c). They are thus superstrong PPIs.[4]

(8)   a I *(don't) love you *all the tea in China*.
    b You could give me *all the tea in China* and I still wouldn't live in a big city.
    c *Few people love you *all the tea in China*.

     Other maximizers such as *all the time in the world*, *an eternity*, *for ages*, or *go to great lengths* can occur under the scope of an anti-morphic operator, (9a) and (10a), an anti-additive operator, (9b) and (10b), a DE operator, (9c) and (10c), and a non-veridical operator, (9d) and (10d). As these expressions are also fine in a veridical context, (9e) and (10e), we conclude that they can be classified as superweak PPIs, the type of PPI we hypothesized in Table 2 when establishing a parallelism with APIs and NPIs. Interestingly, the Catalan and Spanish counterparts of these maximizers (see Section 4) show a similar behavior. Furthermore, as will be seen later in the section, no such type of PI is attested among minimizers.

(9)   a Hurry up! We don't have *all the time in the world*!
    b Nobody has *all the time in the world* to answer every email at once.
    c Few scholars have *all the time in the world* to carry out research.
    d If I had *all the time in the world*, I would read every single book in the British Library.
    e There's no need to rush. We have *all the time in the world*.

(10) a I don't *go to great lengths* to check my email when I am on holiday.

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[4] A similar situation has been reported for French *peu* (little) and *un peu* (a little). According to Ducrot (1973), the former behaves as an NPI, while the latter behaves as a PPI.

b Nobody *goes to great lengths* to get an old computer repaired nowadays.

c Few people *go to great lengths* to inform themselves about their consumer rights.

d Do you *go to great lengths* to avoid confrontation?

e She *went to great lengths* to hide her feelings.

Turning now to minimizers, some are clearly superstrong NPIs (e.g. *one bit*), as they are only compatible with contexts containing an anti-morphic operator, (11).

(11) a I wasn't *one bit* pleased with the results.

b Nobody is *one bit* pleased with the results.

c *Few students are *one bit* pleased with the results.

d *If she is *one bit* pleased with the results, she should say it.

Others such as *a word, have a clue, bat an eye, give a damn,* or *budge an inch,* are superweak APIs, as they are licensed by negation (both by anti-morphic and anti-additive operators, (12a, b)), by DE operators such as *few*, (12c), and in a variety of other non-veridical contexts such as questions (Ladusaw 1979; Haspelmath 1997; Giannakidou 1998, 2011), (12d), or conditionals (Haspelmath 1997; Giannakidou 1998, 2011), (12e).[5]

(12) a I didn't say *a word* about it.

b Nobody *had a clue* about what to do next.

c Few *batted an eye* when their freedom of speech was threatened.

d Who *gives a damn* about the new company policy?

e If John had *budged an inch*, there wouldn't have been a fight.

So far in this chapter, English minimizers have been characterized as APIs or as NPIs. Israel (2001), nonetheless, points out that some English minimizers such as *of one's own shadow* and *knock over with a feather* behave as PPIs. A closer examination of these items in

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[5] Expressions such as *lift a finger* and *sleep a wink* present an extra complication: the grammaticality judgments for these expressions under the scope of a DE operator such as *few* are contradictory. For example, for Giannakidou (1999), Eckardt (2008), Eckardt and Csipak (2013) these constructions are ungrammatical, while for Atlas (2001) they are just deviant. Van Eijck (1991), by contrast, considers them grammatical. If they are ungrammatical, then they constitute a problem for the typology in Table 2, as the model is concentric (i.e. if a PI is licensed in a given context of Table 2, then it is predicted that this PI will be licensed in the rest of contexts to the left). Hence the grammaticality of *lift a finger* and *sleep a wink* in non-veridical contexts predicts their grammaticality under the scope of *few*. It seems, though, that these expressions are in use (see the examples in (i), both from media material published in the UK). This is consistent with some other data such as (ii), which show that *lift a finger* is allowed in the scope of *at most*, also a DE operator (Pietarinen 2001).

(i) a Few lifted a finger to stop scab coal being brought in through the same ports to break the miners strike.

(http://www.eco-action.org/dod/no5/shoreham.htm)

b Then they brought in laws trying to curtail his/our right to protest outside Parliament and very few lifted a finger to do anything about that.

(https://www.independent.co.uk/voices/commentators/mark-wallinger-brian-haw-was-the-conscience-of-a-nation-grown-quiescent-2299924.html)

(ii) At most two people lifted a finger to help. (Pietarinen 2001: 240)

the light of the fine-grained classification laid out in Table 2 reveals that they should be considered weak PPIs. As shown in (13) and (14), these expressions are anti-licensed by anti-morphic, anti-additive, and DE operators, (13a-c) and (14a-c), but are fine in non-veridical contexts that are not DE, (13d) and (14d).

(13) a Godfrey is (*not) scared *of his own shadow*.   (Israel 2011: 96)
     b *Nobody is scared *of their own shadow*.
     c *Few people are scared *of their own shadow* these days.
     d Are you scared *of your own shadow*?

(14) a *She didn't *knock me over with a feather*.
     b *She never *knocked me over with a feather*.
     c *No bodybuilder *knocked me over with a feather*.
     d She could *knock me over with a feather*.

    The observations drawn from the English data on maximizers and minimizers presented above are summarized in Table 3. As can be seen, both classes of measure-denoting expressions contain items belonging to different types of PI described in Section 2.

<insert Table 3 here>

    Let us now zoom into the class of minimizers that can be licensed by negation (i.e. APIs and NPIs), as their syntactic behavior has one interesting particularity. As discussed in Tubau (2016), while API-minimizers clearly behave as PIs under the scope of sentential negation and under the scope of other non-veridical operators, they are ambiguous between a minimizer reading and a literal reading when negation is not sentential. Consider, for example, (15), which, in the absence of a context that disambiguates the intended reading, can receive the two interpretations in (16):

(15) Mary said *not a word*.

(16) a Mary said *nothing* at all.
     b Mary said *not a word* (but a full sentence).
                                        (Tubau 2016: 741, examples (9) and (10))

While the reading in (16a) corresponds to the interpretation of the minimizer *a word* as a strengthener of negation, *a word* is interpreted as an existential DP in (16b). Interestingly, as shown in (17), the negation in (16b) can be diagnosed as non-sentential.[6] That is, if Klima's (1964) tests are applied to (16b), a positive (reverse polarity) question tag is not possible, (17a), *neither*-clause continuation is not possible, (17b), *either*-licensing is not possible, (17c), and *not even*-continuation is not possible, either, (17d). If the tests are applied to a sentence such as (12a), opposite results emerge, (18a-d).

(17) a Mary said *not a word* (but a full sentence), didn't she? / *did she?
     b Mary said *not a word* (but a full sentence) and so did Jane / *and neither did Jane.

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[6] This kind of negation has been referred to in the literature as *metalinguistic negation* (Horn 1989) and it is generally assumed that it operates on a different level than descriptive negation. This might be the reason for (16b) failing to successfully go through Klima's tests for sentential (i.e. descriptive) negation.

c Mary said *not a word* (but a full sentence), too / *either.
d Mary said *not a word* (but a full sentence), *not even when asked to.

(18) a I didn't say *a word* about it, *didn't I? / did I?
 b I didn't say *a word* about it, *and so did Jane / and neither did Jane.
 c I didn't say *a word* about it, *too / either.
 d I didn't say *a word* about it, not even after she insulted me.

It seems, therefore, that sentential negation and the idiomatic reading of the minimizer go hand in hand, and that the minimizer in (15) behaves similarly to a negative quantifier (see chapter 24). The quantifier-like behavior of minimizers that are adjacent to negation (e.g. (15)) is further confirmed by a number of tests that have traditionally been used in the literature to examine the quantificational nature of polarity-sensitive items. According to Vallduví (1994), PIs fail tests (19a, b), and pass (19c), while this is the opposite for negative quantifiers.[7]

(19) a Ability to occur in isolation.
 b Grammaticality in pre-verbal position.
 c Ability to appear in *yes/no* and *if* contexts with a non-negative value.

> (adapted from Vallduví 1994: 270)

By applying the tests in (19) to English (superweak) API-minimizers such as *a soul*, *a word*, *lift a finger*, and *give a damn*, Tubau (2016: 746) shows that when negation is adjacent to the minimizing expression, this successfully goes through tests (19a, b), but fails (19c), thus aligning with negative quantifiers (e.g. *nobody*, *nothing*) and not with PIs (e.g. *anybody*, *anything*). This is also the case for the (superstrong) NPI-minimizer *one bit*. By contrast, if sentential negation is not adjacent to the minimizer, the result is the reverse. This can be seen in examples (20)-(22).

(20) Ability to occur in isolation
 Q: Who came to the party?
 a A: *Not a soul*. /*A soul*.
 b A: *Nobody*. / *Anybody*.

(21) Grammaticality in pre-verbal position
 a *(*Not*) *a soul* was waiting for John outside.
 b *Nobody* /*Anybody* was waiting for John outside.

(22) Ability to appear in *yes/no* questions and *if* contexts with a nonnegative value
 a Did she lift (**not*) *a finger* to help you?
 a' If you give (**not*) *a damn*, call her tonight.
 b Did *nobody* / *anybody* help you?[8]
 b' If you see *nobody* / *anybody* waiting for me, tell them I am late.

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[7] Vallduví (1994) also includes the ability to be modified by *almost* and *absolutely*. I have excluded it because there is some debate about what exactly it tests (cf. Giannakidou 2001; Horn 2005).
[8] This question is felicitous with *nobody* if the speaker intends to inquire about the truth of the proposition *nobody help you* (i.e. is it true that nobody helped you?), but *nobody* does not have a non-negative value.

Given that minimizers have been claimed to be associated with the Focus particle *even* (Linebarger 1980, Heim 1984, Horn 1989, Giannakidou 2007, Kuno 2008), which can be overt or covert, Tubau (2016: 753) assumes the structure of minimizers to be the one in (23).[9]

(23) [$_{FocP}$ *even* [Foc] [$_{NumP}$ [$_{Num}$ *a/one*] [$_{NP}$ *word*]]]

As focused constituents can undergo Quantifier Raising (QR) (Rooth 1985), merging Negation to the minimizer (a Focus Phrase) allows the resulting NegP to QR to a left-peripheral position with wide scope (cf. Zeijlstra 2011), thus explaining the parallels between minimizers with adjacent negation and negative quantifiers presented in (20)-(22).[10] In the absence of negation, minimizers –with the syntax in (23)– can be licensed in questions and conditionals, with the particle *even* supplying the emphatic meaning that is typical from minimizing expressions. Further research should determine whether minimizers also show similar parallels with negative quantifiers in those languages that have them.

4. Maximizers and minimizers in Catalan and Spanish

In Catalan and Spanish, as was the case for English, maximizers can be classified as different types of PIs. For example, Catalan *tot el temps del món* 'all the time in the world' and its Spanish counterpart *todo el tiempo del mundo* qualify as superweak PPIs, as they can be licensed by anti-morphic, anti-additive and DE operators, (24b-d), as well as other non-veridical operators, (24e). As was the case with certain English maximizers (cf. (9) and (10)), the aforementioned expressions are also fine in a veridical context, (24a).

(24) a Està jubilada i   té *tot el   temps del   món.*   (Catalan)
    is   retired and has all the time of.the world
    'She is retired and has all the time in the world.'
  b Va,   que no tinc   *tot el   temps del   món*!
   come on that not have.1.SG all the time of.the world
   'Come on, I don't have all the time in the world!'
  c Nadie   tiene *todo el   tiempo del   mundo* para arreglar sus   asuntos.   (Spanish)
   nobody has   all   the time of.the world to   fix   their problems
   'Nobody has all the time in the world to fix their problems.'
                    (https://espaciohumano.com/la-motivacion-el-motor-del-cambio/)
  d Poca gente   tiene *todo el   tiempo del   mundo* para escribir una tesis.
   Few people has   all   the time of.the world to   write   a   thesis
   'Few people has all the time in the world to write a thesis.'
  e Si tuviera *todo el   tiempo del   mundo*, aprendería   una lengua   tras otra.
   If had.1SG all   the time of.the world   would.learn.1SG one language after other
   'If I had all the time in the world, I would learn one language after another.'

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[9] As noted in Suleymanova and Hoeksema (2017: 182), it is frequent to find the equivalent word for 'even' in minimizers across languages. This is *ook maar* in Dutch, and *auch nur* in German (Hoeksema and Rullmann 2001), *bhii* in Hindi (Vasishth 1998), *sem* in Hungarian (Surányi 2006), *-to* in Korean (Lee 1999), *ere* in Basque (Etxepare 2003).
[10] See Haspelmath (1997) for examples of indefinites formed with negative focus particles in different languages.

Catalan *trigar la vida* / Spanish *tardar la vida (y media)* lit. last the life (and a half) 'last forever', Catalan *una eternitat* / Spanish *una eternidad* 'an eternity', Spanish *cantidad* lit. quantity 'a lot', and Spanish *pasarse tres pueblos* lit. pass three towns 'pass the limit' are superstrong PPIs: they are anti-licensed in anti-morphic, anti-additive, and DE contexts, but are fine in non-veridical and veridical contexts, (25) and (26).

(25) a (*No) *trigaré   la vida* a acabar això!   (Catalan)
      not last.FUT.1SG the life in finish this
     'It will take me forever to finish this!'
   b *Nadie   *tarda la vida* en acabar un ejercicio.   (Spanish)
     nobody lasts the life in finish an exercise
   c *Pocs *triguen la vida* a acabar l'examen.   (Catalan)
     few last.3.PL the life in finish the.exam
   d Si *tardan la vida y   media* en entregar el paquete, no pagues.   (Spanish)
     if last.3.PL the life and half in deliver the parcel not pay.SUBJ.2.SG
     'If it takes them ages to deliver the parcel, don't pay.'

(26) a (*No) se ha *pasado tres pueblos* con él, pobre.   (Spanish)
      not SE has passed three towns with him poor
    'S/he has been too harsh on him, the poor guy.'
   b *Nadie se   ha *pasado tres pueblos* contigo.
     nobody REFL has passed three towns with.you
   c *Poca gente se   ha *pasado tres pueblos* contigo.
     few people REFL has passed three towns with.you
   d ¿Se   han *pasado tres pueblos* contigo?
     REFL have passed three towns with.you
     'Have they been too harsh on you?'

Spanish *en días/meses/años/siglos* lit. in days/months/years/centuries 'in days/months/years' is a good example of a strong NPI. It is licensed by negation (both anti-morphic and anti-additive), but not by DE or non-veridical operators.

(27) a *(No) la he   visto *en días /meses /años /siglos*.   (Spanish)
      not her have.1.SG seen in days months years centuries
    'I have *(not) seen her in days/months/years.'
   b Nadie la ha visto *en días /meses /años /siglos*.
    nobody her has seen in days months years centuries
    'Nobody has seen her in days/months/years.'
   c *Poca gente la ha visto *en días/ meses /años /siglos*.
     few people her has seen in days months years centuries
   d *Si la has   visto *en días/ meses / años /siglos*,   llámame.
     if her have.2.SG seen in days months years centuries call.me

Finally maximizers headed by the particle *ni* 'not even' exist both in Catalan and in Spanish (e.g Catalan *(ni) *per tot l'or del món* / Spanish *(ni) *por todo el oro del mundo* lit. not even for all the gold of the world; Spanish *(ni) *por lo más sagrado* lit. not even for the most sacred). These expressions –obligatorily headed by the particle *ni*– can only be licensed by an anti-morphic operator, thus corresponding to superstrong NPIs in our classification.

(28) a *(No) vindria   *ni   per tot l'or   del   món*.   (Catalan)

not would.come not.even for all the.gold of.the world
'I wouldn't come for all the tea in China.'
b *Nadie lo haria *ni* *por todo el oro del mundo.* (Spanish)
nobody it would.do not.even for all the gold of.the world
c *Ho faries *ni* *per tot l'or del món*? (Catalan)
it would.do.2SG not.even for all the.gold of.the world

Turning now to Catalan and Spanish minimizers, these have been studied in depth by Vallduví (1994). As shown in (29) and (30) while Catalan minimizers are necessarily headed by *ni* 'not even', the particle is optional in Spanish minimizers.[11]

(29) a No se sentia *(ni) una mosca.* (Catalan)
not IMPERS.PASS hear.IMPERF.3SG not a fly
'One couldn't hear the slightest sound.'
b No passava *(ni) un bri d'aire.*
not pass.IMPERF.3SG not a bit of.air
'There wasn't a breath of air coming through.'
c No em mouré *(ni) un pam.*
not UNACC-self move.FUT.1SG not a palm
'I won't move an inch.'
(adapted from Vallduví 1994: 269, examples (10), (11), and (14))

(30) a No queda *(ni) (una) gota de vino.* (Spanish)
not remains not a drop of wine
'There isn't a drop of wine left.'
b No tiene *(ni) (una) pizca de gracia.*
not has not a pinch of grace
'It isn't a bit funny.'
c No le toqué *(ni) un pelo.*
not IO touch.PAST.1SG not a hair
'I didn't touch him/her at all.'
(adapted from Vallduví 1994: 270, examples (15), (16), (18))

Furthermore, *ni*-minimizers (and *ni*-maximizers) behave like NCIs. NCIs are typical of Negative Concord languages and, unlike PIs, they can occur in isolation as fragment answers to questions, (31A'), and in preverbal position, (32b, d).

(31) a Q: ¿Quién vino a la reunión? (Spanish)
who came to the meeting
'Who attended the meeting?'
A: *(Ni) *un alma.* (minimizer)
not.even a soul
'*(Not) a soul'
A': *Nadie.* (NCI)
n-body[12]

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[11] As already mentioned in Vallduví (1994: 269, fn. 5), in some Catalan dialects the particle *ni* can be dropped (supposedly as a result of language contact with Spanish), with minimizers then displaying the distribution described for their Spanish counterparts.

'Nobody.'
b Q: Què has   dit?   (Catalan)
    what have.2SG said
    'What did you say?'
  A: (*Ni)   una paraula.   (minimizer)
      not.even a   word
    'Not a word.'
  A': Res.   (NCI)
    n-thing
    'Nothing.'

(32) a *(Ni) una mosca se   oía.   (minimizer)   (Spanish)
      not a   fly   IMPERS.PASS.hear
    'Not the slightest sound could be heard.'
  b Nadie   se   oía.   (NCI)
    n-body   IMPERS.PASS.hear
    'Nobody could be heard.'
  c Ni un cèntim (no) ha costat.   (minimizer)   (Catalan)
    not a   cent   (not) has cost
    'It didn't cost a red cent.'
  d Res   (no) ha costat.   (NCI)
    n-thing (not) has cost
    'It cost nothing.'

In Spanish, where NCIs cannot generally occur in non-negative contexts, *ni*-minimizers are expectedly not felicitous in these contexts, but their *ni*-less counterparts are allowed, (33). In Catalan, by contrast, NCIs can occur in non-negative contexts, but *ni*-minimizers cannot, (34). Recall that the particle *ni* is optional with Spanish minimizers, but obligatory with Catalan minimizers.

(33) a ¿Acaso   dijiste   (*ni) palabra cuando debías?   (Spanish)
      perchance say.PAST.2SG not word   when   must.IMPERF.2SG
    'Did you say a word when you should have?'
  b Si dice (*ni) una palabra, avísame.
    if says not a   word   warn.IMP.me
    'If he says a word, let me know.'
                                        (adapted from Vallduví 1994: 279, example (46))

(34) *Que mouries   ni un dit,   per ell?   (Catalan)
    Q   move.COND.2G not a   finger for him
    'Would you lift a finger for him?'
                                        (adapted from Vallduví 1994: 275, example (33))

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[12] *Nadie* and *res* have been glossed as 'n-body' and 'n-thing' in (32) because NCIs display an ambiguous behavior. When they are under the scope of negation (or other non-veridical operators in Catalan), they seem to be PIs, but when they occur pre-verbally or as fragment answers, they align with negative quantifiers. This behavior is typical of Romance NCIs (see chapter 26).

The facts in (33) and (34), which were already noticed by Vallduví (1994), can be straightforwardly accounted for by adopting an analysis of NCIs that assumes them to be PIs with a special syntactic requirement, namely that of carrying a syntactic polarity feature that has to engage in an Agree chain with a licensing operator.[13] Let us assume that NCIs are, unlike other kinds of PIs, specified with an uninterpretable polarity feature that needs to be checked by some particular polar operator. For Catalan NCIs, which can occur in negative contexts but also in non-negative ones, let us hypothesize that such feature enters the derivation unvalued, (i.e. as [uPol:]), and needs to be valued (and hence checked) by some polar operator (but not necessarily a negative one). For Spanish NCIs, by contrast, the feature would enter the derivation already valued (i.e. as [uPol:neg]), and would thus probe for a negative operator to do the checking. When occurring in isolation as fragment answers, or in preverbal position, the presence of an unchecked polarity feature would trigger the insertion of a Last Resort abstract operator (cf. Zeijlstra 2004; Espinal and Tubau 2016) to license the NCI.

If this analysis is extended to Catalan and Spanish minimizers (and maximizers headed by *ni*), the particle *ni* can be claimed to encode a [uPol:neg] feature. Given that Catalan minimizers are obligatorily headed by *ni*, they are assumed to always be specified as [uPol:neg], thus being excluded from non-negative contexts such as (34). The same happens with Spanish minimizers, which, as shown in (33), cannot occur in non-negative contexts when headed by *ni*, but are fine in them when *ni* is absent. Furthermore, the presence of [uPol:neg] in *ni* allows minimizers to occur in fragment answers and in preverbal position, as it triggers a licensing Last Resort abstract negative operator.

Suleymanova and Hoeksema (2017) report some Azerbaijani data that are reminiscent of what I have just discussed for the particle *ni*. In Azerbaijani, a minimizer headed by the particle *heç* requires to be licensed by clause-mate negation and patterns with *nobody* (while minimizers without *heç* are claimed to pattern with *anybody/somebody*).[14] Further research should tell us whether minimizers (and maximizers) in other languages are also associated to specific particles, and whether these relate to negation in ways that are similar to the ones described for Spanish and Catalan.

To sum up, as shown in Table 4, Catalan and Spanish maximizers correspond to different types and subtypes of PIs. By contrast, minimizers without *ni* are superweak APIs, while minimizers and maximizers with *ni* are superstrong NPIs and, like NCIs, can occur as fragment answers and in pre-verbal position in the absence of an overt licensor.

<insert Table 4 here>

5. A brief note on vulgar minimizers in English, Catalan, and Spanish

Vulgar minimizers (referred to as a class by Postal (2004) under the label 'SQUAT'), (35), have been discussed in McCloskey (1993), Horn (2001), Postal (2004), and, more recently,

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[13] Espinal and Tubau (2016) propose that NCIs are PIs that associate with a [uNeg] feature (Zeiljstra 2004) in a process of word syntax. Being PIs, NCIs can occur in non-veridical contexts, while the association with the [uNeg] feature makes them negation-dependent, and also able to occur in isolation as fragment answers, and in preverbal position. An unchecked [uNeg] feature (e.g. in NCIs in fragment answers or in preverbal position) triggers the insertion of a Last Resort abstract negative operator.

[14] Suleymanova and Hoeksema (2017) analyze *heç* as an inherently negative particle that concords with the verb, which carries a negative suffix.

De Clercq (2011) for English, but similar examples exist in Catalan and Spanish, (36) and (37).

(35) SQUAT = squat, fuck-all, beans, crap, dick, diddley, diddley-poo, diddley-squat, jack, jack-shit, jack-squat, piss-all, poo, shit, shit-all, sod-all, bugger-all, naff-all, crap-all
(De Clercq 2011: 14, example (2))

(36) Catalan: *una merda* 'a shit', *un carall* 'a penis', *un colló* 'a testicle', *un cagarro* 'a turd'

(37) Spanish: *una mierda* 'a shit', *un carajo* 'a penis', *tres cojones* 'three testicles', *un mojón* 'a turd'

Vulgar minimizers in English can occur both in negative and affirmative sentences, (38a), as well as in questions, (38b), and in fragment answers. This is also the case in Catalan and Spanish, (39).[15]

(38) a I (*don't*) know *squat* about physics. (English)
    b Does he know *squat* about physics?
    c Speaker A: What does she know about physics?
       Speaker B: *Squat*.

(39) a (*No*) m'importa   *una merda*. (Catalan)[16]
      not to.me.matters a   shit
      'I don't give a shit.'
    b T'   importa *una merda* aquest tema?
      to.you matters a   shit   this   topic
      'Do you give a shit about this topic?'
    c Speaker A: Què has   entès   de la xerrada?
               what have.2.SG understood of the talk
               'How much of the talk have you understood?'
      Speaker B: *Una merda*.
               a   shit
               'Squat'

As shown in (40), English vulgar minimizers do not express sentential negation (as diagnosed by Klima's (1964) classical tests) in the absence of the negative marker. This is also the case for Spanish (and Catalan), (41).

(40) a She knows *squat* about the topic, *does she? / doesn't she?

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[15] With some predicates (e.g. *entendre* (Cat.) / *entender* (Sp.), vulgar minimizers require licensing by negation in declaratives, (i), but then can occur in non-negative contexts, (ii), and in fragment answers, (39c). See also fn. 17.
(i) *(*No*) entiendo {*un carajo / una mierda*} del   tema. (Spanish)
     not see.1SG a penis   a   shit   of.the topic
     'I don't understand squat about what you say.'
(ii) ¿Has   entendido {*un carajo / una mierda*} del   tema?
     have.2.SG understood a penis   a   shit   of.the topic
      'Have you understood squat about the topic?'
[16] Similar data are attested in Spanish.

b She knows *squat* about the topic, and *neither does John / so does John.

(41) Me   importa *una mierda*, y   a   Juan le   importa *una mierda* *tampoco / también.
      to.me matters a   shit   and to Juan to.him matters a   shit   either   too
      'I care squat, and John cares squat *either / too.'

     Postal (2004), inspired by Déprez's (1997) work, claims that the structure of vulgar minimizers involves an incorporated cardinal numeral zero, as in (42).

(42) [$_{DP}$ [$_D$ zero] + [$_N$ squat]]

This would explain why vulgar minimizers can occur both in negative and non-negative contexts, but are not diagnosed as conveying sentential negation in (40) and (41). Yet, the optionality of negation in (38a) and (39a) leads us to entertain the possibility that lexical ambiguity exists among vulgar minimizers (cf. Herburger 2001 for lexical ambiguity in NCIs), so that they can be superweak APIs with the licensing conditions established in Table 2, but also lexical items with the structure in (42).[17] A more accurate substantiation of this claim, nonetheless, is left as further research.

6. Summary and conclusions

In this chapter I have explored the nature of maximizers and minimizers in English, Catalan, and Spanish and have shown that in spite of not forming a homogenous class, they display properties of different types and subtypes of PI. I have argued that they can be classified according to their potential (anti-)licensors using a concentric model of polarity that combines DE and non-veridicality as the relevant (anti-)licensing conditions.

     I have also investigated the connections of minimizers with other items in the polarity landscape such as negative quantifiers and NCIs. For English, it has been observed that API- and NPI-minimizers behave as canonical PIs under the scope of negation and other non-veridical operators, but as negative quantifiers when the minimizer is adjacent to negation. As it has been argued in the literature that minimizers contain a Focus head in their structure that accounts for their emphatic nature, it has been suggested that they can undergo QR when adjacent to negation to take sentential scope. Further research should determine whether the parallelism between English minimizers and negative quantifiers is also observed in languages.

     Spanish and Catalan minimizers, by contrast, have been shown to align with NCIs when headed by the particle *ni*, which is optional in Spanish, but obligatory in Catalan. Like NCIs, *ni*-minimizers and maximizers can occur in isolation and in preverbal position, and cannot be used in questions and conditionals with a non-negative meaning. I have argued that *ni* carries a syntactic feature [*u*Pol:neg] that makes minimizers and maximizers negation-dependent (i.e. superstrong NPIs), and is responsible for triggering a Last Resort abstract negative operator that allows them to occur in fragment answers and pre-verbally.

     The distribution of vulgar minimizers has also been briefly addressed. In the three languages under study, vulgar minimizers can optionally be licensed by negation, as well as by other non-veridical operators, and can occur in fragment answers. I have attributed the

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[17] If the lexical ambiguity analysis of vulgar minimizers is on the right track, the Spanish data in fn. 15 can be related to certain predicates always selecting the API lexical entry for vulgar minimizers rather than the zero-incorporated lexical entry. Why certain predicates should have certain preferences for one entry or another is an open research question.

optionality of negation to the idea that vulgar minimizers are lexically ambiguous between DPs with an incorporated zero numeral (Postal 2004), and canonical superweak APIs. While the zero-incorporated structure approach to vulgar minimizers is compatible with these expressions not needing licensing by negation, and with their contributing of negative meaning despite negation being diagnosed as non-sentential, the fact that they can also be licensed by negation seems to require their treatment as PIs, as well.

All in all, this chapter has tried to show that minimizers and maximizers fit well into the class of PIs if this is assumed to be broad enough so as to allow for a number of distinct types and subtypes. In this chapter, types of PI have been established on the basis of what elements can act as potential (anti-)licensors. In addition, I have also argued that it is possible to establish interesting connections between minimizers (and *ni*-headed maximizers) to other kinds of polarity-related lexical items. This should lead us to a better understanding of the different items that form the complex constellation of polarity sensitive elements.

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