

Pragmatic, syntactic and phonological evidence in favor of the grammaticalization of Northern Catalan negative *poc/poca*

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This paper focuses on the current synchronic interspeaker variation of the Northern Catalan negative expression *poc* (and its allomorph *poca*), which is examined from a prosodic, pragmatic and syntactic standpoint. Firstly, it offers a general description of the diachronic evolution of the quantitative adverb *poc* ‘little’ and its first grammaticalization towards a negative emphatic polarity particle. Secondly, it points to the prosodic, pragmatic and syntactic behavior of *poc*. NEG in Modern Catalan and sets the differences between the two main values of this negator within the community of speakers that use it: (i) a prosodically non-neutral pragmatic activator *POC.NEG*, and (ii) a prosodically neutral pragmatically unmarked negator *poc.NEG* (generally used in Girona and Figueres). These differences are taken as evidence in favor of a current reanalysis and/or grammaticalization process of *poc/poca* (*poc.NEG*), in the latter speech variety, which involves its use as a negative head. Therefore, we put forward that in this variety *poc.NEG* has undergone a ‘specifier to head’ grammaticalization within PolP (thus, being an instance of van Gelderen’s negative cycle). Last but not least, our argument is crucially supported by a phonetic test on intonation that proves, without a shred of doubt, that *poc.NEG* and *no* ‘not’ pattern alike from a prosodic viewpoint, whereas the intonation contours concerning *pla* (a Northern Catalan negative emphatic polarity particle) clearly diverge in the same contexts. Taking into account the general understanding on the grammaticalization process itself (mostly concerning the intervention of semantic bleaching, pragmatic unmarking, prosodic or intonational unmarkedness and syntactic reanalysis), we conclude that the loss of pragmatic activation and the use of *poc.NEG* in non-emphatic contexts can be taken as proofs of the grammaticalization of *poc.NEG* into a PolP head.*

KEYWORDS: Catalan syntax, negative *poc/a*, grammaticalization.

1. Introduction

This paper focuses on the analysis of Catalan *poc.NEG* and its allomorph *poca* – cf. Mascaró (1985: 77, fn. 21) and Rossich (1996). Syntactically, it argues in favor of the current process of grammaticaliza-

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tion undergone by *poc/poca* (henceforth: *poc.NEG*) and hypothesizes that in some areas it has been reanalyzed as a head along the lines of van Gelderen (2004, 2008a, 2008b, 2009, and 2011). Crucially, our hypothesis is supported by two main additional arguments: pragmatic unmarking (Wallage 2015), on the one hand, and prosodic unmarkedness, on the other. The latter is verified by the results of a phonetic test on intonation that points out to a clear intonational difference between *poc.NEG* and other Catalan emphatic polarity particles, such as *pla*.

1.1. Syntactic and pragmatic bases

As shown in Batllori & Hernanz (2013)¹, in the northern region of Catalonia, *poc/poca* (*poc.NEG* < PAUCU ‘little’, Latin quantitative adverb) is used by some speakers as a negative emphatic polarity particle, see (1a). However, this negative particle coexists with its homophonous counterpart *poc* ‘little’ (henceforth: *poc.Q*), which displays a quantitative value, see (1b). As the following examples illustrate, they can be easily set apart by their syntactic behavior. In fact, the interpretive differences between (1a) and (1b) correlate with the position of *poc*.

- (1) a. [NEGATIVE EMPHATIC POLARITY PARTICLE]
En Pere poc ho ha fet, d'estudiar
the Peter *poc.NEG* ACC.N.3SG have.3SG do.PTCP.SG of-study.INF
per a l'examen.
for to the-exam
‘Peter didn’t do it. Peter did not study for the exam’.
- b. [QUANTITATIVE ADVERB]
En Pere ho ha fet poc,
the Peter ACC.N.3SG have.3SG do.PTCP.SG *poc.Q*
d'estudiar per a l'examen.
of-study.INF for to the-exam
‘Peter did it little. Little did Peter study for the exam’.

In general, it could be said that in the Modern Catalan dialect spoken in Pla de l’Estany – cf. Rigau (2004) – and the area of Ripollès, *poc (que)* ‘*POC.NEG* (that)’ triggers pragmatic activation and is still an emphatic polarity particle, whereas in the microvariety of the regions of Gironès and Empordà there seems to be a grammaticalization change in progress, since it can be used discourse initially with no need to be discourse linked and pragmatically activated. Thus, concerning non-quantitative *poc*, in (1a), there is microvariation with respect to the negative value that it conveys. That is, currently there are two different grammars that lead to the two different semantic and pragmatic values described below.

GRAMMAR 1 (Pla de l'Estany and Ripollès): Speakers use *poc*.NEG (*que*) as a counterpresuppositional emphatic polarity particle that involves pragmatic activation (Dryer 1996) – see (2a) and (2b).

- (2) a. A: *On és en Joan?*
 wherebe.3SG the John
 'where is John?'.
 B: *Poc (que) ho sé*
 POC.NEG that ACC.N.3SG know.1SG
 'I don't know it'.
 A: *Ja ha arribat en Pere?*
 yet have.3SG arrive.PTCP.SG the Peter
 'Has Peter arrived yet?'.
 B: *No, poc (que) ha arribat*
 no POC.NEG that have.3SG arrive.PTCP.SG
 'No, he hasn't'.

Notice that in (2a) the first speaker's expectation is that B knows where John is, and in (2b) speaker A presupposes that Peter is at home, which means that both examples are discourse linked and imply a metalinguistic negation with pragmatic activation (that is the activated proposition is related to the preceding discourse and may confirm or refute the earlier proposition) – see Batllori & Hernanz (2013) for the analysis of this counterpresuppositional negative emphatic polarity particle value.

GRAMMAR 2 (Gironès and Empordà, particularly Girona and Figueres): *poc/a*.NEG is used as a plain pragmatically unmarked negative marker without presuppositional value, see (2c) and (2d):

- (2) c. *Avui poca hi aniré al teatre;*
 today poc.NEG LOC go.FUT.1SG to_the theatre
estic molt cansada
 be.1SG very tired
 'Today I will not go to the theatre. I am very tired'.
 [= *Avui no hi aniré al teatre;*
 today NEG LOC go.FUT.1SG to_the theatre
estic molt cansada]
 be.1SG very tired
- d. A: *Què faràs aquesta tarda?*
 what do.FUT.2SG this afternoon
 'What are you going to do this afternoon?'.
 B: *Poc ho sé què faré*
 poc.NEG ACC.N.3SG know.1SG what do.FUT.1SG
 [= *No ho sé què faré*]
 NEG ACC.N.3SG know.1SG what do.FUT.1SG
 'I don't know what I am going to do'.

As illustrated in the examples above, in the Modern Catalan variety of Girona and Figueres (2c) and (2d) can be uttered unexpectedly in discourse-new propositions. Hence, we put forward that in this variety *poc/poca.NEG* is used as a negative head that has undergone a ‘specifier to head’ grammaticalization within PolP, in terms of van Gelderen (2004, 2008a, 2008b, 2009, and 2011).

As for the claim that the grammaticalization process takes place within PolP, the examples in (3) show that *sí* ‘yes’ and *poc/poca.NEG* (in contrast with *no* ‘not’) cannot be ascribed to NegP, because they cannot occur below the connective *de*, which is generally taken as the head of FinP – compare (3a) with (3b) and (3c). Accordingly, they must be attributed to the left peripheral polarity domain (i.e., PolP) and hence *poc* must be treated as a peripheral negation.²

- (3) a. *El simple fet [FINP de [NegP no [VP poder caminar]]]*
 the simple fact of NEG be_able.INF walk.INF
 ‘The simple fact of being incapable of walking’.
- b. **El simple fet de sí poder caminar*
 the simple fact of yes be_able.INF walk.INF
- c. **El simple fet de poca poder caminar*
 the simple fact of poc.NEG be_able.INF walk.INF

Our hypothesis gains further support from two main facts: (i) the loss of pragmatic activation (i.e. pragmatic unmarking), which according to Wallage (2015: 226) is “a consequence of grammaticalization rather than a factor in the grammaticalization process itself”, and (ii) the use of *poc/poca.NEG* in non-emphatic contexts in speakers that grammaticalize it (which clearly diverges from that of the negative emphatic polarity particle *pla*). In particular, the negative emphatic polarity particle *pla* shows a similar behavior with *poc/poca.NEG* concerning the possibility of licensing negative polarity items – see (4a) and (4b), but it displays a different behavior in the following relevant aspects:³ it conveys a presuppositional value (i.e. pragmatic activation); and it is emphatic in nature and, accordingly, never equivalent to the unmarked negative marker *no* ‘not’, see (4c).

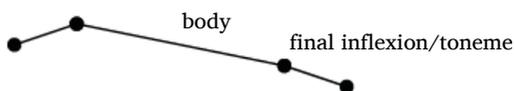
- (4) a. *La Maria poc ha dit mai això.*
 the Mary poc.NEG have.3SG say.PTCP.SG never this
 ‘Mary has never said this’.
- b. *La Maria pla ha dit mai això.*
 the Mary PLA.NEG have.3SG say.PTCP.SG never this
 ‘Mary has NEVER said this’.

- c. A: *Tinc por que en Joan li ho digui tot.*
 have.1SG fright that the John DAT.3SG ACC.N.3SG say.PRS.SBJV.3SG all
 'I am afraid John will tell it all to him'.
 B: *En Joan pla dirà res. [≠ En Joan no dirà res]*
 the John PLA.NEG say.FUT.3SG anything the John NEG say.FUT.3SG anything
 'John WON'T tell anything'.

1.2. Phonological bases

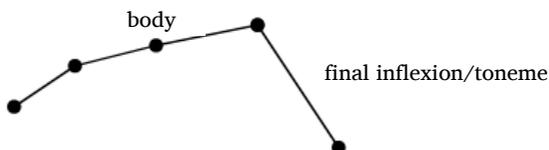
From a phonological standpoint, we also show that in the area under study (i.e. Girona and Figueres) *poc/poca.NEG* behaves as a conventional negative marker, such as *no* 'not'. As known, negation sequences are comparable to declarative intonation patterns. In Catalan, the structure of the typical declarative melodic pattern displays a descending body and final inflexion (cf. Martínez Celdrán 1994, Prieto 1999, Font Rotchés 2007). Accordingly, a non-emphatic negative statement would accommodate to (5):

(5)



If *poc/poca.NEG* were emphatic, in (2c), for example, it would exhibit a different pattern from that in (5). As illustrated in (6), the body and the final inflexion of the curve would be ascending, instead of being a descending, and the final toneme would show an abrupt descending shape (cf. Font Rotchés 2007: 118). It is worth considering that emphatic patterns should display a rising curve the peak of which must correspond to the focused element: according to Prieto (2005, 2014), the emphasized syllable should present a $L + H^*$ pitch accent, while in neutral declaratives, the most common prenuclear pitch accents, should be $L + > H^* -$ see §3.

(6)



To carry out the phonetic test on intonation we recorded 12 speakers who were asked to produce 6 utterances containing negative sequences with *poc/a.NEG* in non-emphatic contexts and 6 more with the negative particle *no* ‘not’. Besides, they were asked to produce 5 utterances with the emphatic negative particle *pla*. Hence, we could contrast their intonational features with those of the statements with *poc/a.NEG*. The melodic curves obtained provide us with evidence to pose that *poc/a.NEG* is becoming a polarity head.⁴

2. Pragmatic and syntax of *poc*

In this section, we are going to show that the whole evolution of *poc/poca.NEG* can be accounted for in terms of van Gelderen’s *Negative Cycle* and this is particularly interesting because the consecutive processes undergone by *poc.Q* from being a quantitative adverb (in Latin and Old Catalan) up to the current two grammars of polar *POC.NEG* / *poc.NEG* outlined in section 2.1 illustrate the two negative cycles described by this author.

- (i) On the one hand, in Northern Old Catalan dialects there was a first grammaticalization process that gave as a result the loss of movement from an internal VP position to the PolP position in the left periphery of the sentence (i.e. a first step), which can be captured by van Gelderen’s Late Merge. It is worth taking into account that this loss of movement brought about a semantic bleaching that implied the loss of the quantitative meaning of *poc.Q* to become a negative emphatic polarity particle; that is *POC.NEG* (*que*) – see Batllori & Hernanz (2013).
- (ii) On the other hand, there is a second grammaticalization process or a second step, currently in progress in the variety we are studying, that constitutes a change from Spec to Head (i.e. Head Preference Principle in terms of van Gelderen). This brought about a change in the varieties of Girona and Figueres from a negative emphatic polarity particle (with pragmatic activation) to a peripheral unmarked negative marker (without pragmatic activation); that is *poc/poca.NEG*.

To sum up, current Catalan has two types of *poc*: a quantitative adverb *poc.Q* associated with the predication (VP internal) and a polar marker *poc* (left-peripheral PolP). Besides, this second *poc* displays microvariation and thus can act either as a negative emphatic polarity particle *POC.NEG* (*that*) (in Pla de l’Estany and Ripollès) or as a plain negative marker without emphasis *poc.NEG* (in Girona and Figueres).

2.1. Diachronic evolution of the quantitative adverb *poc.Q*. First step: the grammaticalization towards a Negative Emphatic Polarity Particle.

As shown in Batllori & Hernanz (2008, 2009, and 2013), nowadays *poc* displays a negative meaning and contrasts with the quantitative value which is still retained by its homophone *poc* ‘little’ – see (1). The development of this value is fully documented in Old Catalan texts and originates in quantificational emphatic uses of the quantitative adverb – see (7).

- (7) *e pensà-se que poc li profitaria.*
 and think.PRF.3SG = REFL that poc.Q DAT.3SG benefit.COND.3SG
la sua probretat volenterossa
 the his poverty voluntary
 ‘and thought that his voluntary poverty would serve him little (if the richest of the world were rewarded by Saint Gregory)’.
 [CICA: *Vides de Sants Rosselloneses*. Second half of the 13th century. Pàg. 301]

Following the syntactic structure posed by Rizzi (1997) and Haegeman (2000: 49),⁵ among others, we can argue that in 13th century Old Catalan texts the quantificational behavior of the quantitative adverb *poc.Q* allows it to undergo leftward movement towards FocusP whenever it bears emphasis. This brings about subject verb inversion as exemplified in (7), where the verb *profitaria* ‘benefit’ precedes the subject *la sua probretat volenterossa* ‘his voluntary poverty’.

Later on, at the beginning of the 19th century, though, we find examples in which *poc* has lost its quantitative meaning and only expresses a negative emphatic value; that is *POC.NEG* – see (8).⁶

- (8) *Los manestrals poch tenian feyna,*
 the artisans POC.NEG have.IPFV.3PL work,
molts dias se morian gent de miseria
 many days REFL die.IPFV.3PL people of scarcity
 ‘The artisans did not have work, and people often died of want’.
 [DVGB sub voce *Poc: Cròn. Guerra Indep. Penedès*]

As explained in Batllori & Hernanz (2008, 2009, and 2013), the grammaticalization undergone by the quantitative adverb is an upward reanalysis, in Roberts & Roussou’s (2003) terms, and involves loss of movement, on the one hand, and merging *poc* into PolP, on the other, which provides this item with its negative value. From this base position *poc* is moved forward to FocusP so as to check the emphatic feature it conveys – see the derivation in (9).

- (9) [_{FORCEP}... [_{TOPICP} los manestrals [_{FOCUSP} poc_i ... [_{POLP} t_i [_{TP} tenian feyna]]]]]

This syntactic change can be sketched in terms of structural and parametric change as illustrated in Figure 1.

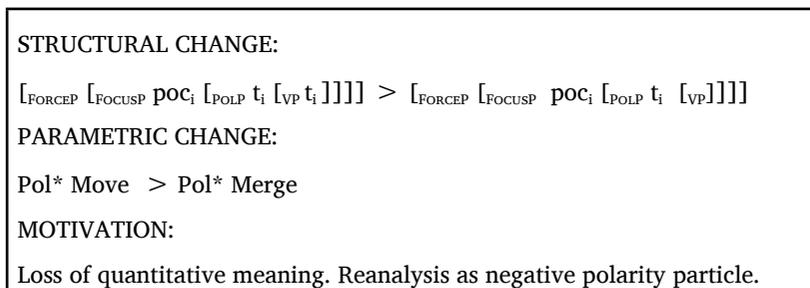


Figure 1. Syntactic change (Batllori & Hernanz 2008, 2009)

2.2. Pragmatic and syntactic behavior of *poc* in Modern Catalan

This section provides an account of the two varieties of polar *poc* to be found in current Northern Modern Catalan: the pragmatic activator *POC.NEG* (*que*) (see §2.2.1) and the unmarked negative marker without pragmatic activation *poc.NEG* (see §2.2.2). This second use corresponds to a second grammaticalization process.

2.2.1. *POC.NEG* (*que*) as a pragmatic activator

In general terms, negative *poc*⁷ is used in the northern area of Catalonia (basically, the dioceses of Girona and Elne) – cf. *DCVB* sub voce *poc*, Rossich (1996), Batllori & Hernanz (2013) for more information. It is a preverbal negative emphatic particle and the subject either occurs before it (i.e. topicalized), as in (10a), or in postverbal position, as in (10b). In Pla de l’Estany and Ripollès *POC.NEG* (*que*) has a counter-presuppositional meaning and, accordingly, it conveys pragmatic activation (i.e. grammar 1 as described in §1.1).

- (10) a. *La Maria poc que ho sap.*
the Mary *POC.NEG* that ACC.N.3SG know.3SG
‘Mary DOESN’T know it’.
- b. *Poc que ho sap la Maria.*
POC.NEG that ACC.N.3SG know.3SG the Mary
‘Mary DOESN’T know it’.
- c. A: *Ja ha arribat, en Pere?*
Already have.3SG arrive.PTCP.SG, the Peter?
B: *No, poc que ha arribat*
no *POC.NEG* that have.3SG arrive.PTCP.SG
‘Did Peter arrive? – No, he DIDN’T’.

Moreover, despite being emphatic, it can license negative polarity items in the same way as other negative markers do – see (11):

- (11) a. *Poc que ho ha dit mai això, en Pere.*
 POC.NEG that ACC.N.3SG have.3SG say.PTCP.SG never this the Peter
 ‘Peter NEVER said that’.
- b. *Poc que he comprat res avui.*
 POC.NEG that have.1SG buy.PTCP.SG nothing today
 ‘I HAVEN’T bought anything today’.

2.2.2. The current change in progress. Second step: Pragmatic unmarking, prosodic unmarkedness and ‘Spec to Head’ reanalysis

In contrast with the above mentioned value, negative *poc* displays interspeaker variability (i.e. there are two grammars – grammar 1 and grammar 2; see §1.1) and most speakers from the cities of Girona and Figueres use *poc/a.NEG* without any presuppositional meaning (i.e. it has undergone pragmatic unmarking) and without emphasis (i.e. loss of emphasis or prosodic markedness associated to the loss of movement to FocusP).

Hence, we consider that it is going through a second reanalysis and/or grammaticalization process (subsequently, the speakers that use *poc/a.NEG* in this way have grammar 2 as described in §1.1). In this sense, a woman from Figueres who suffered from maculopathy and was talking about the day she realized she was becoming blind uttered the sentence in (12) with no relation to a previous statement by the addressee.

- (12) *Aquell dia ho veia tot tort,*
 That day ACC.N.3SG see.IPFV.1SG all bent,
 fins i tot la cara del meu fill.
 even the face of the my son
Mirava la tele i poca la veia,
 watch.IPFV.1SG the tv and poc.NEG ACC.F.3SG see.IPFV.1SG
poca veia res.
 poc.NEG see.IPFV.1SG anything
 ‘That day everything was bent, even my son’s face. I was watching tv and could not see it, I could not see anything’.

From a pragmatic standpoint, the semantic bleaching concerning the inference conveyed⁸ and the loss of emphasis in the case of *poc/a.NEG* leads us to put forward that this particular speaker, as the ones we have interviewed from Girona and Figueres (see the experiment in section 3), are applying another type of reanalysis (i.e. grammaticalization process) which consists in a change from Spec to Head in the terms

established by van Gelderen (2004: 26-27) and following works, once the Head Preference Principle⁹ has applied.

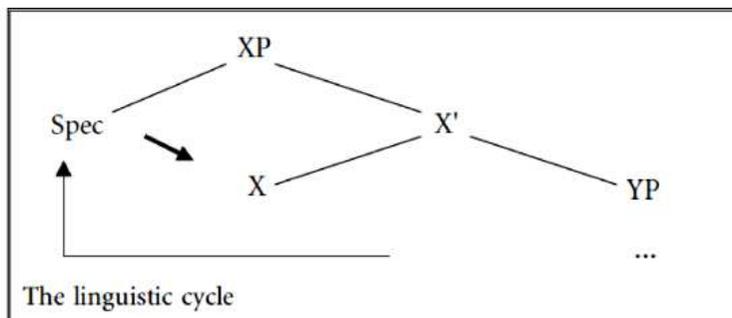


Figure 2. The linguistic cycle (van Gelderen 2009: 99)

As for these speakers, as mentioned above, *poc/a.NEG* does not undergo leftward movement to FocusP¹⁰ and it is becoming compatible with corrective focus (i.e. contrastively focused constituents) – see (13) –, which implies that it does not block movement of other constituents to FocusP anymore.

- (13) a. A: *Diu que no havien revisat bé l'examen de*
 say.3SG that NEG have.IPFV.3PL revise.PTCP.SG well the-exam of
llengua Catalana de la selectivitat i estava ple d'errors.
 language Catalan of the UEE and be.IPFV.3SG full of-mistakes
 'They say that the Catalan test of the university entrance exam had not been revised
 and was full of mistakes'.
 B: *No, L'EXAMEN DE MATEMÀTIQUES poca havien*
 no, the-test of maths poc.NEG have.IPFV.3PL
revisat (i no el de llengua catalana).
 revise.PTCP.SG and NEG that of language Catalan
 'no THE MATHS EXAM was the one they had not revised (not the Catalan language one)'.
 A: *La Maria no menja pastanagues.*
 the Mary NEG eat.3SG carrots
 'Mary doesn't eat carrots'.
 B: *PATATES poca menja (i no pastanagues).*
 potatoes poc.NEG eat.3SG and NEG carrots
 'POTATOES doesn't eat Mary'.

Many informants considered the sentences in (13) grammatical in spite of the fact that they did not take them as the most natural expressions.

Despite the preceding facts, there is general agreement in regarding a sentence such as (14) as completely grammatical.

- (14) *Què fas? Cafè poc en pots beure,*
 what do.2SG coffee poc.NEG ACC.PART be_able.2SG drink.INF
t' ho va prohibir el metge [A. Suñer, p.c.]
 DAT.2SG ACC.N.3SG PRF.AUX forbid.INF the doctor
 'What are you doing? COFFEE you cannot drink. The doctor forbade you it'.

Notice that in (14) *cafè* is a contrastive topic. If we consider that contrastive topics are derived by means of movements – as many authors do –, our syntactic argument can still be maintained. We leave open, for further¹¹ research, the investigation on the syntactic features and the structural positions involved in the grammaticalization we put forward, so that currently we can only provide strong pragmatic and phonological evidence to argue in favor of this process.

To conclude this section, the evolution of PAUCUM 'little' from Latin to Northern Old and Modern Catalan followed van Gelderen's Late Merge Principle and brought about the negative emphatic polarity particle of grammar 1, *POC.NEG* (*que*), that still triggers pragmatic activation (varieties of *Pla de l'Estany* and *Ripollès*). Accordingly, the analysis of example (10a) would be the following:

[_{FORCEP}...[_{TOPICP} La Maria [_{FOCUSP} poc_i ... [_{POLP} t_i [_{TP} ho sap]]]]]

On the other hand, the current use of *poc/a.NEG* in the varieties of Girona and Figueres illustrates an ongoing grammaticalization that follows the Head Preference Principle, which is linked to the deactivation of the pragmatic content of *poc/a* and to the loss of emphasis (i.e. loss of movement to FocusP). The analysis of this use of *poc/a.NEG* can be seen in the following syntactic representation of example (12):

[_{FORCEP}...[_{TOPICP} [_{FOCUSP} [_{POLP} poca [_{TP} veia res]]]]]

3. Phonology of *poc*

Many scholars offer an accurate description of the canonical intonational declarative pattern in Catalan¹² but here we will base our explanation on Prieto (2002: §11.2) who distinguishes between neutral declarative statements (broad focus statements) and non-neutral declaratives (narrow focus statements).¹³ The difference is on the speaker's attitude: while in the former the speaker is supposed to be impartial, in the latter s/he expresses some degree of emotions like doubt, surprise, confidence, etc. at some point of the statement in order to emphasize it. Hence, in narrow focus declaratives, there is a contrastive focus¹⁴ which

does have an effect on phrasal prominence and intonation: contrastive focus is tonally expressed by means of a particular pitch accent, L+H*. It is also characterized by a high frequency scaling of the peak (Prieto 2014: 14).¹⁵ In fact, Borràs-Comes *et al.* (2014: 3), explain that in neutral declarative statements the information focus is produced by a narrow pitch range, whereas in non-neutral declaratives (i.e. contrastive sentences) the contrastive focus is conveyed by a wider pitch range¹⁶ – contrast the first two cases in Figure 3, extracted from Borràs-Comes *et al.* (2014: 4).

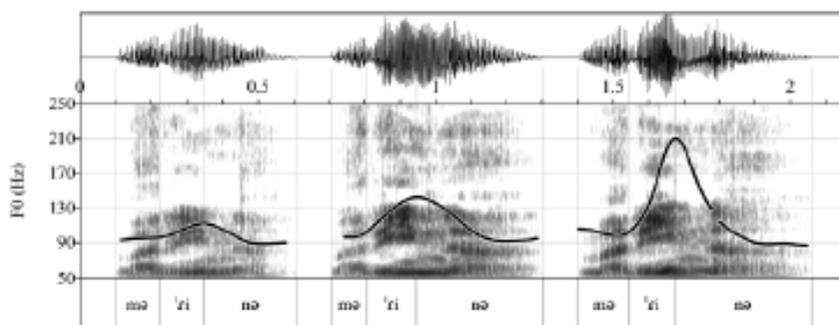


Figure 3. Waveforms, spectrograms and F0 pitch track of the proper name *Marina* in an information focus statement (IFS), a correctional/contrastive focus statement (CFS) and a counter-expectational question (CEQ), taken from Borràs-Comes *et al.* (2014: 4).

According to this explanation, it seems quite clear that occurrences with the descriptive negative marker *no* ‘not’ should correspond to the neutral pattern because they do not imply any expressive effort from the speaker. On the contrary, those including the metalinguistic negator *pla* should be consistent with non-neutral declarative patterns since they involve some kind of emphasis, which would stem from its presuppositional value (i.e. from pragmatic actuation in terms of Dryer 1996).

The question arises with utterances with *poc/a.NEG*. If, as stated in the preceding sections, in grammar 2 this negative particle has undergone a grammaticalization process and has lost its emphatic value, it should fit in a neutral declarative pattern as described in §1. On the contrary, in grammar 1, if it is still a metalinguistic emphatic negator, it is likely to agree with a non-neutral one, just as it happens with *pla*.

The only way to test the intonational behavior of the negative

markers involved in our study was to carry out a phonetic experiment. We discarded running a perception task and, instead, we carried out a pilot experiment focusing on the production perspective.¹⁷ Thus, the following sections are devoted to the description of the methodology and the report of the final results concerning intonation.

3.1. Experimental design

3.1.1. Speakers and recording procedure

The experiment focuses in the uses of polar *poc.neg* by speakers of grammar 2 (see the introduction), which is the main innovation of our paper because the other uses (grammar 1 *POC.NEG que* and quantitative *poc.Q*) have already been analyzed by several authors, such as Rigau (2004) and Batllori and Hernanz (2013). Hence, we recorded 12 native speakers, 5 men and 7 women, from either Girona or Figueres, the areas where *poc/a.NEG* is produced. Their mean age was about 50 years old. All of them were graduate, working in the Universitat de Girona as professors or as personnel of the university administration. None of them reported any speaking disability. They were recorded in a quiet room at the Universitat de Girona, using a Shure SM58 microphone and Praat software (Boersma & Weenink 2013) installed in a laptop computer.

3.1.2. Corpus

They were asked to go through a reading task which consisted in reading 15 brief sentences containing the three negative particles under study: either *poc/a.NEG*, *no* or *pla* ($6 \times \textit{poc/a}$, $6 \times \textit{no}$, $5 \times \textit{pla}$). The sentences were planned taking into account that the target particles had to be placed in declarative carrier sentences, with full pragmatic sense. In fact, each token evoked a familiar situation in which these utterances are produced naturally. Actually, most of the speakers recognized they commonly use this kind of structures.

The experimenter indicated to read them in a natural way, as they would do in natural conversational conditions. They were given 5 minutes to read each sentence and figure out how they usually pronounced it. Then, they were recorded while reading the sentences aloud. As a result, we gathered 204 utterances ($6 \times \textit{poc/a}$, $6 \times \textit{no}$, $5 \times \textit{pla}$; 12 speakers – see Table 1 below). The corpus is reproduced in (15), (16) and (17).

	<i>no</i>	<i>poc</i>	<i>pla</i>	
tokens (per speaker)	6	6	5	
× 12 speakers				
TOTAL:	72	72	60	204

Table 1. Number of occurrences (and total amount of tested tokens in the shaded cell).

- (15) a. *Mare meva! Poca han netejat mai aquesta gent.*
 mother mine poc.NEG have.3PL clean.PTCP.SG never this people
 ‘My goodness! These people have never cleaned up’.
- b. *Poc els entenc aquests polítics.*
 poc.NEG ACC.M.3PL understand.1SG these politicians
Avui diuen una cosa i demà en diuen
 today say.3PL one thing and tomorrow ACC.PART say.3PL
una altra.
 another
 ‘I don’t understand politicians. Today they say one thing, tomorrow a different one’.
- c. *Poca tindrè temps d’acabar aquest article.*
 poc.NEG have.FUT.1SG time of-finish.INF this article
Poc he fet res aquesta tarda.
 poc.NEG have.1SG do.PTCP.SG anything this afternoon
 ‘I won’t have time to finish this article. I haven’t done anything this afternoon’.
- d. *La Maria poca treballa les tardes.*
 the Mary poc.NEG work.3SG the afternoons
 ‘Mary doesn’t work in the afternoon’.
- e. *Poca m’ agradaria viure a Barcelona.*
 poc.NEG DAT.1SG like.COND.3SG live.INF in Barcelona
 ‘I would rather not live in Barcelona’.
- (16) a. *Mare meva! No han netejat mai aquesta gent.*
 mother mine NEG have.3PL clean.PTCP.SG never this people
 ‘My goodness! These people have never cleaned up’.
- b. *No els entenc aquests polítics.*
 NEG ACC.M.3PL understand.1SG these politicians
Avui diuen una cosa i demà en diuen
 today say.3PL one thing and tomorrow ACC.PART say.3PL
una altra.
 another
 ‘I don’t understand politicians. Today they say one thing, tomorrow a different one’.
- c. *No tindrè temps d’acabar aquest article.*
 NEG have.FUT.1SG time of-finish.INF this article
No he fet res aquesta tarda.
 NEG have.1SG do.PTCP.SG anything this afternoon
 ‘I won’t have time to finish this article. I haven’t done anything this afternoon’.
- d. *La Maria no treballa les tardes.*
 the Mary NEG work.3SG the afternoons
 ‘Mary doesn’t work in the afternoon’.

The grammaticalization of Northern Catalan negative *poc/poca*

- e. *No m' agradaria viure a Barcelona.*
 NEG DAT.1SG like.COND.3SG live.INF in Barcelona
 'I would rather not live in Barcelona'.
- (17) a. *Mare meva! Aquesta gent pla que han netejat*
 mother mine this people PLA.NEG that have.3PL clean.PTCP.SG
mai.
 never
 'My goodness! These people have NEVER cleaned up'.
- b. *Aquests politics avui diuen una cosa i demà*
 these politicians today say.3PL one thing and tomorrow
en diuen una altra.
 ACC.PART say.3PL another
 'Today these politicians say one thing, tomorrow a different one'.
Deixa-ho estar. Per molt que vulguis, pla que
 let.IMP.2SG = ACC.N.3SG be.INF for much that want.PRS.SBJV.2SG PLA.NEG that
els entendràs
 ACC.M.3PL understand.FUT.2SG
 'Don't worry. No matter how hard you try, you will NEVER understand them'.
- c. *Ja ho faràs demà, que ara és molt tard.*
 already ACC.N.3SG do.FUT.2SG tomorrow that now be.3SG very late
 'Leave it for tomorrow, because now it is very late'.
Sí, demà! Demà pla que tindrè temps
 yes tomorrow tomorrow PLA.NEG that have.FUT.1SG time
d'acabar aquest article amb tot el que he de fer.
 of-finish.INF this article with all the that have.1SG of do.INF
 'Tomorrow I WON'T have time to finish this article, with all that I must do'.
- d. *La Maria pla que treballa les tardes.*
 the Mary PLA.NEG that work.3SG the afternoons
 'Mary DOESN'T work in the afternoon'.
- e. *A mi pla que m' agradaria viure a Barcelona.*
 to me PLA.NEG DAT.1SG like.COND.3SG live.INF in Barcelona
Si sempre he volgut viure a pobles petits.
 if always have.1SG want.PTCP.SG live.INF in villages small
 'I would rather NOT live in Barcelona. I always wanted to live in a small village'.

3.1.3. Variables

We considered three variables. Firstly, the kind of negative marker (*no*, *poc/a*.NEG and *pla*) are taken into account as the independent variable. The general intonational pattern of the utterance (neutral declarative, non-neutral declarative) and the presence or absence of contrastive focus in the negative particle are the two dependent variables.

3.1.4. Acoustic analysis

Every speaker's recording was segmented into every single sentence in the corpus using Praat (version 5.3.0), in order to carry out a more accurate description of the pitch contour and to avoid errors due to the existence of pauses between each sentence.

The utterances were also examined using Praat. Waveforms and pitch analysis have been used to determine their intonational contour. We have employed an interpolation algorithm to fulfill the pitch curve in voiceless segments. In addition, the intonational analysis was performed following the Autosegmental Metrical model adapted to the Catalan language (cf. Prieto 2005, 2014, Prieto *et al.* 2009).

The intonational pattern of the whole declarative was determined by means of the observation of its pitch contour. The sentence was deemed a neutral declarative statement when it displayed rising pre-nuclear pitch accents associated to the stressed syllables followed by a low nuclear pitch accent (cf. Prieto 2014). In other words, when the pitch contour rises until the first stressed syllable and, after that point, it falls gradually to the nuclear syllable.¹⁸ Notice that this syllable is usually realized with a falling pitch accent, and the curve finally continues to fall until it reaches the base tone at the end of the sentence. Prenuclear pitch accents usually overlap with a bitonal pattern $L+ > H^*$, which indicates that the H tone is aligned with the postaccidental syllable.

If the intonational contour differed from the aforementioned one, the utterance was associated to a non-neutral declarative pattern, which presented some contrastive/emphatic element. In these cases, the emphasized part of the statement (contrastive focus) shows an increase in the frequency scaling of the peak and a pitch accent $L+H^*$, similar to CFS in Figure 3.¹⁹ The resulting pitch contour, thus, does not match with the description of neutral declarative sentences (cf. Prieto 2002, 2014; Font Rotchés 2007). These alterations in the pitch contour can map metalinguistic emphatic negation when they match with the negative particle and therefore show that syntax has an effect on prosody by means of a prominence in the intonational curve, followed by a brief pause just after the negative particle.

Once classified into neutral-declarative or non-neutral declarative statements, we studied the latter to distinguish the cases where the negative particle held narrow contrastive focus from those where the pitch prominence corresponded to other parts of the carrier sentence. Thus, we obtained two broad categories (neutral declarative statements *vs* non-neutral declaratives) and a finer-grained stratification into neutral declaratives, non-neutral with contrastive focus in the negative particle and non-neutral with contrastive focus in other parts of the statement.

3.1.5. Statistical analysis

Statistical analysis has been carried out with SPSS software (v. 21). As we analyzed categorical variables, we employed contingency tables and measures of association (Pearson's chi-squared tests and Cramér's V tests). Pearson's chi-squared tests were used to determine if there was a significant relationship between the variables (significance level was set at 0.05), while Cramér's V tests allowed to calibrate the robustness of the association (its values oscillate between 0 and 1; the nearer to 1, the more robust the relationship). Also adjusted standardized residuals (AR values) were taken into account to define which particular variants had a relevant behavior (AR values above 1.96 or under -1.96 indicate a significant relationship between the variants: i.e. there are more cases than the statistical model predicts or there are fewer cases than expected).

3.2 Results

The data we obtained point to interesting results. First of all, it is important to mention that the speaker's behavior is highly consistent in all three negative particles, since there are no relevant differences in none of them.²⁰

When confronting the three negative particles with the kind of statements they are found in, we can observe certain tendencies (see Table 2, Figure 4): *pla* is significantly more common in non-neutral declarative statements (90% of the utterances, AR=6.2), while *no* and *poc/a.NEG* are more frequent in neutral declarative statements (56.9% each one), a frequency which is statistically relevant (AR=2.9 each one). In fact, statistics indicate that the kind of negative particle and the kind of statement are related but they also show that this relationship is not an especially strong one,²¹ due to the more even distribution of *no* and *poc/a.NEG*. Thus, attending to the results, the use of *pla*, on the one hand, and *no* and *poc/a.NEG*, on the other, must be related to the type of declarative statement. Some examples are given below.

	<i>no</i>	<i>poc/a</i>	<i>pla</i>	n.
neutral declarative statements	41	41	6	88
non-neutral declarative statements	31	31	54	116

Table 2. Instances of *no*, *poc/a* and *pla* in neutral declarative statements and in non-neutral declarative statements. The shaded cells indicate the most frequent option.

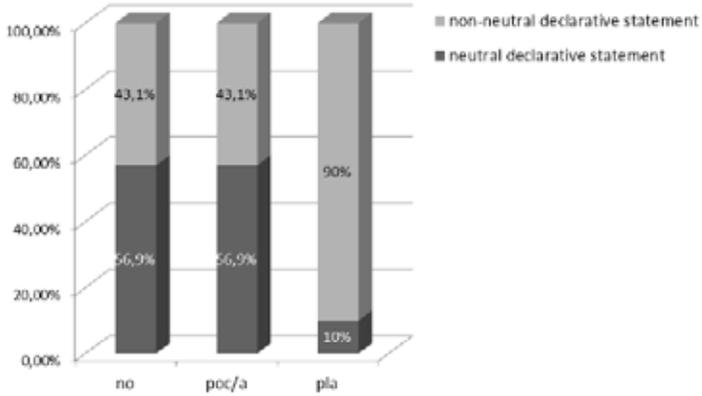


Figure 4. Percentage of *no*, *poc/a* and *pla* occurring in neutral declarative statements and in non-neutral declarative statements.

Figures 5 and 6 illustrate neutral declarative patterns with the negative markers *no* (Figure 5) and *poc/a.NEG* (Figure 6).²² Notice that there is a rising path towards the first pitch accent followed by a progressive falling until the nuclear accent. From this point onwards, the pitch falls smoothly to the base tone at the end of the utterance. Since the negative markers are not contrastive elements, they bear no pitch accent. In a few words, they fit perfectly with a canonical declarative intonational pattern.

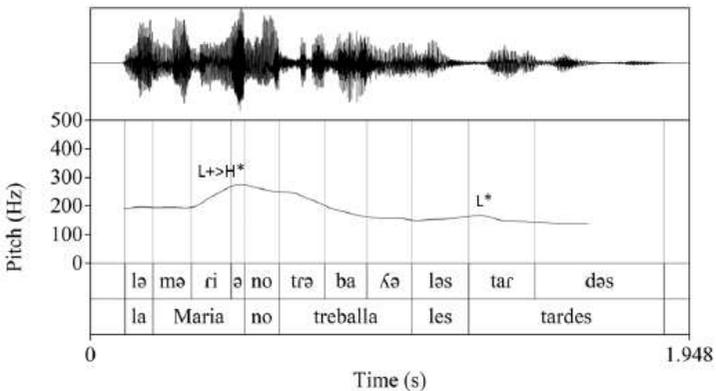


Figure 5. Waveform and F0 pitch track of the neutral declarative statement *La Maria no treballa les tardes* ‘Mary does not work in the afternoon’.

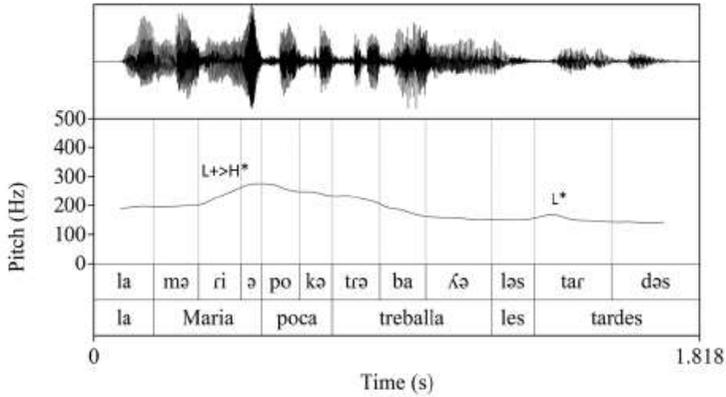


Figure 6. Waveform and F0 pitch track of the neutral declarative statement *La Maria poca treballa les tardes* ‘Mary does not work in the afternoon’.

Instead, Figure 7 is an example of a non-neutral declarative statement, with contrastive focus in the last part of the utterance. As can be observed, there is an increase in the frequency scaling of the peak and a pitch accent *L + H** coinciding with the emphasized part of the statement. This kind of intonational pattern is the one exemplified in Figure 8 with the negative marker *pla*: the peak of the negative particle is higher than the contour corresponding with *mi* ‘me’, which should have been the first prenuclear pitch accent.

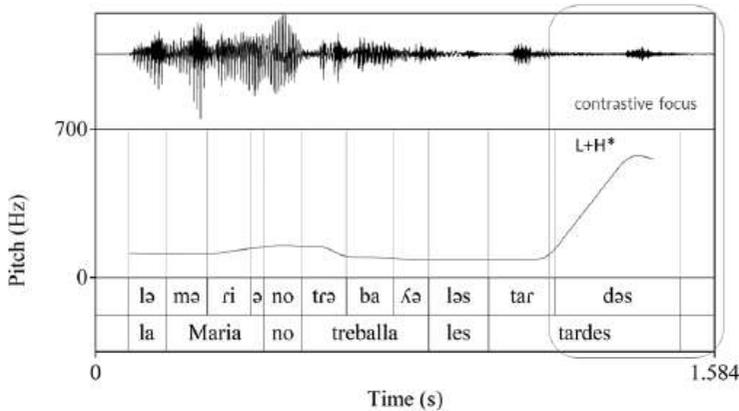


Figure 7. Waveform and F0 pitch track of the statement *La Maria no treballa les TARDES* ‘Mary does not work in the AFTERNOON’ (we mark in small capital the contrastive element). The pitch accent in *tardes* holds contrastive focus: it arises from the higher peak.

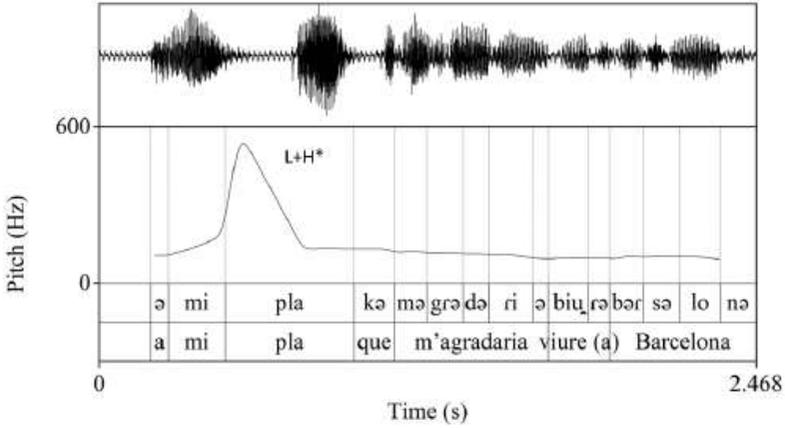


Figure 8. Waveform and F0 pitch track of the statement *A mi PLA que m'agrada viure a Barcelona* 'INDEED, I would not like to live in Barcelona'.

Although there seems to be a tendency for *pla* to occur in non-neutral declarative sentences and for *no* and *poc/a.NEG* to be in neutral ones, we must draw attention to the fact that there is still an important percentage of examples of *no* and *poc/a* in non-neutral declaratives (43.1% of the cases in both *no* and *poc/a*, cf. Table 2). In such a context, it is essential to check whether these negative particles are conveying contrastive focus, in other words, if they are affected by emphasis in these non-neutral declarative statements or if, even in such a context, they are not. We provide the results in Table 3, in which we include all the data (even those of neutral declaratives) in order to offer the whole picture. Figure 9 summarizes the results.

		Non-neutral declarative statements	
Neutral declarative statements		Contrastive focus in negative particle	Contrastive focus not in negative particle
<i>no</i>	41	4	27
<i>poc/a</i>	41	9	22
<i>pla</i>	4	47	9
Total:	86	60	58

Table 3. Instances of *no*, *poc/a* and *pla* in neutral declarative statements, in non-neutral declarative statements with emphasis in the negative particle and in non-neutral declarative statements without emphasis in the negative particle.

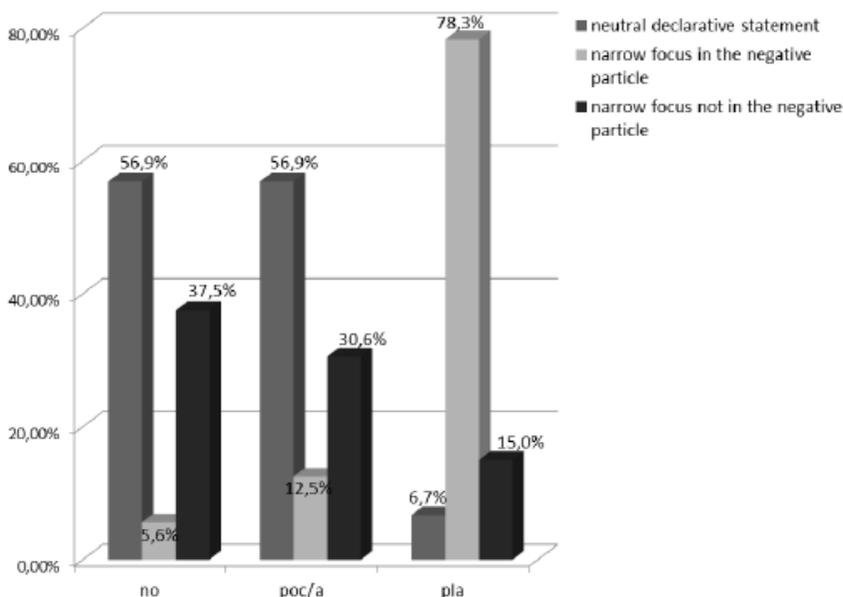


Figure 9. Percentage of *no*, *poc/a* and *pla* occurring in neutral declarative sentences and in non-neutral declaratives. We distinguish, in the latter case, whether the contrastive focus is on the negative particle or not.

When focusing on the 43.1% of the instances of *no* and *poc/a* in non-neutral declarative statements, it is worth considering that in most of the cases (87% and 70.9% respectively) contrastive focus does not lie in the negative particle, but in another part of the statement (see Figure 9).²³ Once again, we can note that both negative particles behave in the same way and, what is more, statistics support this idea pointing out that the relationship between the variables (type of negative particle and presence of contrastive focus in it) is fairly robust.²⁴ What is really interesting is that, even in the few cases where the contrastive focus is on the negative marker, *poc/a* and *no* behave clearly alike: Figures 10 and 11 provide further evidence of this fact, which implies that there is a clear match between the two structures.

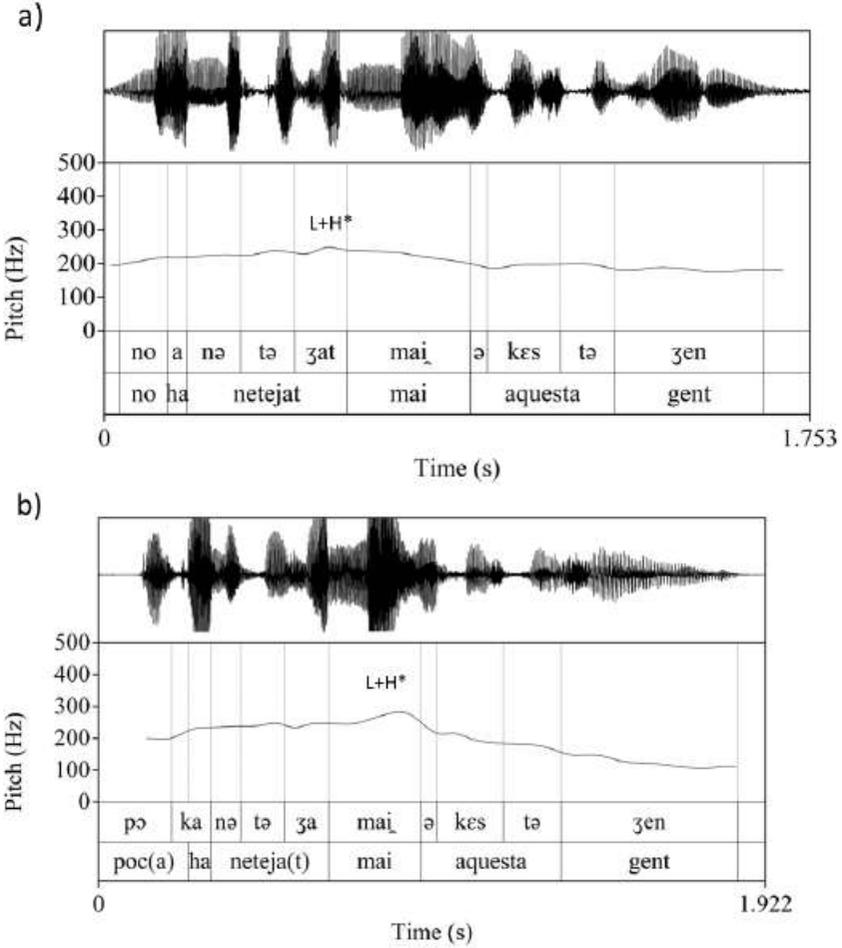


Figure 10. Waveform and F0 pitch track of the statements *No ha NETEJAT mai aquesta gent* ‘These people has never CLEANED up’ (a) and *Poca ha netejat MAI aquesta gent* (b) ‘These people has NEVER cleaned up’. The sentences are examples of non-neutral declarative statements with no emphasis on the negative particle.

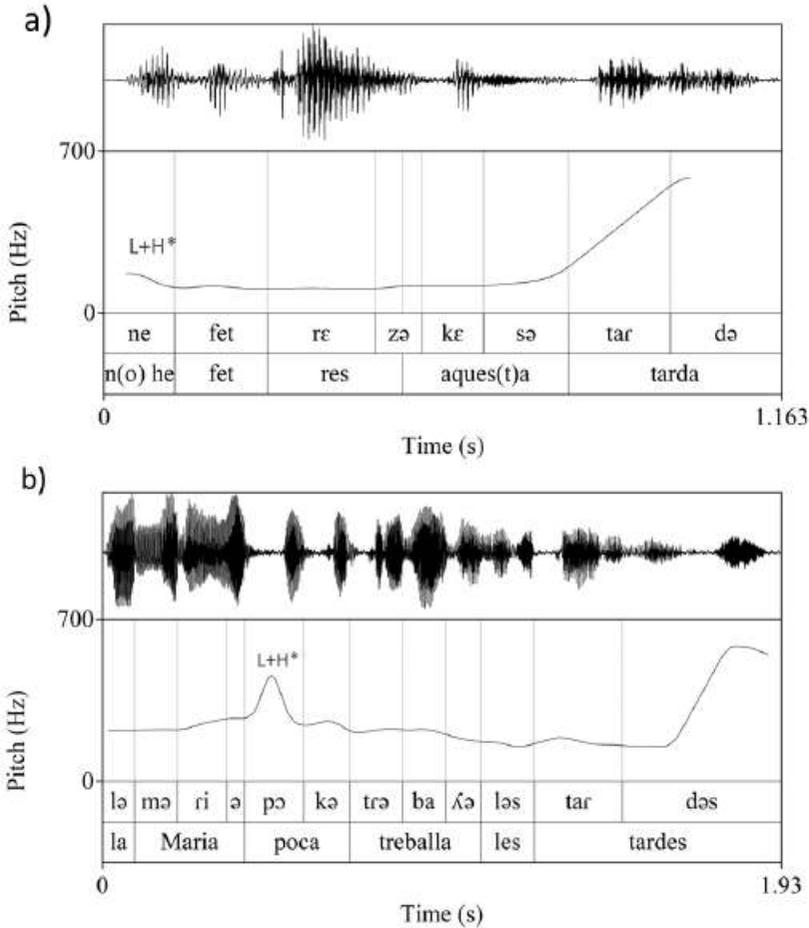


Figure 11. Waveform and F0 pitch track of the statements *No he fet res aquesta tarda* ‘I have NOT REALLY done anything this afternoon’ (a) and *La Maria POCA treballa les tardes* (b) ‘Mary does NOT work in the afternoon’. The sentences are examples of non-neutral declarative statements with emphasis (contrastive focus) in the negative particle.

To summarize, we observe that most of the utterances of *no* and *poc/a.NEG* are found in unfocused non-emphatic contexts. In fact, the number of instances of *no* in this position is slightly higher (94.4% of the total utterances of *no*) than the examples of *poc/a* (87.5% of the utterances of *poc/a*), as can be seen in Table 4 and Figure 12. In both cases, there are more cases than expected in non-contrastive focus position, and much less than expected by the model in contrastive position, which means a

relevant behavior attending to adjusted standardized values.²⁵ *Pla*, on the contrary, is much more common in emphatic contexts (78.3% of the cases), a distribution that is statistically significant according to AR values.²⁶ Thus, we can say that also 78.3% of the focused negative particles correspond to *pla*, a negative polarity marker with a clear emphatic value, while 91% of the instances with non-contrastive focus are for *no* (43.8%) and *poc/a.NEG* (47.2%). As a consequence, examining *pla* sequences has been very useful as a control group since it has made possible to compare the behavior of *poc/a* with the negative marker *no* and with the emphatic polarity particle *pla*. The latter intonational contours support our hypothesis according to which *poc/a* is losing the emphatic value which is associated to the presuppositional meaning in grammar 2.

	<i>no</i>	<i>poc/a</i>	<i>pla</i>	Total
Contrastive focus	4	9	47	60
Non-contrastive focus	68	63	13	144
Total:	72	72	60	

Table 4. Instances of *no*, *poc/a* and *pla* in emphatic and non-emphatic environments. Shaded cells correspond to the predominant behavior.

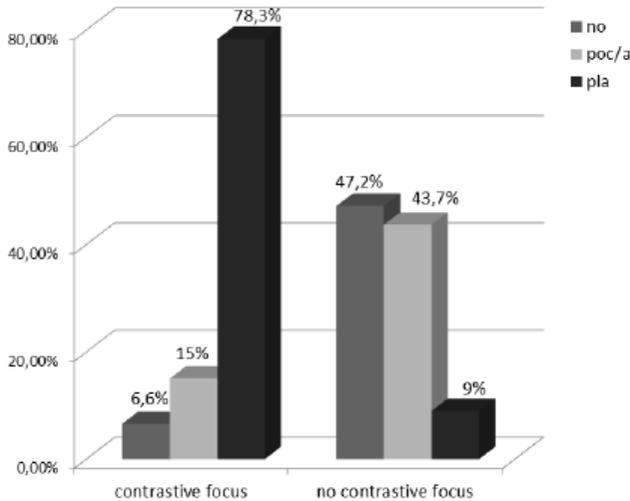


Figure 12. Percentages of occurrence of the three negative particles in prosodic contrastive focus position and in neutral position.

4. Conclusions

This paper has provided pragmatic, phonological and syntactic evidence in favor of the fact that Northern Modern Catalan *poc/a.NEG* is being grammaticalized as a negative head by some speakers (i.e. those of Gironès and Empordà – grammar 2). From a syntactic standpoint, we have shown that the grammaticalization of *poc/a* is an instance of the two negative cycles posed by van Gelderen (2011) and that in the variety under study (grammar 2) there is a change in progress according to which *poc/a.NEG* is becoming a head, allowing focus fronted constituents or contrastive topics, which means that *poc/a.NEG* is not an emphatic polarity particle anymore. Most crucially, following Wallage’s (2015) pragmatic viewpoint, we have argued that pragmatic unmarking is a consequence of its grammaticalization process. Moreover, from a phonological perspective, we have illustrated the fact that sentences with *poc/a.NEG* display the same prosodic contour as those with *no*, and contrast clearly with the ones with *pla*, which is considered a pragmatically marked emphatic polarity particle (i.e. a metalinguistic negator) by all our informants.

Abbreviations

ACC = accusative; COND = conditional; DAT = dative; FUT = future; INF = infinitive; IPFV = imperfective; LOC = locative; N = neuter; NEG = negation; PART = partitive; PL = plural; PRF = perfect; PRS = present; PTCP = participle; Q = quantifier; REFL = reflexive; SBJV = subjunctive; SG = singular.

Notes

¹ Batllori & Hernanz (2013) adopt the cartographic approach to syntactic structure as proposed by Rizzi (1997) and Haegeman (2000), among others. Concerning the hierarchical order of FocusP and PolP, Haegeman (2000: 49) argues that FocusP should be reinterpreted in terms of an articulated structure containing two hierarchically organized positions: Focus Phrase and Polarity Phrase.

² An anonymous reviewer asks whether *poc* and *pla* precede or follow the finite complementizer. It should be noted, on the one hand, that we follow Poletto (2016) in considering that, whenever negation interacts with focus to either confirm or negate a discourse linked clause, “Romance languages generally” use a “pro-sentence positive or negative element followed by the whole clause”. That is, a left-peripheral element that cannot be identified with sentential negation and that most of the times can even co-occur with sentential negation as the following examples illustrate. Notice that the subject is topicalized in (i), while it is in Spec, TP in (ii).

(i) *En Joan pla que no anirà al cinema*
the John PLA.NEG that NEG go.FUT.3SG the cinema
'As for John, I don't believe that he is not going to the cinema'.

- (ii) *Pla que en Joan no anirà al cinema*
 PLA.NEG that the John NEG go.FUT.3SG to_the cinema
 ‘I don’t believe that John is not going to the cinema’.

Hence, in contrast with Espinal (2011: 49-79), we consider that sentential negation (i.e., NegP *no*) is lower than FinP, but PolP is higher than FinP and lower than FocusP (see Haegeman 2000: 49). As for the position of accessory *que* ‘that’ in emphatic polarity particles, following Hernanz & Rigau (2006: §3), we take it to be in the head of the corresponding projection. Other polarity particles like *sí (que)* ‘indeed’, *bé (que)* ‘indeed’, *prou (que)* ‘indeed’, etc. follow the same pattern as *pla (que)* and *POC.NEG (que)*. Notice that this is not incompatible with our proposal because the varieties that have reanalyzed *poc* as a head do not use *poc que*, but *poc/a.NEG* (see Mascaró 1985: 77, fn. 21 and Rossich 1996). On the other hand, *poc* can only occur after the finite complementizer *que* in the embedded sentences that admit main clause phenomena (i.e. indicative complement clauses selected by declarative or epistemic verbs like *pensava que poc ho faria* ‘I thought that she was not going to do it’, non-restrictive relative clauses like *aquesta nena, que poca és la germana de la Maria, vindrà demà* ‘this girl, that is not Mary’s sister, will come tomorrow’, and peripheral causal clauses like *tanca la porta, que poca fa calor* ‘close the door, because it is not hot’, among other peripheral clauses – see Batllori & Hernanz 2013: 24-26 for more information).

³ Cf. Batllori (2015: 374-375) for more information on the difference between *pla* and *poc/poca.NEG*. In fact, the former cannot co-occur with evidential adverbs, whereas the latter can, as shown by the contrast between **Evidentment que pla ho farà* and *Evidentment que poc ho farà* ‘Evidently, he won’t do it’.

⁴ Notice that the utterances of these speakers are the only ones taken into account in the experimental part. However, we have also interviewed speakers of grammar 1 (from Pla de l’Estany and Ripollès), so as to check the use of *poc (que)* as pragmatic activator. Their productions have not been considered in the experiment because our work focuses in the process of grammaticalization in subjects of grammar 2 (that is, Spec to Head reanalysis).

⁵ An anonymous reviewer wonders about the need to merge *poc* to PolP in early stages. We follow Haegeman (2000: 49) in this respect. As commented on before, she argues that the landing site of neg-fronting in expressions like *under no circumstances* is not identical to that of the *wh*-preposing in *under what circumstances*, and also that FocusP should be reinterpreted in terms of an articulated structure containing two hierarchically organized positions: Focus Phrase and Polarity Phrase – see Batllori (2015, fn. 22). Notice that in these early stages the movement of *poc* can be understood as the type of neg-fronting that English expressions like *under no circumstances* can undergo nowadays.

⁶ The reviewer states that the quantitative meaning can also apply in the example given in (8). Notice, however, that, if this example meant that they did not have much work, *poc* should agree with *feina* (i.e., *los manestrals tenian poca feyna*). Besides, as for the evidence for the polar value, according to Bruguera, the editor of *El llibre dels feyts del Rey en Jacme*, there are several instances of polar *poc* in this chronicle (2005, personal communication).

⁷ Also *POC.NEG (que)*, according to the speakers of Pla de l’Estany and Ripollès. In contrast with *poc/poca.NEG* without *que* (either pronounced as [pɔk] or [pɔkə] = *poca*), which is the form used in Girona and Figueres; cf. Mascaró (1985) and Rossich (1996).

⁸ That is, the pragmatic unmarking or loss of pragmatic activation.

⁹ “Head Preference Principle (HPP): Be a head, rather than a phrase” (van Gelderen 2009: 99, among other works of the same author).

¹⁰ It must be taken into account that Catalan only admits one focused element on

the left periphery of the sentence, see Batllori and Hernanz (2013) for further information on this. Crucially, the answer of speaker B in the sentences of (13) is evidence in favor of arguing that *poc/a.NEG* has lost emphasis in this variety, which means that it does not move to FocusP anymore.

¹¹ The syntactic features encoded by polar *poc.neg* and *pla* are different. In the case of the latter we can have sentences such as (i), where the polarity of the main clause is reversed:

(i) *La Maria pla (que) no ho farà això*
 the Mary PLA.NEG that NEG ACC.N.3SG do.FUT.3SG this
 ‘Mary is going to do this indeed’.

(ii) *La Maria bé (que) no anirà al cinema*
 the Mary well/indeed that NEG go.FUT.3SG to_the cinema
 ‘Mary is not going to the cinema indeed’.

poc/a.NEG displays some slight differences not only with *pla (que)*, but also with other polar particles such as *sí (que)* ‘indeed’ or *bé (que)* ‘indeed’, in (ii), because it cannot co-occur with the negative marker *no* ‘not’ and it cannot reinforce the polarity of the sentence like *bé (que)* ‘indeed’ in (ii) or reverse it like *pla (que)* in (i), either. Thus, due to the need of extending the investigation to the negative features of these items, we leave these aspects for further research.

¹² Cf. Prieto (1999: 211), Estebas-Vilaplana (2003), or Font Rotchés (2007: 111). See also Prieto (2013).

¹³ It is important to note that, since we are basing our explanation on Prieto (2002), we assume the same framework and transcription methodology, i.e. Cat_ToBI labeling system within Autosegmental Metrical model (Prieto *et al.* 2009).

¹⁴ Take specific note of the fact that, whenever we talk about contrastive focus in this section, we are referring to prosodic contrastive focus (not to the syntactic notion of contrastive focus).

¹⁵ Vanrell *et al.* (2013) investigated the role of alignment, pitch range, pitch scaling and duration in the production and perception of contrastive versus non-contrastive initial accents in three typologically related languages, Catalan, Spanish and Italian. Concerning production, among other interesting findings, they observed that both in Catalan and Spanish “the peak for contrastive accents is realized at the end of the accented syllable [...] while for N[on]C[ontrastive] accents the peak is systematically aligned after the end of the accented syllable” (Vanrell *et al.* 2013: 204). They also refer no consistent behaviors regarding pitch range and tonal scaling. When it comes to duration, they report only slight tendencies in some of the speakers to exhibit longer durations in syllables bearing contrastive accents.

¹⁶ Precisely, they argue that “the rising pitch accent of information focus statements (IFSs) was produced by a narrow pitch range, while that of corrective/contrastive focus statements (CFSs) and counter-expectational questions (CEQs) was produced with a wider pitch range.”

¹⁷ Borràs-Comes *et al.* (2014) investigated whether pitch range can differentiate between information focus statements (IFS), corrective focus statements (CFS) and counter-expectational questions (CEQ) in Catalan on the side of perception. They ran two experiments, an identification task and a congruity task, and the results indicated that while there are clear differences between IFS and CEQ, judges could not discriminate CFS, which were identified to IFS in terms of pitch range values. They conclude that speakers rely to a greater extent on pragmatic processes and morphosyntactic strategies to detect CFS. Taking into account these results, we preferred focusing on the production perspective.

¹⁸ That is, nuclear accent is the last stressed syllable in the utterance.

¹⁹ “This pitch accent is phonetically realized as a rising pitch movement during the

accented syllable. The rise starts at the onset of the accented syllable and ends at the end of that syllable” (Prieto 2014: 8).

²⁰ ($\chi^2=8.471$, $p<0.671$) for *no*, ($\chi^2=9.524$, $p<0.574$) for *poc/poca* and ($\chi^2=8.151$, $p<0.700$) for *pla*.

²¹ ($\chi^2=38.051$, $p<0.0001$), ($V=0.432$, $p<0.0001$).

²² As can be observed, there is an accentual displacement in the first pitch accent, where the F0 peak is located in the post-tonic syllable. This phenomenon is extremely common in declarative statements when concerning prenuclear accents.

²³ Adjusted standardized residuals show that there are less cases of *poc/a.NEG* and *no* than expected conveying contrastive focus and that these results are significant (AR = -5.3 for *poc/a*; AR = -3.6 for *no*).

²⁴ ($\chi^2=98.823$, $p<0.0001$), ($V=0.696$, $p<0.0001$).

²⁵ In the case of *no* in contrastive focus position, AR = -3.9, while in non-contrastive focus position, AR = 3.9; in the case of *poc/a* in contrastive focus position, AR = -5.5 and in non-contrastive focus position, AR = 5.5.

²⁶ AR = 9.9 in contrastive focus position and AR = -9.9 in non-contrastive focus position.

Bibliographical References

- [CICA] *Corpus Informatitzat del Català Antic*. Torruella, Joan (dir.), with the collaboration of Pérez-Saldanya, Manuel & Martines, Josep. <www.cica.cat>
- [DCVB] Alcover, Antoni Maria & Moll, Francesc de Borja 2001-2002. *Diccionari català-valencià-balear*. IEC-Editorial Moll. <dcvb.iecat.net>. [Alcover, Antoni Maria & Moll, Francesc de Borja 1930-1961. *Diccionari català-valencià-balear: inventari lexical i etimològic de la llengua catalana*. Palma de Mallorca: Moll.]
- Batllori, Montserrat & Hernanz, Maria-Lluïsa 2008. Emphatic Polarity from Latin to Romance. Poster. *The 10th Diachronic Generative Syntax Conference*. 7-9 August 2008. Cornell University. USA.
- Batllori, Montserrat & Hernanz, Maria-Lluïsa 2009. En torno a la polaridad enfática en español y en catalán: un estudio diacrónico y comparativo. In Rafel, Joan (ed.), *Diachronic Linguistics*. Girona: Documenta Universitaria. 319-352. <filcat.uab.cat/clt/publicacions/reports/pdf/GGT-09-08.pdf>.
- Batllori, Montserrat & Hernanz, Maria-Lluïsa 2013. Emphatic polarity particles in Spanish and Catalan. *Lingua* 128. 9-30.
- Batllori, Montserrat 2015. The Significance of Formal Features in Language Change Theory and the Evolution of Minimizers. In Larrivée, Pierre & Lee, Chungmin (eds.), *Negation and Polarity: Cognitive and Experimental Perspectives*. Switzerland: Springer International Publishing (Language, Cognition, and Mind 1). 349-379.
- Boersma, Paul & Weenink, David 2013. *Praat: Doing phonetics by computer* [Computer program], version 5.3.51. <www.praat.org> (accessed 26 July 2013).
- Borràs-Comes, Joan; Vanrell, Maria del Mar & Prieto, Pilar 2014. The role of pitch range in establishing intonational contrasts. *Journal of the International Phonetic Association* 44,1. 1-20.

- Dryer, Matthew S. 1996. Focus, pragmatic presupposition, and activated propositions. *Journal of Pragmatics* 26,4. 475-523.
- Espinal, M. Teresa 2011. Pragmatic particles at the syntax-cognition interface. In Payrató, Lluís & Cots, Josep Maria (eds.), *The Pragmatics of Catalan*. Berlin: Walter de Gruyter. 49-79.
- Estebas-Vilaplana, Eva 2003. The modelling of prenuclear accents in Central Catalan declaratives. *Catalan Journal of Linguistics* 2. 97-114.
- Font Rotchés, Dolors 2007. *L'entonació del català*. Barcelona: Publicacions de l'Abadia de Montserrat.
- Haegeman, Lilian 2000. Negative preposing, negative inversión, and the Split CP. In Horn, Laurence R. & Kato, Yasuhiko (eds.), *Negation and polarity. Syntactic and semantic perspectives*. Oxford: Oxford University Press. 21-61.
- Hernanz, Maria Lluïsa & Rigau, Gemma 2006. Variación dialectal y periferia izquierda. In Fernández, Beatriz & Laka, Itziar (eds.), *Andolin Gogoan: Essays in Honour of Professor Eguzkitza*. Bilbao: Servicio editorial de la UPV-EHU. 435-452.
- Martínez Celdrán, Eugenio 1994. *La fonética*. Barcelona: Empúries.
- Mascaró, Joan 1998. *Morfologia*. Barcelona: Enciclopèdia catalana (Biblioteca universitària, 5).
- Prieto, Pilar; Aguilar, Lourdes; Mascaró, Ignasi; Torres, Francesc Josep & Vanrell, Maria del Mar 2009. L'etiquetatge prosòdic Cat_ToBI. *Estudios de Fonética Experimental* 18. 287-309.
- Prieto, Pilar 1999. Patrons d'associació de l'estructura tonal en català. *Catalan Working Papers in Linguistics* 7. 207-218.
- Prieto, Pilar 2002. Entonació. In Solà, Joan; Lloret, Maria Rosa; Mascaró, Joan & Pérez Saldanya, Joan Manuel (dirs.), *Gramàtica del català contemporani*. Vol. 1. Barcelona: Edicions 62. 395-462.
- Prieto, Pilar 2005. En torno a la asociación tonal en el modelo métrico-autosegmental. Puntos controvertidos en su aplicación al catalán. *Revista Internacional de Lingüística Iberoamericana* 6. 9-28.
- Prieto, Pilar 2013. Català central. In Prieto, Pilar & Cabré, Teresa (coord.), *L'entonació dels dialectes catalans*. Barcelona: Publicacions de l'Abadia de Montserrat. 15-44.
- Prieto, Pilar 2014. The Intonational Phonology of Catalan. In Jun, Sun-Ah (ed.), *Prosodic Phonology 2. The Phonology of Intonation and Phrasing*. Oxford: Oxford University Press. 43-80.
- Rigau, Gemma 2004. El quantificador focal pla: un estudi de sintaxi dialectal. *Caplletra* 36. 25-54.
- Rizzi, Luigi 1997. The Fine Structure of the Left Periphery. In Haegeman, Lilian (ed.), *Elements of Grammar. Handbook in Generative Syntax*. Dordrecht: Kluwer. 281-337.
- Roberts, Ian & Roussou, Anna 2003. *Syntactic Change. A Minimalist Approach to Grammaticalization*. Cambridge: Cambridge University Press.
- Rossich, Albert 1996. Un tipus de frase negativa del nord-est català. *Els Marges* 56. 109-115.
- Van Gelderen, Elly 2009. Feature economy in the Linguistic Cycle. In Crisma, Paola & Longobardi, Giuseppe (eds.), *Historical Syntax and Linguistic Theory*. Oxford: Oxford University Press. 93-109.

- Van Gelderen, Elly 2004. *Gramaticalization as Economy*. Amsterdam / Philadelphia: John Benjamins.
- Van Gelderen, Elly 2008a. Negative cycles. *Linguistic Typology* 12. 195-243.
- Van Gelderen, Elly 2008b. Where did late merge go? Grammaticalization as feature economy. *Studia Linguistica* 62. 287-300.
- Van Gelderen, Elly 2011. *The Linguistic Cycle. Language Change and the Language Faculty*. Oxford / New York: Oxford University Press.
- Vanrell, Maria del Mar; Stella, Antonio; Gili Fivela, Barbara & Prieto, Pilar 2013. Prosodic manifestations of the Effort Code in Catalan, Italian and Spanish contrastive focus. *Journal of the International Phonetic Association* 43,2. 195-220.
- Wallage, Phillip 2015. Identifying the Role of Pragmatic Activation in Changes to the Expression of English Negation. In Larrivéé, Pierre & Lee, Chungmin (eds.), *Negation and Polarity: Cognitive and Experimental Perspectives*. Switzerland: Springer International Publishing (Language, Cognition, and Mind 1). 201-229.