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AN ANCHORING APPROACH TO THE DIACHRONY OF NEGATIVE CONCORD IN SPANISH*

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Abstract In Old Spanish, Negative Concord Items (NCIs) (*nada* 'nothing', *ninguno* 'none', etc.) co-occurred preverbally with the sentential negative marker *non* 'no'. The exception to this pattern was the NCI *nunca* 'never', which showed an almost categorical tendency to avoid co-occurrence with the sentential negative marker when placed preverbally. By the beginning of the 16th century, this pattern had mostly been lost, giving way to the Modern Spanish configuration, in which preverbal NCIs cannot co-occur with the sentential negative marker to express a single negation reading. This paper offers a novel explanation to this change, grounded in usage-based approaches to language diachrony, in arguing that *nunca* served as a cognitive anchor (Goldberg (2005)), or model of comparison for other NCIs in preverbal position. In other words, phrase structures with preverbally placed NCIs show analogical leveling towards the modern configuration, following the example set forth by the highly frequent exemplar [*nunca* + V]. The advantage of this approach is a causal, quantitatively defended explanation for the loss of Old Spanish preverbal NC that takes into account the unique behavior of *nunca*.

1 Introduction

Usage-based approaches to the study of language diachrony stress the importance of factors such as frequency as modulators of syntactic change (Bybee (2007, 2010); Bybee & Beckner (2014); Diessel & Hilpert (2016); Goldberg (2005); Hopper & Thompson (1993); Langacker (1987); Rosemeyer (2016); Thompson (1997)). The frequency, or repetition, of linguistic expressions is argued to strengthen both these expressions and the links between associated expressions, giving place to the notion of a usage-based model of language. In such a model, speakers' retained episodic memories of linguistic

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events aid in the formation of categories whose exemplars, or tokens, share some minimal similarity (see Lacerda (1995); Goldinger (1996, 2000); Johnson (1997); Pierrehumbert (2001); Wedel (2006)). These categories, thus, emerge as the result of the shared associated space of different exemplars. Importantly, within these categories, there are higher-frequency exemplars around which less frequently occurring exemplars are attracted (see Nosofsky (1988); Strack & Mussweiler (1997)). For Goldberg (2005: 89), when the input is skewed such that token frequencies favor a given exemplar, this high-frequency exemplar serves as a cognitive anchor, or "salient standard of comparison" by which other exemplars would be organized. The present paper shall consider cognitive anchoring to be a mechanism that drives analogy in language change. Analogy, defined as a process of human cognition essential to the act of category formation, and which requires the "discovery of structural similarities between perceptually dissimilar elements" (Blevins & Blevins 2009: 1), has been an oft-utilized resource to describe language organization and change since some of the earliest moments of linguistic research (see Anttila (1977); Blevins & Blevins (2009); Hopper & Traugott (2003); Itkonen (2005); Lahiri (2000); for studies of Spanish see Aaron (2016); Brown & Rivas (2012); Bybee & Eddington (2006); also Skousen (1989); Skousen (1992) for explicit modeling of analogy). Analogical processes are shown to be motivated by a cognitive anchoring effect in syntactic acquisition (Azazil (2020); Casenhiser & Goldberg (2005)). While such an effect may be evident in learner language, still more work would do well to defend the role of cognitive anchoring within the diachrony of syntactic constructions.

In this paper, the notion of a cognitive anchoring effect underlying analogical change shall offer a novel solution to challenges regarding the diachrony of Negative Concord (NC), or the co-occurrence of multiple negative lexical items that together only express one instance of semantic negation (for early analyses of NC in Spanish see Bosque (1980); Laka (1990)). In Old Spanish[1], NC between preverbal negative items and the sentential negative marker *non* or *no* 'no' gradually disappeared as the language entered the 16th century (Camus Bergareche (2006); Mackenzie (2019); Poole (2011)). Importantly, Old Spanish preverbal NC was not realized evenly across all negative items – the negative adverb *nunca* 'never', in particular, mostly never appeared with preverbal NC. Furthermore, as explained in the following section, preverbal NC still exists in Modern Spanish in certain sequences of negative items. To resolve these challenges, it will be argued that the high relative frequency of

1 We shall use the term Old Spanish to refer to the Spanish language spoken during the period between the years 1200 and 1500 (see Mackenzie (2019: 1-9) for a thorough treatment of the term "Old Spanish" and its chronology).

the negative adverb *nunca* 'never' helped to establish it as a cognitive anchor for other negative items that would later lose preverbal concordance with the sentential negator. In other words, following De Smet (2012), it will be shown that the loss of Old Spanish preverbal NC was guided by similarities found in already-existing patterns of syntactic usage within the language. This proposal, in itself, is not entirely original. Indeed, it was Posner (1984: 18) who remarked that "The pattern was already present in the Iberian languages because sentence adverbial *nunca* was rarely followed by *non*", and later, Camus Bergareche (2006: 1196) who commented, "*...el nuevo esquema de distribución para las palabras negativas en estos contextos pasa a ser el que ya presentaba nunca*." '...the new distribution of negative words in these contexts came to be that which was already given by *nunca*.' The goal of this paper, then, is to provide the empirical and theoretical support for this proposal, using corpus data and the notion of cognitive anchoring. In this manner, the larger-picture implication of this study is an additional case study that supports the role of frequency as a catalyst for analogical change in the domain of syntax.

The rest of this paper is outlined as follows. Section 2 reviews the literature on theoretical approaches to NC, comparing Modern Spanish with Old Spanish, with an eye on the role of the negative temporal adverb. Section 3 establishes the purpose of the present study and outlines the method utilized. Section 4 presents the data and Section 5 discusses these data in relation to the argument presented. Section 6 concludes the paper.

2 Review of the literature

The review of previous literature shall be divided into three parts. First, Section 2.1 discusses theoretical approaches to NC in Modern Spanish, and the unique cross-linguistic behavior of the negative temporal adverb. Section 2.2, then, turns to the nature of NC in Old Spanish and Section 2.3 presents a formal account of this diachrony in addition to a review of previous causal explanations offered in the literature.

2.1 Negative concord and the negative temporal adverb

Languages in which NC takes place are traditionally divided into strict NC languages and non-strict NC languages (see Giannakidou (1997); Giannakidou (1998); Giannakidou (2000)). In a non-strict NC language such as Modern Spanish, a lexical item such as *nadie* 'nobody' can appear postverbally under the scope of negation, but can also express negation in preverbal position without co-occurring with overt sentential negation. Thus, in (1) the postverbal lexical item *nadie* is placed under the scope of the sentential neg-

ative marker *no*, and one total semantic negation is expressed. Sentence (2) is ungrammatical in Modern Spanish because it lacks a preverbal negative operator to license the postverbally placed *nadie*.

(1) *No vino nadie.*
NEG came nobody
'Nobody came.'

(2) **Vino nadie.*
came nobody

The label "non-strict NC" refers to the fact that in Modern Spanish, for example, these same lexical items can appear preverbally without any other negative markers, as in (3). Furthermore, as in (4), if they appear preverbally, they must not co-occur with the sentential negative marker. [2]

(3) *Nadie vino.*
Nobody came
'Nobody came.'

(4) **Nadie no vino.*
Nobody NEG came

Therefore, it follows that in a "strict NC" language, NC takes place in the preverbal as well as postverbal position. In other words, the configurations exemplified in (1) and (4) would both be grammatical in a strict NC language. So far, we have seen interactions between negative items and the sentential negative marker. What can be said of interactions between negative items themselves? Importantly, Modern Spanish does allow preverbal NC between *nunca* and other negative items, as mentioned in Laka (1993: 331), whose examples are provided below in (5) and (6). Examples from older stages of the language are also given in (8) through (10). In each case, preverbal NC takes place between the lexical item *nunca* and a negative indefinite, which together provide only one instance of semantic negation.

2 Despite the purported ungrammaticality of (4), see Espinal, Tubau, Borràs-Comes & Prieto (2016) for double negation interpretations of similar configurations (double negation defined as two semantic negations that add up to an affirmation). Additionally, one would do well to consult Enrique-Arias (2010), Gondra (2018), and Pineda Carrasco, Olate Vinet, Hasler Sandoval & Maldonado Muñoz (2022) for reports of preverbal NC in modern varieties of Spanish spoken in Majorca (argued to be maintained via contact with Catalan), the Basque Country, and Chile, respectively.

(5) *Nunca nadie afirmó tal cosa.*
never nobody affirmed such a thing
'Nobody ever affirmed such a thing.'

(6) *Nadie nunca afirmó tal cosa.*
nobody never affirmed such a thing
'Nobody ever affirmed such a thing.'

(7) *Nunca nada le parece suficiente.*
'Nothing is ever good enough for him.'

(8) *nunca ninguno de los reyes christianos que pasados eran la pudieron cobrar*
'None of the past Christian kings were ever able to recover it'
(c. 1340-1352; Anonymous author, Crónica del muy valeroso rey don Fernando el quarto)

(9) *vn candil fecho por tal encantamento o maestria que nunca se amataua & nunca nada le echauan*
'a flame burning by some enchantment or craft that never went out, without ever feeding it anything'
(c. 1350; Anonymous author, Sumas de la historia troyana de Leomarte. BNM 9256)

(10) *Nunca nadi menos bien tubo; nunca nadi más mal sufrió*
'Nobody ever prospered less; nobody ever suffered more'
(c. 1480; Diego de San Pedro, Tractado de amores de Arnalte y Lucenda)

In (5), for example, it is the case that nobody affirmed such a thing at any time. In other words, the two negative items do not create an affirmation. Therefore, it is important to specify that while Modern Spanish does not allow preverbal NC between negative items such as *nadie* and the sentential negative marker, certain preverbal NC sequences of *nunca* and other such negative items are acceptable.[3] Of fair importance to the present study are these "negative items" that can appear in NC configurations, which Giannakidou (2020) refers to as Negative Concord Items (NCIs). They define NCIs as follows:

3 However, we would not further complicate matters by delineating two types of preverbal NC. Throughout the paper, upon mentioning "preverbal NC", we are referring to the NC that takes place between NCIs and the sentential negator. When referring to preverbal NC between multiple NCIs, we shall do so explicitly.

An expression α is an NCI (a.k.a. 'n-word') iff:
(i) α can be used in structures containing sentential negation or another α-expression, yielding a reading equivalent to one logical negation; and
(ii) α can provide a negative fragment answer (i.e., without overt negation).

Table 1 below presents a portrait of the Modern Spanish NCIs and their Latin etymologies. Their "polar etymology" refers to whether or not these NCIs descended from Latin words that were themselves negative. In the case of *nunca* for example, the Romance word descended directly from the negative temporal adverb in Latin NUNQUAM 'never'. The pronoun *ninguno* 'none' is the inherited form of Latin NEC UNUS 'not even one', itself a negative expression as well. However, as in the case of *nada* and *nadie*, which developed from the Latin participle meaning 'born', sometimes NCIs evolved from words that were not inherently negative to begin with (i.e., they evolved through a "Quantifier Cycle" as in Willis, Lucas & Breitbarth (2013)).[4]

Modern NCI	**Latin etymology**	**Polar etymology**
nunca 'never'	< NUNQUAM 'never'	negative
ni 'neither/nor'	< NEC 'nor/not'	negative
ninguno 'none'	< NEC UNUS 'not even one'	negative
nadie 'nobody'	< NATI (from 'born')	non-negative
nada 'nothing'	< NATA (from 'born')	non-negative

Table 1 The etymology of Spanish NCIs

A matter of certain debate in the course of the research literature is the question of whether these lexical items are intrinsically negative words –that is, if they provide semantic negation on their own (see Espinal (2000b); Vallduví (1994)). In other words, since Spanish NCIs can appear under the scope of overt preverbal negation, as in (1), one could argue that they are not actually inherently negative all on their own. But, at the same time, since the

4 See Gianollo (2017, 2018) for further detail regarding the evolution of these items from their Latin origins. It is also worth noting that Latin was a Double Negation language (wherein two negative elements in the phrase would have added up to an affirmation) that showed occurrences of NC in more colloquial registers (see Greco (2022: 4-6) for examples). Following Gianollo (2016, 2018), the transition from a Latin Double Negation system to a Romance Negative Concord system takes place in Late Latin, where the sentential negative marker *non* acquires status as a head of NegP, and with it, an [iNeg] feature. Latin negative indefinites were subsequently replaced by new Romance indefinites, which developed as NCIs (such as those in Table 1) carrying a [uNeg] feature, thus setting the stage for Romance NC systems.

same NCIs can appear preverbally without overt preverbal negation and still contribute a semantic negation, as in (3), one could also argue that they are intrinsically negative. Hence, the non-strict NC pattern of Spanish is a bit of a puzzle. There have been different approaches to solving the puzzle –some researchers have argued for the inherent negative quality of these items, some have argued against it, and others have adopted a hybrid explanation (see Herburger (2001)). Bosque (1980) and Laka (1990), for example, have approached these words as being inherently non-negative. Laka argues that these words are licensed under the scope of negation, and thus can appear postverbally in concordance with preverbal sentential negation. They can also appear in the preverbal position, where they are licensed under the scope of a phonologically null negative element. Regarding arguments for NCIs as inherently negative items, Haegeman & Zanuttini (1991, 1996), and also Zanuttini (1991), propose that these items enter into a Spec-Head relationship with sentential negation, initiating a process of Neg-Factorization which deletes the additional negations from NC configurations, leaving only one. More recently, within the Minimalist Program (Chomsky (1995)), Zeijlstra (2004, 2008) argues that NCIs are non-negative indefinites that enter into an Agree relation for licensing. Under this approach, a preverbal overt negative operator *no* carrying the feature [iNeg] c-commands and checks the [uNeg] feature of the NCI *nadie*, as in (11). NCIs that are placed preverbally also carry a [uNeg] feature and are licensed by a covert operator carrying the feature [iNeg], as in (12).

(11) $No_{[\text{iNeg}]}$ *vino* $nadie_{[\text{uNeg}]}$
'Nobody came'

(12) $\text{Op}\neg_{[\text{iNeg}]}$ $Nadie_{[\text{uNeg}]}$ *vino*
'Nobody came'

In this manner, non-strict NC is accounted for under Zeijlstra's Minimalist approach. This approach can also account for phrases such as those in examples (5) through (10) above, which show NC between two NCIs in preverbal position, by proposing that two [uNeg]-carrying NCIs in preverbal position would be licensed by a single covert [iNeg] operator via Multiple Agree (see Espinal & Tubau (2016) and Gianollo (2018)).[5]

5 Espinal & Tubau (2016) demonstrate this analysis with preverbal NC in Catalan, and with multiple Spanish NCIs in postverbal position. Gianollo (2018) does so with data from Modern Italian, wherein the negative temporal adverb *mai* 'never' concords with other NCIs preverbally, parallel to the Spanish data in (5) through (10).

Déprez (2011), however, brings interesting data to light that question uniform syntactic explanations to NC. They refer to Zeijlstra's above-described approach to NC as a "macro-parametric" approach, which centers itself on the sentential negation, covert or overt, as the licensor of NCIs. Déprez instead defends what they call a "micro-parametric" approach, by which the internal syntactic and semantic structures of the NCIs themselves are what determine the nature of the NC relationship between sentential negator and NCI. For example, Déprez (2011: 233-234, examples 6a and 7b) cites certain details regarding the Modern French temporal adverb *jamais* 'never', shown in (13) and (14) below.

(13) *Je ne crois pas qu'il soit* ***jamais*** *possible*
'I don't think it will ever be possible'

(14) *Je ne crois pas qu'il ait* ***rien*** *fait*
'I don't believe he did nothing'

In (13), we see how the NCI *jamais* can be interpreted non-negatively, in positions where other NCIs such as *rien* 'nothing' would have to be interpreted negatively, as in (14). In other words *jamais* appears to have a NC relationship with the main clause negation, whereas *rien* does not –*rien* appears to receive a separate negative interpretation apart from the main clause negator. Déprez (2011: 236) also discusses data from Martinique Creole, where the equivalent 'never' adverb *janm* optionally co-occurs with the negative marker *pa*, as in (15) below.

(15) *Man* (*pa*) *janm dir u bagay kon sa.*
'I never told you things like that.'

Interestingly, other NCIs in this language are said to require the co-presence of the sentential negative marker[6] –in this sense Martinique Creole is a strict NC language, with the apparent exception of the temporal adverb *janm*. In and out of Romance, there is more data to be found regarding the unique behavior of the negative temporal adverb and its relationship with NC. Garzonio (2021), for example, studied data in Old Paduan and Old Veronese and found that in these languages, the lexical item corresponding to 'never' appeared preverbally with NC, whereas the pronoun expressing 'nobody' and the determiner corresponding to 'no' favor a preverbal appearance without

6 An anonymous reviewer points out that the sentential negator *pas* in Languedocian Occitan also co-occurs with other NCIs, providing one total negative reading. The curious reader is encouraged to consult Espinal & Llop (2022).

NC. Tubau (2016) analyzed dialects of British English and found that only in a select sample of their dialects does 'never' show NC with the sentential negative marker, as in (16), or appear after an NCI, as in (17) below (from Tubau (2016: 148)).

(16) We never didn't know what that meant.

(17) But nobody never saw it.

Tubau thus argues that 'never' holds different lexical entries carrying different formal features, which allow it an enhanced degree of NC licensing flexibility in these particular dialects. To summarize, there have been an array of theoretical proposals regarding the nature of strict and non-strict NC. However, there also appears to be a certain degree of cross-linguistic variation with respect to the behavior of individual NCIs and the variable "strictness" of the NC.[7] In particular, research has found an evidently unique quality regarding the temporal adverb 'never' in NC configurations. In Déprez (2000), for example, it is argued that external NC relationships in the phrase are determined by the DP structure of the nominal NCIs such as *nadie* or *nada*. Additionally, following Déprez (2011), in the diachronic development of French nominal NCIs, simple nouns such as *rien* (from 'thing') suffered a focus-motivated ascension to the highest position in the DP structure, where they assumed a more quantificational nature and carried interpretable negative features. The fact that adverbs lack DP structure, thus, may help to explain why nominal NCIs and adverbial NCIs at times behave differently in NC structures.

In short, after this brief cross-linguistic review we can summarize that wherever challenges arise for the uniformity of NC across NCIs, it seems that the negative temporal adverb is always close by. In the following section we shall see that Old Spanish also showed certain peculiarities in terms of its negative temporal adverb and NC phrase structure.

2.2 Negative concord in Old Spanish

In Old Spanish, NCIs such as *ninguno* co-occur with the sentential negative marker both preverbally and postverbally. In (18), the preverbal *ninguno* concords with the preverbal sentential negative marker *non*, and in (19), the

7 Additionally, see Poletto (2020) for further data regarding variable NC in modern Romance languages spoken in the Veneto region, and the challenges they present to wide theoretical approaches that aim to delineate a "strict" or a "non-strict" NC.

postverbal *ninguno* also concords with *non*. Examples (20) and (21) show the same pattern but with the NCI *nadi* 'nobody'.

(18) *Que* ***ninguno non*** *fable con los lidiadores*.
'Let no one speak with the litigators'
(c. 1218-1250; Anonymous author, Fuero de Zorita de los Canes)[8]

(19) *manda el Rey que* ***non*** *aya* ***ninguno*** *heredat en dos logares*.
'the King orders that no one should have estate in two places.'
(c. 1257-1271; Anonymous author, Repartimiento de Murcia)

(20) *que* ***nadi no*** · *l' diessen posada*
'no one should give him lodging'
(c. 1140; Anonymous author, Poema de Mío Cid)

(21) ***Non*** *lo dizen a* ***nadi***
'They do not tell it to anyone'
(c. 1140; Anonymous author, Poema de Mío Cid)

However, there is one noteworthy exception to the Old Spanish preverbal NC pattern. Llorens (1929) is among the first to point out that preverbally placed *nunca* seems to avoid the sentential negative marker, as shown in (22). Like other NCIs, though, it shows concordance in postverbal position with preverbal negation, as in (23).

(22) *que* ***nunca*** *çesan de gastar la vida del ome*
'they never cease to wear away one's life'
(1251; Anonymous author, Calila e Dimna)

(23) ***non*** *aviendo tú* ***nunca*** *avido compañía*
'you not ever having had company'
(1251; Anonymous author, Calila e Dimna)

The lexical item *nunca*, therefore, appears to have special status in Old Spanish, in that it follows a modern configurational pattern, coinciding with sentential negation when placed postverbally, but not when placed preverbally. That being said, as illuminated by Camus Bergareche (2006: 1178-1179), historical documents do show some instances, such as the one in (24), where preverbal *nunca* concords with the sentential negative marker.

8 All Old Spanish examples in this paper were drawn from the *Corpus diacrónico del español* (CORDE), where they can be consulted using the search tool: http://corpus.rae.es/cordenet.html

(24) ***nunqua*** *maes* ***non*** *ayan poder de tornarse dest fecho*
'never would they be able to turn back on this deed'
(1206; Anonymous author, Carta de cambio [Documentos del Reino de Castilla])

As we shall see, though, these examples form the exception, and not the norm: preverbal *nunca* quite firmly repels the co-occurrence of the sentential negator in Old Spanish. Again, as discussed above in Section 2.1, one finds some variability with respect to the distribution of polarity items, and in particular, with the negative temporal adverb. It has been suggested previously that *nunca* did not double with the negative marker because it already provided semantic negation on its own (Posner (1984)), a notion which finds support in the negative polar Latin etymology of *nunca*. However, the polar etymology of the *ninguno* item, which was also negative, does not seem to justify its appearance in preverbal NC. In formal terms, Batllori & Sitaridou (Forthcoming) suggest that *nunca* carried an [iNeg] feature, thus acting as a kind of sentential negative marker, which would explain its preverbal avoidance of another [iNeg]-carrying sentential negative marker in *non* (basing their analysis on data from the *Poema de Mío Cid*, where *nunca* appears almost categorically in preverbal position). A parallelism between the sentential negative marker and the temporal negative adverb 'never' is also found in the English NC data in Tubau (2016), as in example (17) above, where 'never' appears following the preverbal NCI, in place of the standard *-n't* negator. In such cases, the author points to 'never' as an adjunct scoping above the verb, a position from which its negation is read as sentential, thus giving it a function as a kind of sentential negative marker. In the present paper, let us also assume that Old Spanish *nunca*, as an inherently negative adverb, was capable of providing sentential negative scope and thus repelled doubling with the sentential negative marker *non*. The differential behavior of the *nunca* item should not come as terribly surprising, in light of what we have reviewed in Section 2.1 above: research has shown that NCIs do not always behave homogeneously within NC systems, with special attention afforded to the negative temporal adverb. Lastly, it is worth mentioning that Old Spanish also witnesses the development of another negative temporal adverb, *jamás* 'never', which also functions as an NCI in Modern Spanish. Inherited from a non-negative Latin source IAM MAGIS (lit. 'now more'), in Old Spanish *jamás* functions as a kind of reinforcement to *nunca* and to *siempre* 'always', as in (25) and (26) below.

(25) *nin podrá de las penas* ***nunca jamás*** *salir*
'nor will they ever be able to escape from their punishment'

(1240-1250; Anonymous author, Libro de Alexandre)

(26) *... que bive e regna por* ***siempre jamás****.*
'...who lives and reigns for ever and ever.'
(c 1275; Alfonso X, General Estoria. Primera parte)

Later, during the 15th century, *jamás* appears alone postverbally under the immediate scope of sentential negation, at which point it takes on an entirely negative meaning, with a distribution equivalent to *nunca* (see Rueda Rueda (1997)). Because *jamás* enters the language relatively late, though, it is difficult to compare its diachronic evolution evenly with the other NCIs during the Old Spanish period.

2.3 From Old Spanish to Modern Spanish

As previous studies have quantitatively shown, Old Spanish gradually lost preverbal co-occurrence between NCIs and the sentential negator. In Camus Bergareche (1986, 2006), for instance, it is shown that variation between the preverbal [NCI + NEG + V] and [NCI + V] patterns occurs in texts starting in 1440 and appears to be resolved after 1460, although occasional dalliances with the [NCI + NEG + V] pattern are documented into the 16th century. In formal terms, we could apply the analysis of Modern Catalan negation found in Espinal & Tubau (2016), in which the sentential negative marker *no* has two homophones: one which carries [iNeg] and the other which can be associated with a [uNeg] feature. The sentential negative marker capable of hosting [uNeg] is that which appears in expletive negation structures and in optional preverbal co-occurrence with NCIs. Consider (27) below, abbreviated from example 33b of Espinal & Tubau (2016: 206).

(27) Op$\neg_{[\text{iNeg}]}$ *Ningú*$_{[\text{uNeg}]}$ *no*$_{[\text{uNeg}]}$ *ha vist res*
'Nobody has seen anything'

In Modern Catalan preverbal co-occurrence between NCIs and the sentential negative marker is possible, producing only one semantic negation, invoking a resemblance to the Old Spanish data. Under this analysis, in (27) the sentential negative marker *no* is taken to be a kind of polarity item which carries the [uNeg] feature and is licensed by the null negative operator carrying [iNeg]. The NCI *Ningú* also carries a [uNeg] feature checked by the null operator. Following this line of thought, Old Spanish preverbal NC structures could fall under the same analysis: both the NCI and the sentential negative

marker carry [uNeg] features that are checked by a covert operator carrying [iNeg], as in (28) below.

(28) *que* Op¬$_{[iNeg]}$ *ninguno* $_{[uNeg]}$ *non*$_{[uNeg]}$ *fable*...

(29) *que non*$_{[iNeg]}$ *aya ninguno*$_{[uNeg]}$...

Thus, it is perhaps the case that the Old Spanish sentential negative marker also had two homophones, one of which carried a [uNeg] feature checked by a null negative operator, producing preverbal NC. In postverbal NC structures such as (29), the sentential negative marker was that which carried an [iNeg] feature, checking the [uNeg] feature of the postverbal NCI. We shall follow Batllori & Sitaridou (Forthcoming) in assuming that Old Spanish preverbal *nunca* carried [iNeg], which would explain its resistance to preverbal NC, as in (30). We also suppose that a separate lexical entry for *nunca* carried [uNeg], which would account for its postverbal placement, as in (31).

(30) *nunca*$_{[iNeg]}$ *çesan de gastar*...

(31) *non*$_{[iNeg]}$ *aviendo tú nunca*$_{[uNeg]}$...

This [uNeg]-carrying *nunca* would also appear in *nunca* + NCI sequences, after movement to a preverbal position, as in (32), where a covert operator would check the [uNeg] features of both preverbal NCIs.

(32) Op¬$_{[iNeg]}$ *nunca*$_{[uNeg]}$ *nada*$_{[uNeg]}$ V...

Chiefly, then, if in Modern Spanish the sentential negative marker *no* is now only capable of carrying [iNeg], then the loss of Old Spanish preverbal NC could be formally framed as the loss of the sentential negative marker carrying the [uNeg] feature.

What could have triggered such a change? The loss of the Old Spanish sentential negative marker after preverbal NCIs is treated by Mackenzie (2019: 220-221), who proposes a solution in which they compare the sentential negator *non* that co-occurred with preverbal NCIs with the expletive sentential negator *non* found in certain subordinate clauses to verbs of doubt and denial (see also Espinal (2000a, 2007); Sánchez López (1996) for further analyses of Spanish expletive negation). Uses of expletive negation in these contexts were more common in Old Spanish than they are in Modern Spanish, and thus, the author argues that the reduction of expletive negation went hand-in-hand with the loss of the sentential negative marker in the preverbal

NC structure. The author defends that in the broad diachrony of both cases, the sentential negative marker was redundant, being present in already negative contexts, and was thus a prime candidate for elimination. However, in Mackenzie's corpus data, it appears that by the end of the 16th century, expletive negation in subordinate clauses of doubt and denial continues to produce some attestations, which puts it at odds with preverbal NC, which has mostly disappeared by that time. We would therefore elect to analyze the loss of preverbal NC and the reduction of expletive negation as two separate diachronic changes. Elsewhere in the literature, Poole (2011) saw the loss of preverbal NC as evidence for a shift from NPIs to NCIs, a cross-linguistically attested diachronic pathway (see Larrivée & Kallel (2020)). However, one issue with this approach is that since these Old Spanish items appeared preverbally preceding the sentential negative marker, it is not appropriate to consider them NPIs (see Larrivée (2021)). Finally, not all approaches have been language-internal. Posner (1984), for example, suggested that the non-strict NC models of Central and Southern Italian dialects may have served as a prestige standard for the Spanish language as it underwent the process of standardization –while one cannot doubt the Italian influence on Spanish Golden Age literature, research has yet to empirically demonstrate a potential contact effect in the diachrony of Old Spanish NC.

3 The present study

In sum, while the previous literature has offered certain causal explanations regarding the loss of Old Spanish preverbal NC, each comes with certain weaknesses. Ideally, it seems that any explanation for this change should, at the very least, incorporate the fact that the NCI *nunca* avoided preverbal concordance with the sentential negative marker in Old Spanish. The present study offers an alternative explanation for the loss of Old Spanish preverbal NC that accounts for this particular point. It will be argued that the adverb *nunca*, being a relatively high-frequency NCI in Old Spanish, served as a cognitive anchor for other NCIs. Because preverbal *nunca* very rarely appeared in tandem with the sentential negative marker, other NCIs lost concordance with preverbal clause negation as well, as the result of analogical change. In other words, the high relative frequency of *nunca* and its propensity to avoid NCIs provided an anchoring exemplar to which the other NCIs were attracted. Thus, in Modern Spanish, the analogical leveling is complete –none of the Modern Spanish NCIs co-occur preverbally with the sentential negative marker.

To defend this approach, this study utilized the *Corpus diacrónico del es-*

pañol (CORDE)[9], a freely accessible and relatively large corpus of historical Spanish data from the earliest notions of the language to the year 1975. CORDE was used to (i) analyze the token frequencies of the NCI *nunca* relative to other NCIs, and (ii) analyze how often *nunca* appeared in the preverbal NC construction, from the 13th to the 16th century. The 16th century was chosen as the cutoff in order get a sample of the language that would most represent the period in which the loss of preverbal NC took place (cf. Camus Bergareche (2006); Mackenzie (2019); Poole (2011) for additional quantitative data). CORDE's geographic filter was set to limit the data to *España* (limiting the data to documents from Spain, as most of the data in this time period in CORDE fall under this category). We describe the results of these analyses in the following section.

4 Data

This section presents data for two analyses. Section 4.1 outlines a general search of individual NCI token frequencies in CORDE during the given time period, and Section 4.2 describes an analysis of their position with respect to the verb and their appearance in preverbal NC structures.

4.1 Overall token frequency

Using the CORDE website search interface, a first search was realized for the overall token frequencies of individual NCIs, by century from the 13th through the 16th century, a point at which we would expect the NC system to have mostly arrived at its present state. Table 2 below presents the overall token frequencies of these NCIs searched in century increments, with a focus on the adverb *nunca*, whose percentage of the token counts is provided in the last row of the table[10]. We exclude *nin* 'neither/nor' due to its frequent use in coordinated constructions.

9 Researchers should be aware of certain inaccuracies and archival errors associated with CORDE, which are described thoroughly in Rodríguez Molina & Octavio de Toledo y Huerta (2017). We do not see these issues to bear too much influence on the present study, which is only taking a relatively small snapshot of the data housed in CORDE.

10 We also searched for the form *nunqua* and *numqua*, variants of *nunca*, whose frequency we add to the *nunca* row in Table 2. Furthermore, we searched the forms *nadi* (variant of *nadie*), *nengun/nengún/ningun* (variants of *ningún*), and *nenguno/nenguna* (variants of *ninguno/ninguna*).

NCI	1201-1300	1301-1400	1401-1500	1501-1600
nunca 'never'	3,474	4,262	10,456	18,073
ninguno/a 'none'	11,343	9,195	14,372	31,150
ningún 'no' (det)	2,052	1,662	1,846	9,113
nada 'nothing'	2,240	830	2,647	10,193
nadie 'nobody'	149	10	401	6,408
Total	19,258	15,959	29,722	74,937
% **nunca**	**18.0%**	**26.7%**	**35.2%**	**24.1%**

Table 2 Token frequency of NCIs in CORDE, 13th –16th century

Here we can see that the behavior of *nunca* is fairly unique –it increases notably in frequency until making up a little over a third of the raw token count for these searched NCIs in the 15th century. The data in Table 2 are graphically represented as proportions in Figure 1 below.

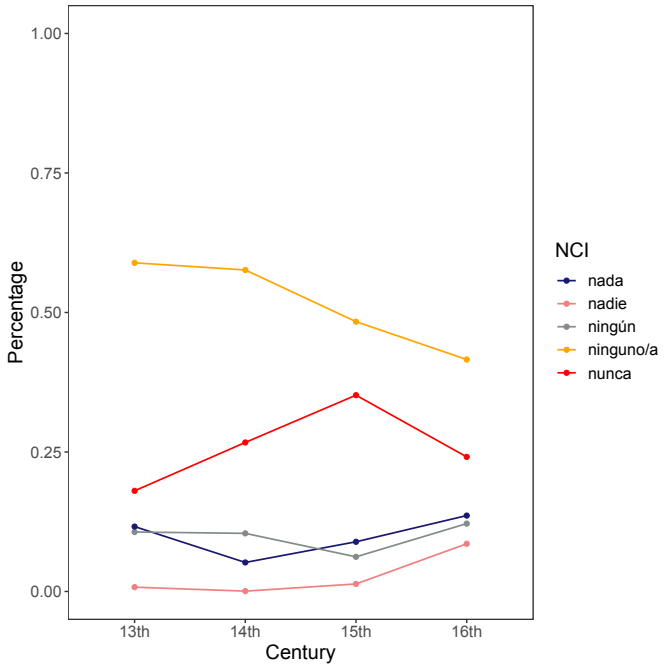

Figure 1 Proportional token frequencies of NCIs in CORDE, 13th –16th century

As seen in Figure 1, the increase in frequency of *nunca*, relative to the other

NCIs searched, is rather noticeable during the Old Spanish period, making large jumps from the 13th to 15th centuries, before falling off during the 16th century. We shall return to a discussion of why this increase may have occurred below in Section 5.2.

Critically, we must ask to what extent register effects would play a role in this visible increase in *nunca* tokens, given that differences in register are known to modulate linguistic variation in corpus analyses (see Goulart, Gray, Staples, Black, Shelton, Biber, Egbert & Wizner (2020)). Here we shall broadly define registers as text types associated with certain usage situations, and as such, certain linguistic features (see Biber & Conrad (2019)). To this end, all tokens of *nunca*, *nada*, and *ninguno* were searched on the CORDE database from the years 1201-1600 and extracted into .csv files using a free web data scraper called DataMiner[11]. This produced a dataset of 74,838 tokens: 32,120 *nunca* tokens, 27,430 *ninguno* tokens, and 15,288 *nada* tokens. Each token provides the searched string and approximately seven words of surrounding text to the left and right. These tokens include metadata such as the chronological date in which the token appears and a classification for its register. Following the method utilized in Yamada (2022), these registers were organized into seven larger groupings which include: Prose Fiction, Verse Fiction, Non-Fiction (Other), Religious Texts, Scientific Texts, Historiography, and Legal Texts. Figure 2 plots a regression analysis fitting loess curves for the appearance of the *nunca* tokens (coded as 1), compared to the *nada* and *ninguno* tokens (both coded as 0), separated by register classification, from the 13th to 16th century.

11 https://dataminer.io/; only the forms *nunca*, *nada*, and *ninguno* were scraped from CORDE. Token counts of their variants would have been relatively limited.

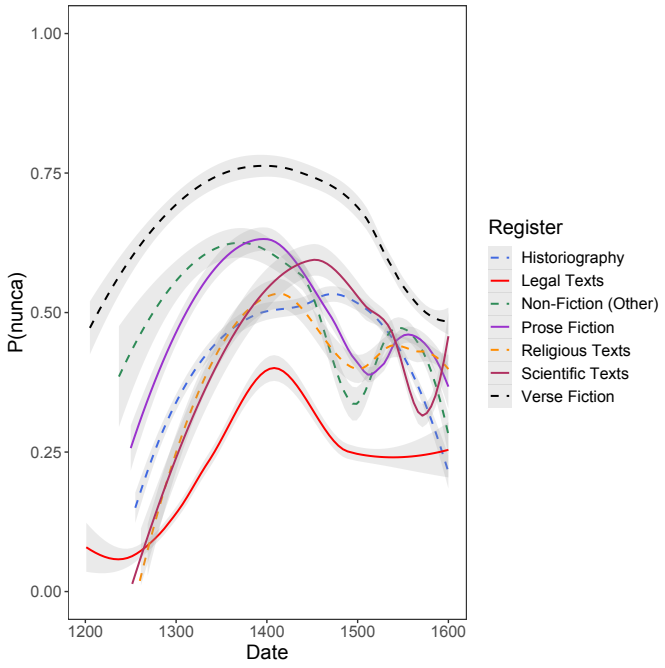

Figure 2 Regression analysis of nunca by register, 13th –16th century

In essence, Figure 2 plots the probability at which a given register, of the seven measured, would give a *nunca* token, relative to *nada* or *ninguno*, according to chronological date on the x-axis. From the 13th century up until the onset of the 15th century, the increase in *nunca* tokens, relative to *nada* and *ninguno* tokens, occurs mostly uniformly across all text registers, peaking within roughly the same century, before falling in frequency into the 16th century. In all, Figure 2 illustrates that the rise in *nunca* usage was not limited to any one register of the language in particular.

4.2 Preverbal NC

Having established that *nunca* increased in token frequency relative to other NCIs during the Old Spanish period, we now turn to investigate how often *nunca* appeared preverbally, and how often it coincided with the preverbal sentential negative marker. In other words, it is not enough to know how often the lone lexical item *nunca* appears in the corpus –to defend the research proposal, we also need to know how often the lexical item *nunca* appears in a preverbal construction, with and without NC.

We first begin with the same dataset scraped from CORDE utilized above, which includes all tokens of *nunca*, *nada*, and *ninguno* from the year 1201 to

1600. Then, a Python script was utilized to randomly select 100 tokens from each of the following chronological periods: years 1201-1300, 1301-1400, 1401-1500, and 1501-1600. As CORDE is not parsed, each CORDE token was hand-read and tagged for whether the NCI appeared preverbally (before an inflected verb), and was tagged for whether it co-occurred with the preverbal sentential negative marker *no* or *non*. A preverbal NCI was defined as one that was an argument of the verb or was a non-argumental prepositional phrase or adjunct. Multiple preverbal NCIs that concorded with each other were excluded. The examples below show some of the tokens found through this process.

(33) *la virginidat de Santa María* ***nunca*** *ffué corronpida de peccado*
(+preverbal, -NC)
'the virginity of Saint Mary was never corrupted by sin'
(c. 1252-1270; Alfonso X, Setenario)

(34) *nunca en esti sieglo tal mugier cubrió toca ni nació* ***nunca*** *niño de tan donosa boca*
(-preverbal)
'never in this world did a wimple cover such a Lady, nor was a child ever born with such gifted speech'[12]
(1246-1242; Gonzalo de Berceo, Los Milagros de Nuestra Señora)

(35) *Et aquella noche murio &* ***ninguno non****lo planyo.*
(+preverbal, +NC)
'And that night he died and no one wept for him.'
(1385; Juan Fernández de Heredia, Gran crónica de España, I. Ms. 10133 BNM)

(36) *porque no se quede* ***ninguno*** *sin misa*
(-preverbal)
'so that no one misses Mass'
(c. 1592; Cristóbal Chaves, Relación de la cárcel de Sevilla)

(37) *y sobre tan falso fundamento* ***nada*** *se podría fundar.*
(+preverbal, -NC)
'and upon such a false foundation nothing could be built.'
(1548; San Francisco de Borja, Seis tratados muy devotos y útiles para cualquier fiel cristiano)

12 This translation is taken from Mount and Cash's (1997: 121) English translation of Gonzalo de Berceo's *Los Milagros de Nuestra Señora*.

(38) *Si non fiasse tanto en vuestra compañía, de lo que dezir quiero* ***nada non*** *vos diría*
(+preverbal, +NC)
'If I didn't trust your company, of what I want to tell you, I would not tell you anything'
(1240-1250; Anonymous author, Libro de Alexandre)

In (33) and (34) we find occurrences of *nunca* in preverbal and postverbal position, respectively. Notably, in preverbal position, *nunca* does not co-occur with the sentential negative marker. Examples (35) and (36), in turn, show tokens that include *ninguno*, which during the Old Spanish period was often used to mean 'nobody'. As seen in (35), *ninguno* co-occurs with the sentential negative marker. Lastly, we see *nada* in preverbal position in examples (37) and (38), with and without the sentential negative marker, respectively. The overall results of this search are reported below in Table 3, which shows how many tokens (out of 100 drawn randomly) gave preverbal NCIs and how many of these NCIs co-occurred with the sentential negative marker, for each century searched.

NCI (by century)	**Preverbal tokens**	**Preverbal +NC**	**%NC**
nunca			
1201-1300	93	1	1.1%
1301-1400	95	1	1.1%
1401-1500	92	0	0.0%
1501-1600	97	0	0.0%
ninguno			
1201-1300	34	28	82.4%
1301-1400	37	34	91.9%
1401-1500	50	24	48.0%
1501-1600	59	1	1.7%
nada			
1201-1300	11	8	72.7%
1301-1400	6	5	83.3%
1401-1500	11	3	27.3%
1501-1600	15	1	6.7%

Table 3 Preverbal NC, 13th –16th century

As seen in Table 3, there is a rather strong preverbal preference for the NCI *nunca*, which in a random draw of 100 tokens, appears preverbally over 90

times in each of the four chronological periods. Additionally, Table 3 above shows that preverbal *nunca* distinctly avoids co-occurrence with the sentential negative marker, in comparison to the other two NCIs, which seem to show a firm but diachronically waning preference to do so. These data from Table 3 are plotted visually in Figure 3 and 4 below.

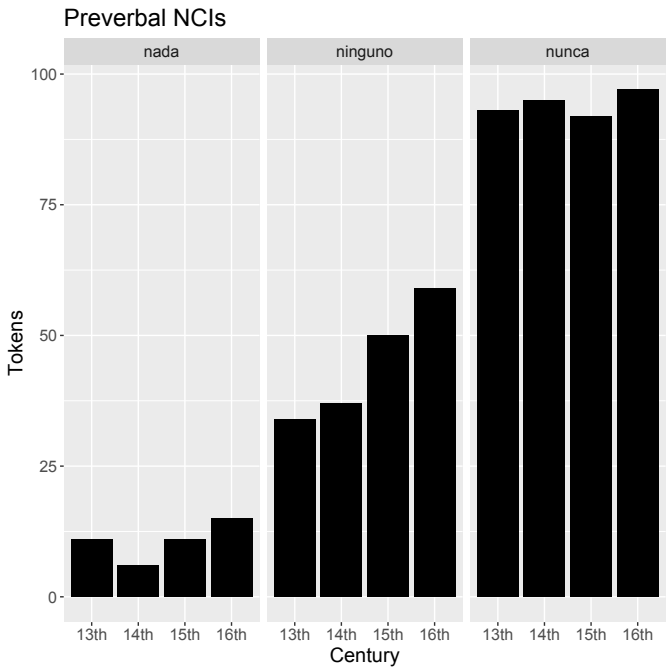

Figure 3 Raw token frequency of preverbal NCIs

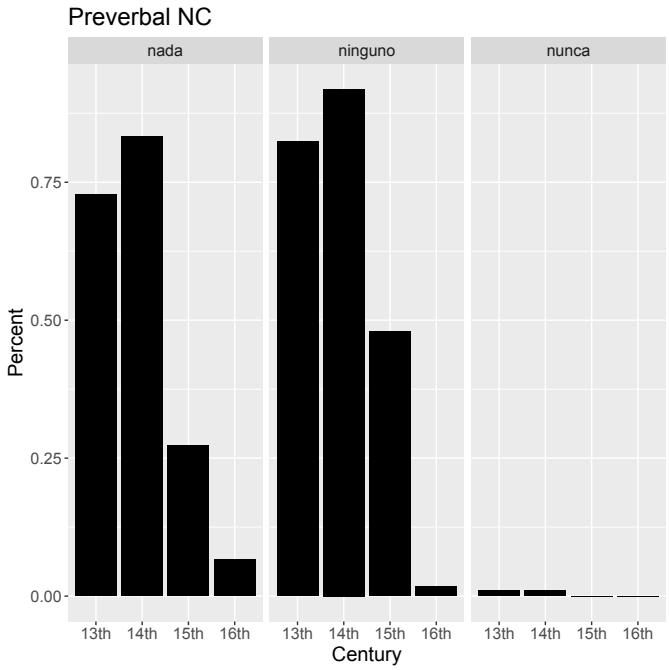

Figure 4 Percent frequency of preverbal NC

In Figure 3, each of the three graphs represent the raw token counts for one NCI and each of the four bars represents one century. The bars represent the total tokens of NCIs found in preverbal position, out of the 100 tokens randomly drawn from each period and NCI group. Figure 4 shows the proportion of preverbal NCI tokens found that also include preverbal co-occurrence with the sentential negative marker. For example, Figure 3 shows that 50 total tokens of preverbally placed *ninguno* were found among the 100 random *ninguno* tokens drawn from the 15th century. Figure 4 shows that of those 50 total tokens, a little less than fifty percent showed concordance with the sentential negative marker. In part, these figures visually reflect what is already well-known –preverbal NC disappeared over time, with large jumps towards the modern configuration occurring during the 15th century. However, these figures should also emphasize the tendency of *nunca* to appear in preverbal position, without NC. Let us summarize here the primary results of this study: (i) the lexical item *nunca* rose in frequency relative to other NCIs between the 13th to 15th centuries, (ii) the lexical item *nunca* preferred preverbal position between the 13th to 15th centuries, and (iii) the lexical item *nunca* quite strictly avoided preverbal concordance with the sentential negative marker.

5 Discussion

In the following section these findings shall be used to support the argument made in the present paper. We also discuss potential problems for an analogy-based analysis of language change, and some reasons as to why such an increase in token frequencies of *nunca* occurred during the Old Spanish period.

5.1 Nunca as a cognitive anchor

The present study set out to defend a cognitive motivation for the already well-documented loss of preverbal NC in Old Spanish, aiming to provide a causal explanation for its loss, while at the same time weighing the fact that *nunca* never showed rotund co-occurrence with the preverbal sentential negative marker. Using historical corpus data, this study first examined the raw token frequencies of individual NCIs and found that *nunca* was highly frequent, relative to other NCIs, and also increased in frequency during the time period under discussion. As visualized in Figure 1, in this corpus of Old Spanish, there was a marked increase in the appearance of *nunca*, out of the array of NCIs searched. This is evident at the 15th century grouping, where *nunca* reaches its peak relative frequency. Thus, the high relative frequency of *nunca* gave it status as a cognitive anchor –a salient standard among the class of NCIs. However, we also need to know in which position *nunca* appears relative to the verb. The results also show that *nunca* appeared quite frequently in preverbal position. Consider, as shown in Table 2, that when 100 random *nunca* tokens were drawn from each of the four centuries, over 90% of these tokens appeared in preverbal position. This is fairly striking relative to *nada*, which in a draw of 100 random tokens appeared only 11 times in preverbal position in the 13th century, for example. Then, in Figure 4, we notice how while preverbal *ninguno* and *nada* show decreasing rates of preverbal NC, *nunca* never really shows any meaningful signs of preverbal NC. Taken together, the increasing relative frequency of *nunca*, its strong preference for preverbal position, and its almost categorical avoidance of preverbal NC give way to its entrenchment as an exemplar of the construction [NCI + V], without the inclusion of the sentential negative marker. The less frequent exemplars in the NCI class, by means of analogy, would have leveled towards the highly entrenched anchor construction.

Looking at Figure 3, we also notice how *ninguno* and *nada* increased in preverbal frequency from the 14th to the 16th century. This reflects the findings of Octavio de Toledo y Huerta (2014), who found increases in preverbally placed *nada* over the course of the same period, pointing to the role of a Lati-

nate syntactic influence. Elsewhere, factors related to information structure are argued to have pushed these items to the preverbal position, where during this time period they come to express emphasis, following Poole (2011: 298-299). Mackenzie (2019: 236-237) quantitatively shows an increase in fronted prepositional phrases and predicative elements from the 14th to 15th century, related to strategies in the application of topical or focal status. In all, both Poole and Octavio de Toledo y Huerta's data show that the fronted occurrences drop drastically as the language enters the 20th century, where NCIs like *nada* no longer appear preverbally with great frequency. In any case, we shall contend here that as speakers increasingly placed *ninguno* and *nada* in preverbal position from the 14th to the 16th century, they would have done so following the pattern set by the increasingly frequent cognitive anchor, thus contributing to the gradual loss of preverbal NC.

In relation to the larger literature on analogy in Spanish diachrony, the case of the loss of preverbal NC in Old Spanish can be compared to the study by Aaron (2016), who found that the increasingly frequent usage of *altamente* 'highly' as a degree modifier, beginning during the 15th century, served as an analogical model for new adverbs such as *extraordinariamente* 'extraordinarily' and *extremadamente* 'extremely' which emerged during the 16th century. This study finds a similar pattern in the diachrony of Spanish negation: an increasingly frequent [*nunca* + V] construction secured the cognitive anchor towards which the other NCIs were analogically weighed. Altogether, these studies support De Smet (2012), who defends that the process of language change should be guided by similarities found in already-existing patterns of syntactic usage. That is, the loss of preverbal NC would have been guided by an analogical process based on the model provided by a frequently used *nunca*. Indeed, this change provides of a case in which "analogical pressure grows as the analogical model becomes more frequent" (De Smet 2012: 8). In terms of language usage, if *nunca* is the most frequent NCI, its syntactic behavior should exert a certain degree of analogical pressure on the behavior of other NCIs.

Importantly, we must ask what structural similarities among these NCIs caused speakers to associate them as a category. First, there is a semantic similarity, in the sense that each of these words is used in the expression of negation. As such, these exemplars would have been associated with one another based on their semantic content. Additionally, it is important to note that each of these NCIs contains the same word-initial phoneme /n/. This phonological structural similarity would have further helped to organize these exemplars under the same category –this idea is given some weight upon consulting the expansive psycholinguistic literature on the activation

of similar-sounding words that occurs when hearing a given spoken word (among many others, see Luce & Pisoni (1998); Magnuson, Dixon, Tanenhaus & Aslin (2007); Marslen-Wilson & Zwitserlood (1989)). Creel & Dahan (2010), for one, found that learning nonsense words is affected by the words' onset sounds –that is, one is more likely to confuse *joob* with *joop* than *choop* with *joop*. In other words, if speakers encode and process words like *nunca*, *nada*, and *ninguno* as similar-sounding competitors to one another, it is reasonable to believe that the word-initial phonological similarities among these lexical entries would have helped to drive the analogical processes proposed to organize them under the same syntactic structure. The role of the onset /n/ sound was also considered in Labelle & Espinal's (2014) diachronic study of Old French expressions *nient* 'nothing', *nuns* 'no one', etc., which were replaced by Modern French items *rien* 'nothing', *personne* 'no one', etc. The authors suggest that the loss of the older forms may have been linked to their word-initial phoneme /n/, a vestige of their Latin negative etymology. The authors' evidence is quite revealing: in the *Leys d'Amors*, a 14th century Occitan-written text, a prescriptive commentary chastises the use of *nulhs* 'no' (determiner) in co-occurrence with the sentential negative marker, citing the impropriety of double negation (see Labelle & Espinal (2014: 222 and footnote 56)). The commentary instead recommends the use of phonological variants *lunhs* and *degus*. In other words, this piece of data is taken to suggest that an exceedingly negative reading was perceptually associated with an /n/ onset sound, relative to other phonemes, which induced an unfavorable double negation interpretation with the sentential negator and thus contributed to their replacement by new items. In total, the potential relationship between the frequent /n/ onset phoneme of Romance NCIs and their place in NC structures has not gone unnoticed in the literature –further research would do well to continue exploring the interaction between phonological factors and the diachrony of NC.

5.2 Analogy, anchoring, and explanatory power

As recognized in De Smet & Fischer (2017), any approach to language change that relies on analogy must contend with criticisms regarding the limits, or lack thereof, of its power. We shall therefore leave some comments here with the goal of defending our approach while recognizing the limits of an argument based on cognitive anchoring. This paper shows that a single lexical item, *nunca*, was highly frequent both in general usage and in preverbal position, without co-occurrence with the sentential negative marker. However, it is also the case that the rest of the NCIs, which displayed preverbal NC at early stages of Old Spanish, made up the token frequency majority pre-

sented in Table 2. In other words, following approaches to change based on analogy, we must ask why the change did not occur the other way around: why did *nunca* not adopt preverbal co-occurrence with the sentential negative marker, given the token frequencies and the entrenchment of preverbal NC shown by the rest of the NCI class? After all, an analogical approach could have predicted that (i) preverbal NC would become the standard after a shift in *nunca* towards the model established by the rest of the NCI class, and (ii) preverbal NC would disappear after a shift in the rest of the NCI class towards the model set by *nunca*. We shall argue that (ii) was the actual outcome, recalling the previous literature centered on the unique behavior of the negative temporal adverb. Following the discussion in Section 2.2, we recall that Old Spanish preverbal *nunca*, which in formal terms we assume to be endowed with the feature [iNeg], was an adverb capable of giving sentential negative scope on its own, and thus warded off the presence of another sentential negative marker. We would contend that this may have been enough to withstand the potential for any analogy towards a preverbal NC model. In short, while we recognize the critique leveled against the power of analogy-based approaches, we contend that in this case the analogical reasoning was checked and guided by the unique status of *nunca*.

5.3 The rise of nunca

We have argued that the rise in frequency of the lexical item *nunca* formed a key piece of this syntactic development. However, it is important to ask why *nunca* increased in frequency relative to other NCIs. Why did Old Spanish see such a marked increase in the usage of *nunca*? It may have been the case that *nunca* came to be used in contexts once occupied by other expressions. Consider the adverbial expression *en ningún tiempo* 'at no/any moment', present in Old Spanish but no longer viable in Modern Spanish, and exemplified below in (39) and (40).

(39) *non yre contra ella ni por mi ni por otro* ***en ningun tiempo***.
'I will not act against it for myself nor for another at any moment.'
(1301, Anonymous author, Carta de venta [Documentos del convento de San Bartolomé de San Sebastián])

(40) *Et que nunca y sea puesta* ***en ningun tiempo*** *campana nin campanario nin pila de babtiçar*
'And never at any moment let there be placed bell or bell tower or baptismal font'
(1333, Anonymous author, Carta de sentencia de don fray Juan)

Example (40) even shows the extent to which *nunca* co-occurred with the expression *en ningún tiempo*, suggesting that such sequences may have provided a reinforcement that, over time, became less necessary –the *nunca* adverb sufficed to express the negative temporal contribution and *en ningún tiempo* fell out of usage. A simple search of the expression *en ningún tiempo* was conducted using CORDE[13]. The results of this search, divided by century, are given in Table 4 below, with both raw token frequencies and construction frequency (the frequency of the expression *en ningún tiempo* divided by the raw token frequencies of the word *ningún*: in other words, how often *ningún* is utilized in the construction *en ningún tiempo* compared with how often *ningún* is utilized elsewhere; see Torres Cacoullos (1999)).

	1201-1300	**1301-1400**	**1401-1500**	**1501-1600**
en ningún tiempo	125	190	81	343
Tokens *ningún*	2,052	1,662	1,846	9,113
Construction %	**6.1%**	**11.4%**	**4.4%**	**3.8%**

Table 4 Frequency and construction frequency of *en ningún tiempo*, 13th to 16th century

Table 4 shows that the expression *en ningún tiempo* increased in relative construction frequency from the 13th to 14th century, before falling considerably from the 14th to 15th century, a period in which the relative frequency of *nunca* continued to increase. Thus, we would argue here that the increase in usage frequencies of *nunca* may have been due to other negative temporal expressions falling out of usage. We have shown, though, only one such expression, and we thus leave it to future research to more concretely defend this notion.

6 Conclusion

With the aid of historical corpus data, this paper set out to defend an analogy-based explanation for the loss of preverbal NC in Old Spanish, with a focus on cognitive anchoring as the mechanism that motivated the syntactic change. Relative to previous approaches, the present proposal offers the advantage of a quantitatively supported causal motivator to the diachronic change, which succinctly explains the loss of the sentential negative marker in preverbal position following an NCI, while at the same time incorporating the high relative frequency of *nunca*. While previous analyses have mostly set aside the

13 The variants *nengun*, *nengún*, *ningun* and *tienpo* were included in this search.

unique behavior of *nunca*, the usage of this item forms a key part of our proposal, which helps to construct a more general analysis of the diachrony of Spanish NC that integrates the larger complex system of the NCI class as a whole. It is hoped that the present study would serve to encourage continued efforts to defend cognitive anchoring as a viable catalyst for analogical change in the domain of diachronic syntax.

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