

On the history of NPIs and Negative Concord

ELENA HERBURGER

Georgetown University, Washington, DC

herburge@georgetown.edu

Abstract

This article aims to better understand how Negative Polarity Items (NPIs) come into existence and how they change over time. It argues that an expression can become an NPI if its semantics makes it pragmatically useful in negative or downward entailing contexts, often because the meaning leads to pragmatic strength, but sometimes because its semantics leads to pragmatic attenuation. Special attention is given to two patterns involving pragmatic strength that can emerge historically: Negative Concord (NC) and what I call NPI Dualization. Both patterns, I argue, involve a pairing between an NPI that has an existential-like or low scalar semantics with a homophonous but semantically different expression with a freer distribution; the homophone is semantically negative in Negative Concord but semantically universal in NPI Dualization. The article argues that pragmatic strength plays an important role in the history of NPIs, both in their origin and in NPI Dualization, but is not directly relevant for their licensing synchronically. Instead, it argues for a return to the view that NPIs are lexically marked by a semantically meaningless distributional feature that needs to be valued syntactically. On a conceptual level, the article argues that historical shifts may be matters of likelihood.

Keywords: Negative Polarity Licensing, Negative Concord, NPI Dualization, Jespersen cycle

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Résumé

Cet article vise à mieux comprendre comment les items de polarité négative (IPN) voient le jour et comment ils évoluent dans le temps. Il soutient qu'une expression peut devenir un IPN si sa sémantique la rend pragmatiquement utile dans des contextes négatifs ou d'implication vers le bas, souvent parce que le sens conduit à une force pragmatique, mais parfois parce que sa sémantique conduit à une atténuation pragmatique. Une attention particulière est accordée à deux structures impliquant une force pragmatique pouvant émerger historiquement : la Concordance négative et ce que j'appelle la Dualisation des IPN. Je soutiens que ces deux modèles impliquent un jumelage entre un IPN ayant un sémantisme existentiel ou scalaire faible et une expression homophone mais sémantiquement différente avec une distribution plus libre ; l'homophone est sémantiquement négatif dans la Concordance négative mais sémantiquement universel dans la Dualisation des IPN. L'article propose que la force pragmatique joue un rôle important dans l'histoire des IPN, à la fois dans leur origine et dans la Dualisation des IPN, mais qu'elle n'est pas directement pertinente pour leur légitimation en synchronie. En revanche, il plaide pour un retour à l'idée que les IPN sont marqués lexicalement par une caractéristique distributionnelle sans contenu sémantique qui doit être évaluée syntaxiquement. D'un point de vue conceptuel, l'article soutient que les changements historiques peuvent être des questions de probabilité.

Mots-clés: Légitimation de polarité négative, Concordance négative, Dualisation IPN, cycle de Jespersen

1. BACKGROUND: NPIS BEAR [U-NEG] AND ARE SYNTACTICALLY LICENSED

I'd like to begin with a few basic facts about NPIS and then lay out the assumptions about how they are licensed that underpin the rest of the article. I hope to show elsewhere in more detail that these assumptions are well-founded.¹

It is uncontroversial that a great many languages have NPIS and that NPIS form a motley crew from a syntactic point of view; they include determiners (*any*), nominal and adverbial quantifiers (*anyone, ever*), verb phrases (*budge an inch, sleep a wink*), focus particles (*even* in the sense of 'the least noteworthy'), prepositions (*until*), coordinating expressions (additive *either*), etc.

All NPIS are licensed at least by negation, their paradigmatic licenser.

- (1) a. Elizabeth didn't let on anything about the secret plan.
- b. *Elizabeth let on anything about the secret plan.

In addition, many NPIS are also licensed by a host of other expressions, including the cross-linguistic equivalents of *without, no one, before, if, only*, emotive factive verbs like *regret*, negative propositional attitude verbs like *doubt*, negative verbs of saying like *deny*, etc. NPIS are also found in comparative and superlative constructions, as well as in direct and indirect questions. Not all NPIS appear in all of the same environments, and NPIS have been roughly grouped into so-called 'strong' and 'weak' NPIS, where the strong are choosier than the weak (e.g., van der Wouden

¹Abbreviations used: DE: downward entailing; NC: negative concord; NPI: negative polarity item; REFL: reflective.

1997, Zwarts 1998, Gajewski 2011). Outside of their respective licensing contexts, NPIs result in ungrammaticality and are felt to merit a ‘*’ rather than the ‘#’ that signals pragmatic infelicity. All things being equal, this suggests that NPI licensing should be given a grammatical account.

An early syntactic account of NPI licensing was proposed by Klima (1964). He analyzed NPIs as carrying a feature [+affective] that needs to be checked by one of the licensors just mentioned under what corresponds to c-command. This analysis runs into a problem with NPI licensing by quantificational determiners (see Ladusaw 1980). As (2) shows, both *every* and *no* license NPIs in their restriction or first argument, but only *no* also licenses NPIs in its second argument or scope. No matter what definition of c-command one takes, the contrast between *no* and *every* presents a problem for Klima’s (1964) account, and any similar syntactic account.

- (2) a. [Everyone/no one who ever had any dealings with Bob] thinks he is nice.
 b. [No one/*everyone] thinks Bob would ever say such a thing.

The *every* vs. *no* contrast is addressed in Ladusaw (1980). Following Ladusaw, NPIs are now widely thought to be restricted to semantically downward entailing (DE) contexts or contexts that reverse the usual direction of entailment (Fauconnier 1975). The negation marker *not* creates such a context: while we can infer that if a person named Amber works for the Department of Labor, she works for the federal government, the direction of entailment reverses from Department of Labor to federal government when the sentence is negated (i.e., *Amber doesn’t work for the federal government* entails *Amber doesn’t work for the Department of Labor*).² Though it is far from trivial to show that all NPI-licensing contexts are in fact DE (e.g., Heim 1984, von Stechow 1999, Horn 2002, Schein 2003), a great many clearly are, including those created by *no* and *every*.³ The Ladusaw/Fauconnier generalization, though ground-breaking descriptively, is, however, puzzling because it is not clear why it should hold.

Krifka (1995) and Chierchia (2013) aim to explain this generalization by exploiting the semantics of NPIs (see also Kadmon and Landman 1993, Lahiri 1998, Crnič 2014, a.o.). This type of account is based on the important observation that NPIs are often existentially-quantified expressions. For instance, the NPIs *any* and *ever*

²Giannakidou (1998) argues that the notions of non- and anti-veridicality are better suited to describe the contexts in which NPIs occur. For a detailed comparison between Giannakidou’s proposal and the Ladusaw/Fauconnier view, see Chierchia (2013). Other issues facing the Ladusaw/Fauconnier analysis which are glossed over here include intervention effects and pragmatic licensing (e.g., Linebarger 1987).

³(i) asymmetry entails (ii), showing the restriction of *every* and of *no* is DE. The entailment from (iii) to (iv) shows how the scope of *no nurse* is DE, and the lack of entailment from (v) to (vi) shows how the scope of *every nurse* is not:

- (i) Every/no nurse got a raise. (ii) \models Every/no male nurse got a raise.
 (iii) No nurse got a raise. (iv) \models No nurse got a raise and extra vacation time.
 (v) Every nurse got a raise. (vi) $\not\models$ Every nurse got a raise and extra vacation time.

express existential quantifiers. As such, they occupy the bottom rung of the so-called Horn scale (Horn 1989), invoking alternatives expressed by the semantically stronger *many*, *most* and *all* and *often*, *most of the time* and *always*. NPIs like *budge an inch* and *sleep a wink*, which involve minimizers (*an inch*, *a wink*), behave similarly, semantically speaking. Existentially-quantified expressions make the weakest assertion, one which alternative sentences involving higher elements on the relevant Horn scale would entail, but in negative or more generally DE environments, matters are reversed and the existential quantifiers are the semantically strongest among the alternatives. Building on this observation, this type of account posits that NPIs come with a strength requirement that stipulates that sentences with NPIs must entail alternative sentences where an element higher on a Horn scale replaces the NPI. This restricts them to DE context. The grammaticality of *John didn't eat any cookies* is thus related to the asymmetric entailment between *John didn't eat any cookies* and *John didn't eat many/most/all cookies*. Conversely, the ungrammaticality of **John ate any cookies* is related to its not entailing *John ate many/most/all cookies*.

Though this idea is appealing, it also raises some issues (e.g., Herburger and Mauck 2013), one being that existential NPIs often have synonymous or near-synonymous counterparts that do not have the distribution of NPIs. The NPI *any*, for example, expresses existential quantification just like *some* and *a*, as shown in (3).

- (3) a. $[[any]] = \lambda f_{(e,t)} \cdot \lambda g_{(e,g)} \cdot [\exists x: f(x) = 1] g(x) = 1$
 b. $[[some]] = \lambda f_{(e,t)} \cdot \lambda g_{(e,g)} \cdot [\exists x: f(x) = 1] g(x) = 1$
 c. $[[a]] = \lambda f_{(e,t)} \cdot \lambda g_{(e,g)} \cdot [\exists x: f(x) = 1] g(x) = 1$

Moreover, *a* and *some* activate the same stronger alternatives as *any*, namely those corresponding to *many*, *most*, and *all*. This is, after all, the original kind of Horn scale and is also what explains (on a neo-Gricean view) the fact that *I ate some of the cookies* gives rise to the inference 'I didn't eat all of the cookies' (e.g., Horn 1989). And yet, *any* is an NPI, *some* a Positive Polarity Item (and thus eschews being interpreted in the scope of a local negation), and *a* has a free distribution.⁴

- (4) a. He found some photo/*any photo/a photo in the drawer.
 b. He didn't find *some photo/any photo/a photo in the drawer.

The strength requirement is crucial to distinguish NPIs like *any* from their synonymous non-NPI counterparts *some* and *any* on this type of account. Yet, as this requirement does not follow from the semantics of NPIs, it has to be stipulated.

A second issue is that not all NPIs have an existential semantics. A careful look at how NPIs are distributed across the lexicon reveals another, semantically and pragmatically rather different, species of NPIs. Examples include adverbial *much* (see Klima 1964), adverbial *long*, Catalan *gaire* ('much'), French *guère* ('much') and

⁴Kadmon and Landman (1993) argue that *any* requires the consideration of instances that lie outside of the normal domain of quantification for *some* and *a* ('domain widening'). But the example they adduce crucially involves stress on *any* (e.g., *I don't have ANY potatoes, not even old ones.*) Without this stress, *any* does not seem to induce any domain widening, as also noted in Krifka (1995), Lahiri (1998) and Chierchia (2013).

French *grand-chose* ('big thing') (see Israel 2011). Clearly, these NPIs are not low scalar in their meaning. For instance, *much* occupies a relatively high rung on a Horn scale, unlike typical low-scalar expressions ('all' > 'much/many' > 'some').⁵

Furthermore, the analyses in question do not straightforwardly predict that NPIs are ungrammatical outside of DE contexts and are not just contradictions. Although Chierchia (2013) explores ways of arguing that contradiction can lead to ungrammaticality ('G-triviality'), all things being equal, an analysis that predicts the ungrammaticality of an NPI that fails to be licensed is preferable.

In the absence of an independent argument for the strengthening requirement on NPIs, and in light of the empirical and theoretical questions the analysis raises, we may consider taking another look at the view where what distinguishes the NPI *any* from *some* and *a* is a semantically meaningless, arbitrary syntactic feature that needs to be valued by expressions that create DE environments. Rather than calling it [+affective] (Klima 1964), we can update the terminology and call it [u-neg] and assume it is valued by the [i-neg] feature stemming from NPI licensors (e.g., *not*, *without*, *no one*, *before*, *if*, *only*, *regret*, *doubt*, etc.) In such an account, it would follow that NPIs are ungrammatical outside of DE-contexts. Moreover, it is not a problem that not all NPIs have an existential semantics, nor that many existential NPIs can have synonyms that are not NPIs. But what about the *every* vs. *no* issue?

As it turns out, the calculation of Local Polarity through Monotonicity Marking (Sánchez Valencia 1991, Icard and Moss 2013) offers the prospect of a syntactic account of NPI-licensing that, unlike Klima's, can also handle the contrast we see in *no* vs. *every*. Concrete proposals along these lines are worked out in Dowty (1994) and Ludlow (2002) and are briefly discussed in the Appendix. I therefore assume a syntactic analysis of NPI licensing, and ask: What happens historically with the NPI-feature [u-neg] and the expressions that bear it?

Exploring the origin of NPIs, section 2 argues that expressions that become NPIs have a semantics that makes them pragmatically useful and frequent in DE contexts. I hypothesize that this, over time, allows speakers to parse them as being marked [u-neg]. On this assumption, pragmatic usefulness provides the chance for an expression to develop historically into an NPI. Which semantically predisposed and pragmatically suitable expressions undergo this grammatical development is to some extent up to chance.

Section 3 explores the possible subsequent development of low-scalar NPIs, in particular their becoming Negative Concord expressions. It argues that Negative Concord is an epiphenomenon and really just involves the pairing of two homophones, one with a negative semantics and a free distribution, and the other with a low scalar semantics (in the wide sense) and a [u-neg] feature. Differences between Spanish-style and French-style Negative Concord are attributed to

⁵The existence of such NPIs is acknowledged in Chierchia (2013) (see also Krifka 1995), who suggests that *long* and *much* involve 'scale truncation'. *Long* and *much* would then occupy the lowest rung of their respective scales. While this works technically, it is less plausible than the idea that these expressions occupy the relatively high scalar rung that their meaning suggests, which is independently supported by their attenuating, understating pragmatic effect.

differences in the overt manifestation of the negation marker and what it tells the speaker about scope-taking. I also explore the loss of Negative Concord, a process that has already taken place in Standard English and German and is, I argue, under way in French.

While sections 2 and 3 discuss well-known patterns and developments, section 4 draws attention to a less widely-noticed generalization, namely that low-scalar NPIs can also have homophones that are semantically universal. I call this pattern ‘NPI Dualization’. NPI Dualization is taken to indicate that pragmatic strength is not only a factor in the genesis of NPIs but it may be playing an important role in NPI Dualization, namely as the one factor that stays constant when both quantificational force and distributional feature make-up change.

2. HOW NPIs COME INTO EXISTENCE

As we saw above, NPIs are, syntactically, highly heterogenous and can be of many syntactic categories. Semantically, however, they cluster in interesting ways. We can likely get a better understanding of why NPIs exist and what happens to them diachronically by looking at their semantics, and exploring their pragmatic effects.

2.1 The pragmatic usefulness of NPIs

Despite their syntactic heterogeneity, on a pragmatic level NPIs tend to fall into one of two different classes, which I argue is no accident. One class is larger and better studied than the other.

As has long been noted, many NPIs involve existential quantification expressing the smallest possible amount in some general sense (‘existential NPIs’). These can be basic existential quantifiers and determiners (e.g., *any*, *anyone*, *ever*), expressions of small quantity (*a single*), of a basic entity (*a thing*, *a soul*), or a small amount of a thing of little value (‘minimizers’, e.g., *a hair*, *an iota*). The latter also appear in collocational NPIs like *give a damn*, *have a clue*, *budge an inch*, *sleep a wink*. Some combine various of these properties. A related class of NPIs consist of or incorporate ‘even’ expressions in the sense of ‘the least noteworthy’. These ‘even’ NPIs include German *auch nur*, Italian *anche solo*. An existential and an ‘even’ expression appear jointly in entire paradigms of NPIs in various languages, including Hindi, Korean and Hebrew (see Lee and Horn 1994, Lahiri 1998). While existential and ‘even’-NPIs (and combinations thereof) seem to be the largest, and also most discussed class, we must also acknowledge NPIs like adverbial *much* (see Klima 1964), adverbial *long*, Catalan *gaire* (‘much’), French *grand-chose* (‘big thing’), certain uses of *impressed*, etc. These NPIs, discussed in detail in Israel (2011), occupy not the bottom rung on a Horn scale, but a (relatively) high rung.

Existential NPIs, ‘even’-NPIs, and relatively high scalar NPIs are pragmatically useful in DE contexts, but for different reasons. The first two, which I will subsume under the term ‘low scalar NPIs’, lend themselves to making semantically very strong, even emphatic claims in DE contexts: if Nico didn’t find a single/even the slightest mistake in the calculation, he certainly didn’t find three. If Mary won’t

budge an inch on her position, she certainly won't meet John half way. If Bill cannot even fry an egg, he certainly cannot prepare a three-course dinner. Disjunctive NPIs like additive *either* can also be included in this category.

Relatively high scalar NPIs have a different pragmatic function. As Israel (2011) notes, they generally attenuate matters in DE contexts. Attenuation is pragmatically useful, for instance when one wants to soften a negative comment or the force of a requirement; one can use *Yolanda was not impressed by the design of the garden* when one means 'She disliked it.' The fact that this type of NPI generally receives less attention likely has to do with the fact that it is less common. This makes a certain amount of sense. Strength and emphasis are communicatively important when expressing negation, attenuation arguably less so.⁶

2.2 Becoming an NPI is becoming [u-neg]

One way to conceptualize how an expression can become an NPI, or how it can come to carry [u-neg], is to note that its pragmatic usefulness in DE contexts can result in its frequent appearance there. We can then hypothesize that this allows the learner to parse such an expression as being formally restricted to such contexts, that is, as carrying the feature [u-neg]. This new parsing does not involve a change in meaning. Nor does it involve extra effort on part of the speaker, if we assume that NPI-marking and the valuation of the [u-neg] feature is provided for free by Universal Grammar, and is something that speakers already have at their disposal. On this view, expressions with a particular kind of semantics are *susceptible* to being parsed as bearing the NPI-feature [u-neg] because of their pragmatic usefulness in DE contexts, which follows from their semantics. But exactly which of the semantically and pragmatically suitable expressions actually end up being marked [u-neg] is to some degree up to chance (and/or perhaps other, yet to be determined factors). This probabilistic perspective suggests that in principle NPIs should be able to have synonyms that are not themselves NPIs. The coexistence of *any*, *some* and *a* discussed in section 1 can be taken to show just that.

One consequence of an expression becoming an NPI is the semantic bleaching that is often observed. While this is not relevant for NPIs like *any*, which express only existential quantification and are semantically as bare as can be, it characterizes many minimizing NPIs. Though *inch* literally denotes a measurement of distance (2.54 cm), the NPI *budge an inch* involves no real talk of measurement of distance. Semantic bleaching serves as a tell-tale sign to a learner that an existential noun phrase has become (part of) an NPI. Similarly, though 'even' NPIs are initially

⁶Both *not much* and *not long* can be used to understate matters expressing 'nothing' and 'short'. But what about deontic necessity modals having the distribution of NPIs, for instance, *need* + bare infinitive, Dutch *hoeven*, or German *brauchen*? They seem closer to universal than existential in their meaning. Perhaps, however, they are not really 'top-scalar' and, therefore, also attenuating. Note that while they may express deontic necessity, they do so less directly than *have to* or *must* in that they suggest that the obligation arises indirectly from the goal of satisfying some need.

emphatic, their emphatic character diminishes as time goes by (see e.g., Kiparsky and Condoravdi 2006).

2.3 The possible loss of [u-neg]

Given the relative arbitrariness of which semantically predisposed expressions acquire [u-neg]—*any* did it, *some* and *a* did not—it would now not be surprising to find that expressions can lose their NPI-hood without change in meaning, reverting to a less restricted distribution. While the literature generally argues for a development from ‘less negative’ to ‘more negative’ (see e.g., Haspelmath 1997, Breitbarth et al. 2020), the loss of NPI-hood without attendant change in meaning is not unheard of (see e.g., Jäger 2010, Herburger and Mauck 2013).

One example illustrating the loss of [u-neg] is Dutch *ooit* (‘ever’). According to Hoeksema (1998), although until the 1960s *ooit* had the distribution of a weak NPI, as in (5), in present day Dutch it can also be used outside of DE contexts, as in (6):

- (5) a. Niemand heft het ooit geweten. (Dutch)
 Nobody has it ever known
 ‘Nobody ever knew it.’
- b. Iedereen die hem ooit gekend heft, weet het
 Everyone that him ever known has knows it
 ‘Everybody that ever knew him knows it.’
- (6) Jan heeft het ooit geweten. (Dutch)
 Jan has it once known
 ‘Jan once knew it.’

The recent development of how speakers use *ooit* suggests that it has lost its [u-neg] feature, which limited its distribution earlier, while retaining its meaning as an existential adverbial quantifier.⁷ In other words, the relevant speakers used to have something like (7a) in their lexicon, now it is something like (7b):

- (7) a. $[[ooit]_{[u-neg]}] = \lambda f_{(ev,t)}. \exists e f(e) = 1$.
 b. $[[ooit]] = \lambda f_{(ev,t)}. \exists e f(e) = 1$

Further examples where a [u-neg] feature seems to have been lost without any change in meaning include German *einig-* and *jemand*. The determiner *einig-*, which shares a root with *any* (‘one’) is now used as a regular existential, without any distributional restriction to DE contexts. But it used to have the distribution of an NPI (Jäger 2010). Jäger similarly argues that Old High German *ioman* changed from existential, low scalar NPI to eventually becoming the regular indefinite *jemand*. Even NPIs that contain an overt instance of ‘even’ can shed their NPI-

⁷The change appears to have originated in the southern Brabant and Limburg areas, and spread to northern varieties. Hoeksema (1998) notes that while it may be that Southern *ooit* derived from an NPI *ooit*, in northern dialects the NPI *ooit* and its non-NPI counterpart seem to co-exist, with word order effects and intonational differences given in support of this analysis. It is possible that future speakers will no longer have access to the [u-neg] interpretation.

hood while keeping their existential meaning (Herburger and Mauck 2013). As these examples illustrate, just as an expression with a suitable semantics can come to bear the feature [u-neg], an expression that is lexically marked [u-neg] can also come to lose its marking without any shift in meaning. On a more general level it suggests that the history of NPIs is not unidirectional (see e.g., Haspelmath 1997, Breitbarth et al. 2020). I briefly return to this matter in section 3.7.3.

3. NEGATIVE CONCORD

NPI-hood cannot just be gained or lost; NPIs can also morph into Negative Concord terms (NC-terms). Looking mainly at data from Romance, in this section I show that the Medieval Romance languages featured a series of expressions that appeared in a wide variety of negative contexts but whose distribution has since shrunk, as far as these contexts are concerned. At the same time these expressions have started to appear elsewhere, having increasingly gained the ability to express negative meanings on their own in a class of environments that can be systematically defined. Building on these observations I argue that Negative Concord in Romance typically arises when a [u-neg] expression with a low scalar, existential-like interpretation comes to be paired with a semantically negative, [i-neg] homophonous counterpart. Independent factors related to scope are responsible for the two interpretations having an almost complementary distribution.⁸

3.1 NPIs becoming stronger

Medieval Romance developed a series of existential NPIs along the lines sketched initially in section 2. Examples include among many others Spanish *nadie* (< *hominem natum* ‘man born’), *nada* (< *res nata*, ‘thing born’), French *rien* (< *res*, ‘thing’), French *personne*, Catalan *cap* (< *caput* ‘head (of cattle)’), etc. The forebears of these expressions in Medieval Romance readily appeared in all sorts of NPI contexts, including *if*-clauses, questions and comparatives (see Martins 2000, Eckardt 2006, and Breitbarth et al. 2020, a.o.).

The acceptance of these expressions in NPI-contexts has decreased in Modern Romance. But there is considerable variation among the Romance languages in this regard (see Martins 2000). Within Iberian Romance, we find that in European Portuguese the relevant expressions now tend to be restricted to the scope of negation, ‘without’ or a negative quantifier. On the other hand, in Catalan they are still possible in interrogatives and in *if*-clauses.⁹

⁸NC-terms are often called ‘n-words’ in the literature, following Laka (1994); for my part, since many of the expressions that participate in Negative Concord do not start with *n*-, and because to a non-specialist audience, the terminology invokes a racial slur, I will refer to them as NC-terms and I will gloss *nadie* as ‘n-body’, etc. so as not to prejudice their interpretation.

⁹A regular existential expression is also possible:

(i) Si vol menjar alguna cosa, avisa'm.
If want-you eat some thing warn-me
'If you want to eat something/anything, let me know.'

(Vallduví 1994)

- (8) Si vol menjar res, avisa'm.
 If want-you eat n-thing warn-me
 'If you want to eat something/anything, let me know.'

Unlike Portuguese, Spanish no longer features these expressions in *if*-clauses or questions (unless the questions are rhetorical and have a negative bias), but still allows them in the NPI-contexts created by 'doubt', 'prefer', 'before', comparatives and even in the restriction of universal quantifiers in some instances (see also Bosque 1980, Laka 1994).

- (9) a. Dudo/*creo que venga nadie. (Spanish)
 Doubt-I/believe-I that come n-body
 'I doubt/believe that anybody came.'
- b. Antes/*después de hacer nada, piensa bien.
 Before/after of do n-thing, think well
 'Before you do anything, think carefully.'

The gradual narrowing to more obviously negative contexts has constituted a long-standing philological puzzle. An important insight was that it can be thought of as a process of 'weak' NPIs turning into 'strong'(er) ones, a point argued for in Martins (2000), Eckardt (2006) and others.¹⁰

Interestingly, these expressions in Old Spanish also appeared together with negation in elliptical contexts, both in coordination, as in (10), and in elliptical or fragment answers, as in (11). This is no longer possible in Modern Spanish.

- (10) Dan á los de lara e vizcaya (Old Spanish)
 Give-they to the of Lara and Vizcaya
 cada año seis mrs. por el sant johan
 every year seis mrs. for the Saint John
 alos otros non nada
 to the others not n-thing
 'They give to those from Lara and Vizcaya every year six mrs. at St. John's [and] nothing to the others.' (Anonymous, *Becerro de las behetrías de Castilla*, 1352)
- (11) a. Entonces respondieron todos: (Old Spanish)
 then answered-they all
 que non ninguno
 that not n-one
 'Then all answered: no one.' (*Cantar de mio Cid*, ca. 1200)
- b. ¿Que lleuays ay? (late Old Spanish)
 What bring-you there?
 No nada, si el asno cae.

¹⁰The distinction between weak and strong NPIs is not easily characterized semantically. One school of thought characterizes the contexts where strong NPIs are grammatical as *anti-additive* (in addition to DE) (van der Wouden 1997, Zwarts 1998). This is problematic, however, because the restriction of *every* is anti-additive, ('Every A is V and every B is V' is equivalent to 'Every A or B is V'), yet *every* does not license strong NPIs in its restriction (see also Chierchia 2013). Alternatively, Gajewski (2011) argues that strong NPIs have a narrower distribution because their licensing is sensitive to presuppositions and scalar implicatures.

Not n-thing, if the donkey falls
 ‘What are you bringing?’ ‘Nothing, if the donkey falls.’
 (Marqués de Santillana, *Refranes que dizen las viejas tras el fuego*, 1419)

In Catalan, which retains various Medieval properties, e.g., *res* and *gens* can still optionally appear with negation in elliptical answers, recalling in this respect the pure NPI *gaire* (‘much’), which requires a negation (e.g., Vallduví 1994).

- (12) a. A: Què vols? B: (No) res. (Catalan)
 What want-you not n-thing
 ‘What do you want? Nothing.’
- b. A: Que tens son? B: (No) gens.
 Q have-you sleep No n-some
 ‘Are you sleepy? Not at all.’
- c. A: Que queda sucre? B: *(No) gaire.
 Q remains sugar not much
 ‘Is there (any) sugar left? Not much.’

In sum, it appears that in Medieval Romance, what are today considered NC-terms generally appeared in a wider series of negative contexts than they do today, including an extensive series of NPI contexts, and contexts involving verbal ellipsis.

3.2 Negative Concord: Important data

NC-terms in Modern Romance crucially differ from univocal NPIs, which Modern Romance languages also have (e.g., Spanish N *algun-* ‘any’), in that in addition to their having low-scalar readings in (a subset) of NPI contexts, they can also appear on their own with a negative interpretation. A paradigmatic context would be the case of elliptical answers, where pure NPIs are not possible, (see *Who came? *Anybody.*):

- (13) A: ¿Quién vino? B: Nadie (Spanish)
 ‘Who came?’ ‘N-body’
 ‘Nobody came.’

In addition, negative readings of NC-terms are also found in cases of verbal ellipsis in coordination, as shown for Spanish in (14) and Romanian in (15).¹¹

- (14) a. Bailaré contigo o con nadie. (Spanish)
 Will-dance-I with-you o with n-body
 ‘I will dance with you or with nobody.’
- b. Ellos lo tienen todo, nosotros nada.
 They it have all, we n-thing
 ‘They have everything, we nothing.’
- c. Iré a Chile o a ninguna parte.
 Will-go-I to Chile o to n- place
 ‘I will go to Chile or nowhere.’

¹¹The sentences and judgements for Romanian are due to Aurelia Roman.

- (15) a. Voi dansa cu tine sau cu nimeni/nici unu. (Romanian)
 Will-I dance with you or with n-body/n-one
 ‘I will dance with you or with no one.’
- b. Eu au de toate, noi nimic.
 They have of all, us n-thing
 ‘They have everything, we nothing.’
- c. Ma duc in Chile ori nicaieri.
 To-me go to Chile or n-where
 ‘I will go to Chile or nowhere.’

It is theoretically significant that even in postverbal position, NC-terms can have a negative interpretation on their own. They do so when they take narrow scope with respect to the event quantifier binding into the verbal predicate, which prevents them from expressing ‘sentence negation’ (e.g., Herburger 2001). Since such a narrow scope construal is not often feasible, examples of postverbal NC-terms without a higher negation or NC-term are not numerous. This, however, does not mean that they are not productive and thus should be set aside as idioms (see Penka 2011).

- (16) a. Dije bajito a nadie que todo era mío. (Spanish)
 said-I softly to n-body that everything was mine
 ‘I said softly to nobody that everything was mine.
 (Mercè Rodoreda, *Parecía de seda*, 1981)
- b. para los budistas “zen” la meditación “no consiste en
 for the Buddhists Zen the mediation not consists in
 ‘no pensar en nada’ sino en ‘pensar en nada’
 not think in n-thing but in think of thing
 ‘For Zen Buddhists meditation is not ‘not to think of anything’ but ‘to think of nothing’
 (Ignacio Bosque, *Sobre la negación*)
- c. Conducía frenéticamente a ninguna parte.
 Rode-I frenetically to n- place
 ‘I was fast riding (my motorcycle) nowhere’
 (Tokio in *Money Heist*)

NC-terms with a negative interpretation can also be found postnominally when they take narrow scope, as in *el viaje a ninguna parte* (‘a trip to nowhere’), *una serie sobre nada* (‘a show about nothing’). Adding a higher negatively interpreted expression does not change the scope properties of the postnominal NC-term in such instances. We can see this in (17), which combines a negative, narrow scope postnominal NC-term (*nada*) with a preverbal negative NC-term with sentential scope (*nunca*). Though both NC-terms are negative, the result is not a double negation, because the scope of *nada* is below the nominal *serie*.

- (17) ‘Seinfeld’ es la telecomedia n° 1 de la historia de la TV de los (Spanish)
 ‘Seinfeld’ is the number 1 comedy show in the history of television in the
 Estados Unidos. Nunca una “serie sobre nada” llegó a tanto.
 United States. N-ever a show about n-thing reached so many
 Never has a “show about nothing” been so successful.’
 (<https://seriesyonkis.org/serie/seinfeld/>)

Finally, as is well-known and much discussed, Modern Romance languages differ with respect to the behaviour of preverbal NC-terms. In some languages and varieties, preverbal NC-terms co-occur with negation to express a single negation. This is obligatory in Romanian, as is illustrated in (18), and optional in Catalan.

- (18) Nimini nu a venit. (Romanian)
 N-body not has come
 ‘Nobody came.’

And though in Medieval Spanish, Italian and Portuguese, the expressions in question often also appeared with negation preverbally, to express ‘sentence’ negation, already in the Medieval languages, they could at times appear without negation, alternating even within a single text, as pointed out in Martins (2000).

- (19) Nada non olvidava de quanto que oyé (Old Spanish)
 n-thing not forgot of what that heard
 ‘He forgot nothing of what he heard.’ (Libro de Alexandre, 13th century)

In Modern Italian, Portuguese and Spanish, this is the general pattern. In these asymmetric or non-strict Negative Concord languages, preverbal NC-terms routinely occur without negation, expressing sentence negation, as is illustrated in (20a). Adding negation results not in ungrammaticality, as is sometimes claimed, but in a double negation interpretation. Pragmatically, (20b) is felicitous as a denial of a previously uttered negative claim (see A: *Nobody came*. B: *No, nobody DIDN’T come*; A: *Michelle didn’t come*. B: *No, NOBODY didn’t come*) and is characterized intonationally by stress on the NC-term or the negation and a L+H*L! H% intonation contour (see e.g., Labov 1972, Espinal et al. 2016). In languages that have symmetric Negative Concord, double negations are distinguished only prosodically (see Espinal et al. 2016).

- (20) a. Nadie vino. (Spanish)
 n-body came
 ‘Nobody came.’
 b. Nadie no vino.
 n-body not came
 ‘Nobody didn’t come’ (i.e., Everyone came)

Based on this description of the facts, we can now draw the descriptive generalization in (21), which assumes that sentences are descriptions of event(uality)s, and that in the absence of an overt adverb of quantification (e.g., *always*, *often*) a tacit existential quantifier $\exists e$ binds the event variable of the verb.

- (21) a. In languages with asymmetric or non-strict Negative Concord like Spanish, NC-terms can have a negative interpretation when this does not require them to take inverse scope over the event operator $\exists e$ that binds the event variable of a verb that is pronounced.
 b. In languages with symmetric or strict Negative Concord like Romanian, NC-terms can have a negative interpretation when this does not require them to take linear or inverse scope over the event operator $\exists e$ that binds the event variable of a verb that is pronounced.

This generalization means that in Spanish and Romanian, an NC-term that appears after an overtly realized verb can in principle be interpreted negatively but cannot take scope over $\exists e$ and express sentence negation. However, when the verb is elided, as it is in elliptical answers and elliptical conjunction, a postverbal NC-term can be negative and express sentence negation, taking scope over $\exists e$ that binds the event variable of the elided verb. It is, in other words, as if the overtly pronounced verb blocks non-linear scope. Whereas preverbal NC-terms can be interpreted negatively in a Spanish-type language taking linear scope over $\exists e$, this is not possible in a Romanian-type language. The difference between strict or symmetric and non-strict or asymmetric Negative Concord reduces to whether a preverbal NC-term can take scope over the event quantifier binding the variable of the pronounced verb on its own (non-strict) or not (strict). Languages like Catalan currently seem to allow for both options; preverbal NC-terms can, but need not, express sentence negation on their own.

3.3 Negative Concord as homophony¹²

Many of the facts described in (21) can be readily captured with a feature-based account. After showing how, I explore the historical development of NC-terms.

3.3.1 Synchronic facts

The feature-based account of NPI-hood argued for in section 1 fits organically with the view that Negative Concord is an epiphenomenon, merely a name for a systematic lexical ambiguity (see Herburger 2001). NC-terms, in this view, come in two phonologically indistinguishable versions, different in meaning and distributional features. One version has a low-scalar semantics (e.g., existential, ‘least noteworthy’, disjunctive) and bears the distributional feature [u-neg]. The other lacks [u-neg] and is semantically the negation of the low-scalar meaning; we can say it bears [i-neg]. The NC-terms *nadie* and *nada*, for example, thus have the following kinds of lexical entries:

- (22) a. $[[nadie]_{[u\text{-neg}]}] = \lambda f_{(e,t)}. [\exists x: Person(x)] f(x) = 1$
 b. $[[nadie]_{[i\text{-neg}]}] = \lambda f_{(e,t)}. [\nexists x: Person(x)] f(x) = 1$
- (23) a. $[[nada]_{[u\text{-neg}]}] = \lambda f_{(e,t)}. [\exists x: Thing(x)] f(x) = 1$
 b. $[[nada]_{[i\text{-neg}]}] = \lambda f_{(e,t)}. [\nexists x: Thing(x)] f(x) = 1$

Various facts observed earlier find a simple explanation under the homophony view. One is that just as NPIs are not restricted to elements in the nominal domain (‘indefinites’), neither are NCs; they can also be adverbials (*nunca* ‘never’ ‘ever’), scalar expressions (*ni siquiera* lit. ‘not even’ ‘even’), or conjunctions (*ni...ni* ‘neither nor’, ‘either or’), etc. This follows directly from the claim that NC-terms

¹²This section builds on the analysis of Negative Concord in Herburger (2001, 2003). There are of course numerous other accounts, including Laka (1994), Zanuttini (1997), Haegeman and Zanuttini (1991), Ladusaw (1992), Giannakidou (1998), Déprez (1997), de Swart and Sag (2002), Zeijlstra (2004), Penka (2011) and Chierchia (2013).

are, on one of their readings, NPIs, which are also not restricted to expressions of particular syntactic categories. The cross-categorial parallel that we see between NC-terms and NPIs is more difficult to explain in analyses that treat Negative Concord and NPI licensing as separate phenomena (e.g., Zeijlstra 2004, Penka 2011).

It also follows that NC-terms receive a negative interpretation when they appear on their own. As we saw in section 3.2, they do this in elliptical answers, conjunctions involving verbal ellipsis, postverbal or postnominal narrow scope, and in preverbal position in asymmetric or non-strict Negative Concord. In all these instances, the negative interpretation simply follows from the fact that in the absence of an NPI licensor, the negative reading of the NC-term is the sole grammatical option; employing the [u-neg] version would leave its feature unvalued.¹³

- (24) a. Nadie_[i-neg] vino. (Spanish)
 ‘Nobody came.’
 $[\exists x: Person(x)] \exists e (Came(e) \wedge Th(e, x))$
- b. Nadie_[i-neg] no_[i-neg] vino.
 ‘Nobody didn’t come.’
 $[\exists x: Person(x)] \exists e (Came(e) \wedge Th(e, x))$
- c. A: ¿Quién vino?
 B: Nadie_[i-neg].
 ‘Who came? Nobody came.’
 $[\exists x: Person(x)] \exists e (Came(e) \wedge Th(e, x))$
- d. Dije bajito a nadie_[i-neg] que todo era mío.
 ‘I said softly to nobody that everything was mine.’
 $\exists e (Say(e) \wedge Softly(e) \wedge Ag(e, I) \wedge \exists x To(e, x) \wedge Th(e, that\ everything\ was\ mine))$

The homophony analysis captures the fact that, to varying degrees, NC-terms continue to appear in the scope of NPI licensors with non-negative meanings. Thus, in all Negative Concord languages, NC-terms can appear not only under ‘not’, another negatively read NC-term (‘Negative Spread’), but also under ‘without’. And as we noted, in various languages/varieties, they can also still appear under other NPI-licensors; in Spanish, for example, they can appear under ‘before’ and ‘doubt’.

- (25) a. *(No_[i-neg]) vino nadie_[u-neg]. (Spanish)
 ‘Nobody came.’
 $\neg \exists x \exists e (Came(e) \wedge Th(e, x))$

¹³No silent negation or self-licensing is needed in this account of Negative Concord (see Ladusaw 1992, Laka 1994, Zeijlstra 2004, Penka 2011). This is theoretically advantageous, as silent negation or self-licensing has to be posited for the cases where NC-terms receive negative interpretation, without independent evidence for its existence elsewhere. There is, in contrast, considerable independent evidence for the existence of expressions with a negative semantics.

- b. $Nadie_{[i-neg]}$ dijo $nada_{[u-neg]}$.
 ‘Nobody said anything.’
 $\nexists x \exists y \exists e (Say(e) \wedge Ag(e, x) \wedge Th(e, y))$

Finally, the homophony analysis also predicts certain ambiguities. We expect, and indeed find, ambiguity when an NC-term appears preverbally in an embedded clause that is itself in the scope of an NPI-licensor. The ambiguity of (26) supports this. Its simple negation reading arises when $nadie_{[u-neg]}$ is licensed by ‘doubt’, as in (27a). The double negation reading arises with $nadie_{[i-neg]}$, as in (27b). (The characteristic prosody and context are needed for the double negation reading.)

- (26) Dudo que nadie haya venido. (Spanish)
 Doubt-I that n-body has come
 ‘I doubt that anybody has come.’
 ‘I doubt that nobody has come.’
- (27) a. $Dudo_{[i-neg]}$ que $nadie_{[u-neg]}$ haya venido. (Spanish)
 b. $Dudo_{[i-neg]}$ que $nadie_{[i-neg]}$ haya venido

3.3.2 Diachronic facts

Turning to the historical trajectory of NC-terms, we can now say that Negative Concord can arise when a univocal low scalar NPI bearing [u-neg] acquires a semantically-negative homophone with a free distribution: [u-neg] > [u-neg]/[i-neg]. This characterizes the historic origin of many NC-terms as low-scalar expressions (e.g., *nada* < *res nata*, *cap* < *caput*, *res* < *res* etc.). It is, however, also worth bearing in mind that quite a few NC-terms derive from expressions that were semantically negative in Classical Latin. These include Spanish *nunca* (< *numquam* ‘never’), Romanian *neminem* (< *nemo* ‘nobody’), and French *nul* and *nulle part* (< (*nullus* ‘none’). In addition, many varieties of Modern Romance feature words that derive from Latin *nec*, which meant ‘(neither) nor’ and ‘not even’. These include Spanish *ninguno* (‘nobody’, ‘anybody’), *ningun-* (‘no’, ‘any’), Italian *niente* (‘nothing’, ‘anything’), Italian *nessuno* (‘nobody’, ‘anybody’), along with conjunctive expressions *ni...ni* (‘neither... nor’, ‘either... or’) and scalar particles like *ni* (‘not even’, ‘even’). The existence of NC-terms that historically derive from semantically negative expressions suggests that the homophony known as Negative Concord can arise from either side, either from a low scalar [u-neg] expression acquiring a negative [i-neg] homophone or from a negative [i-neg] expression acquiring a low scalar [u-neg] homophone.

- (28) The path to Negative Concord
- | | | | |
|---------|---|---------|---------------------------|
| | | [u-neg] | |
| [u-neg] | > | | <i>nadie, rien</i> , etc. |
| | | [i-neg] | |
| | | [u-neg] | |
| [i-neg] | > | | <i>ninguno, ni</i> etc. |
| | | [i-neg] | |

In section 2.2 we noted that the choice of which semantically predisposed expression acquires the distributional NPI-feature [u-neg] is to some degree an arbitrary matter (e.g., *any* vs. *some* vs. *a*). It would now not be surprising to also find variation in whether or not a [u-neg]-bearing expression comes to be paired with a semantically-negative [i-neg] counterpart. The descendants of Latin *aliquis* ('some (or other)'), discussed in detail in Gianollo (2018), provide an interesting example of this. Latin *aliquis* developed into the Spanish regular indefinite quantifiers *algo* ('something') and *alguien* ('somebody'). It also developed into an epistemic non-NPI, pronominal indefinite determiner (*algún-*) ('some (or other)'). In postnominal position, however, *algún-* in Spanish functions as an NPI. Going one step further, its Portuguese counterpart (N *algum-*) has the distribution of an NC-term. The same is true of the French descendant of *aliquis*, *aucun*.

(29)	Lt. <i>aliquis</i>	existential
>	Sp. <i>algo, alguien</i>	existential
>	Sp. <i>algún-</i> N, Pt. <i>algum-</i> N	epistemic existential
>	Sp. N <i>algún</i>	existential [u-neg]
>	Pt. N <i>algum</i> , Fr. <i>aucun</i>	existential [u-neg]/[i-neg]

This type of variation, which may seem puzzling, makes sense in the present perspective. What happens to *aliquis* in a particular Romance language is to some degree a random matter within a certain set of possibilities (stays existential, becomes NPI, or becomes also NC-term).¹⁴

3.4 On Negative Concord in French

Negative Concord in French shows an interesting development when compared to the languages considered so far. I will suggest that this difference is related to the history of sentential negation, in particular to the postverbal realization of negation in French as *pas*, and to the cost of inverse scope.

As in other Romance languages, French NC-terms typically functioned as NPIs in the medieval varieties (see Eckardt 2006), and continue to appear in the NPI environment provided by 'without', and optionally (increasingly less) in the NPI environments provided by the comparative, 'before', 'not believe', rhetorical questions, etc. Their NPI-side is also visible when NC-terms are interpreted under a negation in a higher clause. The following examples are from Milner (1979), and are annotated for the relevant features.

- (30) a. Pierre parle sans_[i-neg] que nul_[u-neg] puisse l'arrêter. (French)
 'Pierre talks (so much) without anybody being able to stop him.'
- b. Pierre est parti avant_[i-neg] que j'aye pu dire à Paul de faire rien_[u-neg] pour lui.
 'Pierre left before I could tell Paul to do anything for him.'
- c. Pierre est plus_[i-neg] gentil qu'aucun_[u-neg] de ses amis.
 'Pierre is nicer than any of his friends.'

¹⁴This article abstracts away from the issue of epistemic indefinites, discussed in detail in Gianollo (2018).

In preverbal position, as in (31a), French NC-terms receive a negative interpretation, indicating asymmetric Negative Concord. This claim is based on the assumption that it is *pas* rather than *ne* that translates as semantic negation (see Jespersen 1917, Rowlett 1998). Support comes from the fact that in spoken French *ne* is readily omitted, and also from the fact that adding *pas* results in a double negation (with the typical prosodic and pragmatic characteristics) (e.g., Muller 1991):

- (31) a. Personne_[i-neg] n'est venu. (formal written French)
 'Nobody came.'
 b. Personne_[i-neg] est venu. (spoken French)
 'Nobody came.'
 c. Personne_[i-neg] n'est pas_[i-neg] venu. (French)
 'Nobody didn't come.' (i.e., Everybody came.)

Finally, as in other Romance languages, French NC-terms appear with negative interpretation on their own as elliptical answers (as in (32)–(33)), in elliptical coordination (as in (34)), and postverbally/postnominally with narrow scope (as in (35)). Interestingly, in examples like those in (35), *ne* has to be absent to express the desired reading where the NC-term takes scope below the event quantifier $\exists e$ that binds the event variable of the verb. *Ne*, whose position is high, seems to be incompatible with this interpretation. Adding *ne* in (35a) would not be ungrammatical, but rather change the meaning, negating that a given event took place. This suggests that *ne*, when present, functions as a scope marker.

- (32) A: Qui as-tu vu? B: Personne_[i-neg] (French)
 'Who did you see?' 'I saw nobody.'
 (33) A: Qu'est-ce que tu a vu? B: Rien_[i-neg]. (French)
 'What did you see?' 'I saw nothing.'
 (34) a. Je danserais avec toi ou avec personne_[i-neg]. (French)
 'I'll dance with you or with no one.'
 b. Ils ont tout, (et) nous rien_[i-neg].
 'They have everything and us nothing.'
 c. J'irais au Chili ou nulle_[i-neg] part.
 'I'll go to Chile or nowhere.'
 (35) a. J'ai dit doucement à personne_[i-neg] que tout était à moi. (French)
 'I said softly to no one that everything was mine.'
 b. Jamais_[i-neg] une « série sur rien_[i-neg] » n'a eu autant de succès.
 'Never has a "show about nothing" been so successful.'

Other than how negation is realized, so far it might appear that French Negative Concord and Spanish/Italian/Portuguese Negative Concord are parallel. But, in striking contrast with the Spanish (36), which is interpreted as a single negation ('Negative Spread'), its French counterpart in (37) is ambiguous between a single

or double negation, that is between (38a) and (38b) (Corblin 1996, Muller 1991, de Swart and Sag 2002, a.o.). (As usual, the double negation reading has special prosodic properties; see Déprez 2018 and Yeaton 2018.)

(36) Nadie_[i-neg] vio nada_[u-neg]. (Spanish)
 ‘Nobody saw anything.’

(37) Personne n’a rien vu. (Spanish)
 ‘Nobody saw anything.’
 ‘Nobody saw nothing.’

(38) a. $\nexists x \exists y \exists e (Has\ seen(e) \wedge Exp(x, e) \wedge Theme(y, e))$

b. $\exists x \nexists y \exists e (Has\ seen(e) \wedge Exp(x, e) \wedge Theme(y, e))$

The double negation reading of (37) indicates not just that both *personne* and *rien* are negative, but also that *rien*, despite being postverbal, takes scope over the event quantifier $\exists e$, something its Spanish counterpart *nada* crucially cannot do. If so, a sentence where a NC-term appears postverbally on its own (with optional *ne*) should be able to express sentence negation, as is in fact confirmed in (39). Also, adding *pas* results in a double negation, contrasting in this respect with univocal NPIs like *qui que ce soit*. (Examples are from Muller 1991:258)

(39) Je n’ai vu personne_[i-neg]. (French)
 ‘I haven’t seen anyone.’

(40) A : Tu n’as vu personne, n’est-ce pas? (French)
 ‘You have seen no one, right?’

B : Non, je n’ai pas_[i-neg] vu personne_[i-neg], j’ai vu Paul.
 ‘No, I haven’t seen no one, I’ve seen Paul.’

(41) Je n’ai *(pas_[i-neg]) vu [qui que ce soit]_[u-neg]. (French)
 ‘I haven’t seen anyone.’

When a postverbal NC-term occurs with *pas*, the availability of a negative interpretation seems to effectively block a [u-neg] interpretation of the NC-term, which would result in a simple negation reading. This may have to do with the fact that a simple negation reading could be achieved more economically by simply using the [i-neg] version of the NC-term, without bothering with sentential negation. The fact that in older varieties (e.g., 17th century French), *pas* + NC-term was read as a simple negation – as is still possible in Québécois and in Haitian Creole (see Muller 1991, Déprez 1997, de Swart and Sag 2002) – indicates that the ability of postverbal negative NC-terms to take scope over the event quantifier is an innovation, relatively speaking.

To illustrate the properties of postverbal French NC-term we can consider (42), an example that I owe to an anonymous reviewer, who notes that it is four ways ambiguous. While in this sentence *personne* can only be taken to be negative, since there is no NPI licenser above it, *jamais* and *rien* can be interpreted either as NPI expressions licensed by the negative *personne*, or as negative expressions that outscope $\exists e$. The readings are shown in (43):

(42) Personne n’a jamais rien dit. (French)

- (43) a. $\text{Personne}_{[i\text{-neg}]} \text{ n'a jamais}_{[u\text{-neg}]} \text{ rien}_{[u\text{-neg}]} \text{ dit.}$
 $\exists x \exists y \exists e (\text{Say}(e) \wedge \text{Ag}(e, x) \wedge \text{Th}(e, y))$
 'Nobody has ever said anything.'
- b. $\text{Personne}_{[i\text{-neg}]} \text{ n'a jamais}_{[i\text{-neg}]} \text{ rien}_{[u\text{-neg}]} \text{ dit.}$
 $\exists x \exists y \exists e (\text{Say}(e) \wedge \text{Ag}(e, x) \wedge \text{Th}(e, y))$
 'Nobody never said anything.'
- c. $\text{Personne}_{[i\text{-neg}]} \text{ n'a jamais}_{[u\text{-neg}]} \text{ rien}_{[i\text{-neg}]} \text{ dit.}$
 $\exists x \exists y \exists e (\text{Say}(e) \wedge \text{Ag}(e, x) \wedge \text{Th}(e, y))$
 'Nobody ever said nothing.'
- d. $\text{Personne}_{[i\text{-neg}]} \text{ n'a jamais}_{[i\text{-neg}]} \text{ rien}_{[i\text{-neg}]} \text{ dit.}$
 $\exists x \exists y \exists e (\text{Say}(e) \wedge \text{Ag}(e, x) \wedge \text{Th}(e, y))$
 'Nobody never said nothing.'

In sum, while French NC-terms are like their Spanish and Romanian counterparts in that they are ambiguous between a [u-neg] and an [i-neg] interpretation, they are different in that the postverbal [i-neg] versions can take inverse scope over $\exists e$.

3.5 Postverbal NC-terms and Jespersen's cycle

At this point we may wonder why French but not Spanish NC-terms should have acquired the ability to take inverse scope on their negative reading. A look at micro-variation helps shed light on the possible reason for the difference. Modern European French is not alone in allowing postverbal NC-terms on their negative readings to outscope the event quantifier. Such readings have also been reported for 'italiano popolare' of the 20th century, and various Italian and Rhaeto-Romance varieties in northern Italy and Switzerland (Bernini and Ramat 1996, Zanuttini 1997, a.o.):

- (44) a. Ma c'era niente_[i-neg] de fare. (col. Northern Italian)
 but there was n-thing to do.
 'But there was nothing we could do.'
- b. Ci si accorge neache_[i-neg] che è lunedì. (Swiss Italian)
 one REFL realizes n-even that is Monday
 'One doesn't even realize it's Monday.'
- c. Il'hai vist gung_[i-neg]. (Piedmontese)
 s.CL'have-I seen n-one
 'I didn't see anyone.'
- d. Hoo vist nissunn_[i-neg]. (Milanese)
 have-I seen n-one
 'I didn't see anyone.'

An interesting property shared by these varieties and French is that their negation marker ('not') is overtly realized below the tensed verb (see Bernini and Ramat 1996, Zanuttini 1997, a.o.) even though semantically it typically takes scope over it. Put differently, whereas Spanish and most Italian varieties are 'NEG1', the varieties mentioned here are 'NEG3' (and some even 'NEG4', Zanuttini 1997), and French is NEG2 or NEG3, depending on whether the register employs *ne*.

- (45) a. Mi parli no. (Milanese)
 I speak not
 'I don't speak.'
- b. Eu sai beka. (central Rhaeto-Romance)
 I know not
 'I don't know.'
- c. Je (ne) sais pas. (French)
 I ne know not
 'I don't know.'

The low negation *no/beka/pas* reflects a step in what is called the Jespersen Cycle. According to Jespersen (1917), initially, the semantic negation was the preverbal *ne*, which was reinforced by the postverbal *pas* in French, which then itself became the negation without changing its postverbal position. The erstwhile negation *ne* became largely optional in spoken French in most instances, and, when pronounced, now marks the scope of the NC-term. This trajectory can now be represented as follows:¹⁵

- (46) $ne_{[i-neg]}$ un pas >
 $ne_{[i-neg]}$ (un) $pas_{[u-neg]}$ >
 ne $pas_{[i-neg]}$ >
 (ne) $pas_{[i-neg]}$

The negation and the postverbal NC facts seem to be related (and are actually presented as one single fact, in Bernini and Ramat 1996). In particular, we can assume that once the semantically active negation marker is realized postverbally (NEG 2,3,4), speakers have evidence that a semantically negative expression (e.g., *no*, *beka*, *pas*) can take non-linear scope over the event quantifier and thereby express sentence negation. At some point, they can extend this to postverbal negative NC-terms, which thus acquire the capacity to outscope $\exists e$ and express sentence negation. In varieties that pattern with Spanish, in contrast, the negation marker is robustly realized preverbally (NEG1), offering speakers little reason to assume that the surface position of a postverbal negative expression does not reflect its semantic scope. In order to express sentence negation with a postverbal NC-term, its [u-neg] version must be employed with a preverbal [i-neg] licensor.

Table 1 summarizes the development of Negative Concord in Romance as analyzed here.

3.6 The demise of Negative Concord

Given the many [i-neg] uses of French NC-terms, at some point the [u-neg] uses may disappear, at which point French will cease to be a Negative Concord language and turn into a Double Negation language:

¹⁵The change of *pas* from minimizer NPI to sentential negation has been carefully studied (see Breitbarth et al. 2020 for an extensive overview). Verbs with optionally realized objects (e.g., 'eat') are thought to provide a possible bridging context, as are partitive constructions (e.g., 'a drop of wine', e.g., Breitbarth et al. 2020).

No NC	NPI	Symmetric NC	Asymmetric NC	Disappearing NC
existential: <i>res, hominem natum, aliquis...</i>	[u-neg]	[u-neg] [i-neg]	[u-neg] [i-neg]	[u-neg] [i-neg]
negative: [i-neg] <i>numquam, nemo, nec, nullus</i>	[u-neg]	[u-neg] [i-neg]	[u-neg] [i-neg]	[u-neg] [i-neg]
		[i-neg] in ellip- tical answer, ellipsis, postver- bal narrow scope	[i-neg] in elliptical answer, ellipsis, postverbal narrow scope, preverbally	[i-neg] in elliptical answer, ellipsis, postverbal narrow scope, preverbally, postverbal wide scope
	Medieval Romance	Romanian	Spanish, Portuguese Italian	French, Northern Italian, Rhaeto- Romance varieties

Table 1: The development of Negative Concord in Romance

- (47) [u-neg] / [i-neg] > [i-neg]
 NC-term negative expression
 Negative Concord Double Negation

This has already happened in English, German and various other Germanic languages. For instance, the German negative determiner *kein-* (‘no’) functioned as an existential NPI determiner *dehein(ig)/kein* before it developed into an NC-term in Middle High German (Jäger 2010). It could then not only appear with existential meaning in NPI contexts, as in (48a), but also alone with negative meaning, as in (48b). While Negative Concord with *kein-* is still possible in some dialects (e.g., Bavarian, see Bayer 1990), in Standard Modern German *kein-* no longer shows Negative Concord but only has a negative reading. In other words, while Middle High German featured two versions of *kein-*, a [u-neg] one with existential meaning, and a negative [i-neg] one, modern standard German retains only the [i-neg] version. The trajectories of *niemand* (‘nobody’) and *nichts* (‘nothing’) are reported to be parallel (see Jäger 2010), and they too can be said to have developed from existential NPI to NC-term to negative quantifier.

- (48) a. Nu dunckest du mich als wise, (Middle High German)
 Now seem you me as wise,
 sol kein man radt darzu geben,
 should n- man advice to-that give

das thust auch du
that do also you

‘Now you seem to me just as wise. Should /if any many gives advice on this, so should you.’
(*Prose Lancelot*, first half 13th century)

b. roub unde diepheit Middle High German
robbery and theft

daz mac kein amt gesîn
that may n- office be

‘Robbery and theft cannot be a profession.’

Berthold von Regensburg, *Predigten I*, late 13th century)

The history of English also offers numerous examples of NC-terms becoming univocally negative expressions. Negative Concord was common in Old English and still possible in Middle English, as we can see in (49).

(49) He nevere yet no vileyneye ne sayde (Middle Engl.)
he n-ever yet n- vile thing n- said
In all his lyf unto no maner wight
in all his life unto n- kind person

‘Ne never said a rude thing in all his life unto any sort of person.’

(Chaucer, *Canterbury Tales*, late 14th century)

It then became less frequent in the late Middle English and Early Modern periods and is now no longer part of Standard varieties, where *nobody* is purely negative. Negative Concord continues, however, to be part of many traditional British dialects (e.g., Tubau 2016), of many dialects of white speakers in the US, and it is a systematic part of Black American English (e.g., Labov 1972). These dialects show considerable variation as to whether they employ asymmetric or symmetric Negative Concord.

Summarizing, we have seen how low scalar [u-neg] expressions can come to have a negative [i-neg] homophone and vice versa, giving rise to Negative Concord. The differences we observe in Negative Concord in Spanish-type vs. French-type languages stem from the inverse scope capabilities the negative readings of postverbal NC-terms have acquired in French-type languages. This in turn is tied to the emergence of a postverbal negation marker, which develops when a [u-neg] direct object morphs into an [i-neg] adverbial/sentential operator. It offers the learner evidence that postverbal negative expressions can take non-linear scope and express sentence negation; the learner can then extend the strategy to other postverbal [i-neg] expressions. Once all postverbal [i-neg] expressions can take scope over the event operator, there is pressure in the system to not employ [u-neg] versions for that, significantly decreasing their uses. This signals the beginning of the end of Negative Concord, paving the way to a Double Negation system.¹⁶

¹⁶I do not address here how the loss of Negative Concord in German and English relates to the Jespersen Cycle. Relevant questions are: How does the ability of postverbal *nobody*, etc. to express sentence negation relate to the postverbal realization of negation as *not*? And how are the relative stability of Negative Concord in English and the widespread preference for [u-neg]

3.7 What drives the change?

As we have seen, the history of Negative Concord in Romance is one of change. This raises the question what drives this change?

3.7.1 Contagion

One way to conceptualize the genesis of Negative Concord is as involving contagion. It is as if a [u-neg] expression, which requires an [i-neg] expression to be licensed, comes to be ‘infected’ with negation and starts to carry the semantically active [i-neg] feature itself. Rather than saying ‘I need some [i-neg] to be grammatical’, it starts to say ‘I’m [i-neg] myself’. Bréal (1897: 222, quoted in Jespersen) expresses this idea of contagion, where speaking of French *rien, personne, pas* etc. he notes “These words, through their association with *ne*, have themselves become negative. They have done this to an extent that they do not need their companion. ‘Who is there? Nobody’ ...” After looking up the meaning of these expressions in various dictionaries, he observes: “The two answers one obtains are contradictory, but, upon reflection, although they are opposite, they both have their reason to exist and their legitimacy.”

3.7.2 The progression of the [i-neg] reading

In light of the variation within Romance described above, we can now hypothesize that verbal ellipsis, elliptical answers and coordination structures are early targets for low scalar [u-neg] marked expressions starting to show negative, [i-neg] marked counterparts. As the data in (10)–(11) suggests, in Old Spanish, expressions like *nadie* etc. appeared together with negation in elliptical coordination structures and elliptical answers, something that is no longer possible. The contrast between symmetric and asymmetric Negative Concord furthermore suggests that [i-neg] readings next become possible in preverbal position (Spanish vs. Romanian). As I have described in (21), this difference has to do with whether a preverbal [i-neg] expression can outscope $\exists e$; it can in asymmetric NC, but not in symmetric Negative Concord. This does not seem to be a particularly difficult, deep or parametric matter for preverbal expressions. This may help explain why some languages, for example Catalan, can do both, and it may also help explain the considerable variation we find in this regard within dialects of English that feature Negative Concord (e.g., Labov 1972, Tubau 2016).¹⁷ The last place where [i-neg] versions come to take scope over $\exists e$ are postverbal positions (see French vs. Spanish). Finally, once [i-neg] versions enter the picture, they can also be employed with narrow scope reading relative to an event operator that binds into a verbal or nominal predicate.

postverbal *any*-NPIs over [i-neg] marked *no*-expression tied to the subsequent preverbal realization of negation through *do*-support? (See also Zeijlstra 2004).

¹⁷Relatedly perhaps, there is also considerable variation across languages with regards to whether negation can license preverbal NPIs. While not generally possible in English, it is possible in Basque and Hindi, for example (see e.g., Laka 1994 and Lahiri 1998).

(50) Progression of [i-neg] *vis-à-vis* [u-neg] :

Verbal ellipsis > preverbal position > postverbal position

Why should the spread of the [i-neg] versions take place in this order and not the other way around? The progression suggests that there is considerable cost to taking scope over the event operator, especially when the verb is overtly realized. This cost keeps the [i-neg] version restricted to certain environments where this is relatively easy. The result is that the [u-neg] and [i-neg] readings of NC-terms appear in almost complementary distribution. The quasi-complementary distribution, in turn, makes Negative Concord eminently learnable, reinforced by the fact that (symmetric) Negative Concord is a common feature of Creole languages (e.g., Haspelmath 1997). We may surmise that what makes the ambiguity attractive to the learner is that, by and large, she can associate the presence of an NC-term with sentence negation, either because the NC-term is [u-neg] and licensed by an [i-neg] expression, or because it is a wide-scoping [i-neg] expression itself. One way that this balance represented by Negative Concord can tip is when sentence negation itself comes to be realized postverbally, as in French; the overtly postverbal negation then signals to the learner that it is possible for postverbal [i-neg] expressions to take scope over $\exists e$ and express sentence negation that way. This can then be extended to NC-terms.

So far, we have considered how Negative Concord can arise from low-scalar expressions, but, as we noted earlier in section 3.3.2, it can also arise from negative expressions. A number of the negative expressions of Classical Latin (e.g., *nihil* ‘nothing’, *nemo* ‘nobody’) did not survive while others did, for instance, *numquam* ‘never’, *nec* ‘not even’, *nec...nec* ‘neither...nor’, *nullus* ‘none’ and they function as NC-terms in Modern Romance. How this development took place is studied in Gianollo (2018), who focuses on expressions deriving from *nec*. While the details are beyond the scope of this article, the Latin system began to change, according to Gianollo, when movement to a special pre-Infl position became impossible for negative quantifiers (including object negative quantifier). Thus, when the pre-Infl order became unavailable for negative quantifiers that were objects, it became impossible for them to take scope over $\exists e$ and to express sentence negation. But losing this major function of a univocal negative quantifier makes it of little use overall, which in turn makes it fall into disuse. This appears to have happened with *nihil* and largely with *nemo*. Alternatively it can be repurposed as an NC-term, as seems to have happened with the descendants of *nec*, *nullus* and *numquam*.

3.7.3 Directionality and the Quantifier Cycle

Breitbarth et al. (2020) argue that a ‘Quantifier Cycle’ characterizes the historical development of existential determiners and quantifiers. Their claim, which builds on Haspelmath’s (1997) indefinite map, is that the development generally proceeds from ‘less negative’ to ‘more negative’:

(51) Quantifier Cycle:

existential quantifier > weak NPI > strong NPI > NC-term > negative quantifier

(Breitbarth et al. 2020)

While there are numerous examples that fit this schema well, the negative expressions of Latin that survived into Romance can be taken to suggest that the historical development is more complex and less unidirectional. As far as Spanish *ningun-* (< *nec unus*) is concerned, not only did it change from negative expression to NC-term, the repurposing to the eventual NC-term seems to have involved a stage in Old Spanish where it was a pure NPI. As we saw in section 3.1, even in elliptical answers and conjunctions it did not appear on its own but was rather accompanied by *non*. The ‘counter-cyclic’ development of Spanish *ninguno* may perhaps be attributed to analogy to the development of NC-terms that arose from low-scalar expressions (e.g., Haspelmath 1997, Breitbarth et al. 2020). However, it is not clear that this type of argument extends to the loss of NPI-hood that we saw in connection with expressions like Dutch *ooit*. Historical development may at times indeed proceed from ‘more negative’ to ‘less negative’ contrary to what is stated in (51), see also Jäger 2010).

The quantifier cycle in (51) also suggests that an expression’s becoming an NC-term is preceded by its becoming a strong NPI. Though there is clearly a gradual narrowing of NPI contexts in which NC-terms can appear in Modern Romance when compared to Medieval Romance, this narrowing, as we noted, varies considerably among Romance languages. It appears to be rather advanced in Portuguese but considerably less so in Catalan, for instance, with Italian, French and Spanish occupying various places in between. And yet, all five languages have Negative Concord. This suggests that narrowing need not precede an NPI’s development into an NC-term, but may in fact follow it. Conceivably, once an existential/‘even’ NPI expression acquires a second, semantically negative [i-neg] interpretation, its association with negation becomes intuitively stronger for the learner, so much so that the contexts where the non-negative, NPI readings can appear in reduced number, to varying degrees across languages, to more evidently negative and more easily acquired contexts (e.g., under ‘not’, ‘without’, and [i-neg] NC-terms). This not only fits with Breitbarth et al’s (2020) view that a gradual narrowing of NPI-contexts has to do with the relative difficulty of acquisition, but in fact motivates the narrowing: the existence of an [i-neg] version strengthens the association with the negation.

4. NPI DUALIZATION

We have explored in considerable detail the relation that low scalar expressions marked [u-neg] may have with semantically negative homophones. Next, I show that NPIs with an existential semantics can also come to have a quite different homophonic partner, namely one with a universal-like (rather than negative) semantics. I will refer to this pattern, which is not part of the Quantifier Cycle in (51) and has received less attention, as NPI Dualization.¹⁸

¹⁸‘Dualization’ in the sense that the existential and universal quantifiers of predicate logic are duals as $\neg\exists x\neg\phi$ is equivalent to $\forall x\phi$.

4.1 Examples of the dualization of [u-neg] expressions

Ever provides an example of NPI Dualization. It is now generally considered an NPI, and appears in various NPI contexts such as those in (52), where it is interpreted existentially along the lines of ‘at any time/at some time’. Historically, however, *ever* also meant ‘always’ and appeared outside of DE contexts, as we can see in (53). The universal reading of *ever* is also still evident in *ever after*, *forever*, *ever since*, *ever* + adjective, and also a multitude of brand names (e.g., *Everlast*). And while the use of *ever* as ‘always’ outside of these locutions is no longer common, (54) illustrates that it can appear under certain conditions:

- (52) a. If you have ever tried to make bread you know it’s not that easy.
 b. Nobody had ever seen such an amazing jump.
 c. *Somebody had ever seen such an amazing jump.
- (53) a. Let me live here ever. (Early Modern English)
 (Shakespeare *The Tempest*, c. 1610)
 b. He liveth and reigneth ever one God. (Early Modern English)
 (*Book of Common Prayer*, 1549)
- (54) a. Thank you, as ever, for your collegiality, your excellence, and your hard work. (Dean Celenza in an email to Georgetown faculty, Aug. 2019)
 b. Given how Trump seems ever bent on putting himself above the law, something like what might have happened between him and Ukraine – abusing personal authority for personal benefit – was bound to happen.
 (*Washington Post*, September 21, 2019)

Both the low scalar [u-neg] reading and the universal readings of *ever* appear together to striking effect in this 17th century poem, with the existential NPI reading in the first three lines, the universal, non-NPI reading in the last:

- (55) If ever two were one, then surely we.
 If ever man were lov’d by wife, then thee.
 If ever wife was happy in a man,
 Compare with me, ye women, if you can.
 [...]
 Then while we live, in love let’s so persevere
 That when we live no more, we may live ever.
 (Anne Bradstreet, *Several Poems*, 1678)

According to Jäger (2010), German *immer* developed from an existential NPI *io mer* to its current non-NPI version as a universal adverb of quantification (‘always’). This is possibly another example of NPI Dualization, only in this case the development proceeds in the other direction, from an existential [u-neg] marked adverb to an adverb of quantification with universal force.

Given what we have seen so far, it may appear that NPI Dualization is restricted to adverbial quantifiers. The expression *at all*, however, suggests otherwise. *At all* clearly functions as an NPI in Modern English, and can be paraphrased as ‘to any degree’, ‘in any way’, ‘in the least’, ‘whatsoever’. But, as the OED attests, *at all*

had a universal reading in Middle English, meaning ‘in every way’, ‘altogether’, ‘wholly’. This latter reading can still be seen in (57). Related positive uses are also reported for Irish and Caribbean English, where *at all* seems to mean ‘of all’, and also for US regional varieties, where *at all* is read as ‘only’, as in (58).

(56) I do*(n’t) like him at all.

(57) My waverand wyt, my cunnyng febill at all

‘My wavering wit, my entirely feeble cunning’

(Gawin Douglass’s 1839 translation of the *Aeneid* into Scottish Verse)

(58) a. It’s the greatest fun at all.

‘It’ the greatest fun of all.’

b. I think it the best time at all.

‘I think it the best time of all.’

c. Use one statement at all.

‘Use only one statement.’

Synchronically, the universal *all* in *at all* seems in conflict with the low scalar meaning of the NPI expression. NPI Dualization helps us make sense of the disconnect between form and meaning. In particular, we can say that in the past *at all* was semantically universal, but, as an instance of NPI Dualization it came to have an [u-neg] homophone with existential semantics. This second version is the one we encounter in most modern dialects of English.¹⁹

At this point one may also wonder about the two readings of *any* – the existential reading with the distribution of an NPI and the ‘free choice’ reading, which does not have the distribution of an NPI but is restricted to certain modal and ‘subtriggering’ contexts:

(59) a. I did*(n’t) say anything.

b. Anyone can do that.

c. Felipe chatted with anyone he ran into.

I am hesitant to include *any* as an example here, as the distribution of free choice *any* is limited to certain modal contexts, and it is not entirely clear if it has universal force (see Dayal 1998) or if it originates from an indefinite reading of *any* that has an additional indiscriminatory component (see Horn 2000 and numerous references cited therein). Horn (2000) notes that it is easy to see how an existential expression with an additional free choice component can come to express what often seems to amount to the equivalent of a universal meaning: if a randomly, freely chosen element satisfies a predicate, all elements that could have been chosen instead presumably would do too. The role of negation in this context is not obvious, however. I leave this as an issue for future study.

¹⁹Chierchia (2013) also remarks on the development of *at all* (and mentions a similar one for Italian *affatto*). He speaks of a historical ‘scale reversal’ but does not explain it further or note other examples.

4.2 Analysis of NPI Dualization: The role of strength

How are we to make sense of NPI Dualization? The proposal that the homophony between [u-neg] and [i-neg] expressions can be thought of as change where [i-neg] is realized – in the environment or on the expression itself – clearly does not apply here; another explanation is needed.

One way to conceptualize NPI Dualization is to ask what existential [u-neg] and the universal-like homophones have in common, besides their phonology. Their interpretation offers a plausible answer: both interpretations lend themselves to making pragmatically strong statements. For universal-like expressions, like *ever*_{universal}, etc. this follows directly from the semantics, just as it does for *every*, *all* etc.; there is no stronger claim than one with universal force. Granted, not all the occurrences of a universal-like expression are pragmatically strong, since in DE-contexts they give rise to scalar implicatures (e.g., *not all* implies ‘some’), revealing the presence of stronger alternatives (e.g., ‘some’ in DE contexts). But nothing in the lexical entry of *ever*_{universal}, *every*, etc. forces them to appear in a DE context (they are not NPIs), and mostly they do not, as what is generally implicated by ‘not every’ is more readily expressed by ‘some’. It seems fair to say then that the vast majority of universal quantifiers are used to make semantically strong claims. This, together with the overall relative markedness of negative contexts (e.g., Horn 1989), makes it plausible to assume that speakers classify *ever*_{universal} as ‘strong’ in virtue of its meaning alone. What about the existential *ever*_[u-neg]? It is semantically weak (e.g., *some* normally implicates ‘not all’). But, because existential *ever* is lexically marked as [u-neg], it is restricted to locally DE contexts (which renders the relative markedness of negative environments irrelevant). Consequently, the lexical entry of *ever*_[u-neg] signals pragmatic strength as well.

Based on this reasoning, we might take NPI Dualization to show that pragmatic strength can become lexically associated with a particular lexical entry. The strength association may then persist while other meaning components, in particular quantificational force (existential vs. universal), and distribution ([u-neg] vs. free), change, creating a pairing of same-sounding but semantically-distinct expressions. The two expressions may co-exist, as the two kinds of *ever* in Ann Bradstreet’s poem in (55) show, or one of the two may fall into disuse.

- (60) Strength preserving NPI Dualization
- a. existential [u-neg] > ‘strong’ > universal *immer*
 - b. universal > ‘strong’ > existential [u-neg] *ever, at all*

I have discussed only a few examples of NPI Dualization (*ever, at all*), and much remains to be explored. It would be interesting to see whether NPI Dualization interacts with Negative Concord. A possible candidate can again be found among adverbial quantifiers. Spanish *jamás* and French *jamais* and related expressions in Portuguese, Galician and Italian function as NC-terms now, showing an ambiguity between an existential [u-neg] interpretation and a negative or [i-neg] reading, corresponding to the NPI *ever* and the negative adverbial quantifier *never*, respectively. Yet historically *jamás* etc. derive from Latin *iam magis* (‘already more’), and

would thus seem to have originally been closer in meaning to a universal. A universal use is in fact preserved in the locutions *para siempre jamás* (Spanish) and *à (tout) jamais* (French), which both translate as ‘forever and ever’.

- (61) La mort les a réunis à jamais. (French)
 the death them has joined to n-ever
 ‘Death united them forever.’

This suggests that *jamás/jamais* exemplifies both Negative Concord and NPI Dualization. This sketch of an analysis requires more historical data to establish this more firmly.

5. CONCLUSION

Summarizing, I have explored how semantically predisposed expressions can become NPIs, and argued that this means they come to bear a purely distributional feature, [u-neg]. The low-scalar ones among the NPIs can develop into NC-terms. This happens when the [u-neg] version is joined by a homophonous, semantically negative [i-neg] version. The distribution of the [i-neg] version is limited not because it needs to have a feature valued, but because of the cost of taking scope over the event operator. Initially, [i-neg] interpretations are limited to instances where the verb is elliptical, before later extending (in some languages/varieties) to preverbal position. This results in a quasi-complementary distribution of the [u-neg] and [i-neg] versions, which makes the ambiguity learnable. The appearance of either version typically allows the learner to conclude that they are dealing with sentence negation. The balance can start to tip to pure [i-neg] paradigms, resulting in a Double Negation system, when the learner has independent evidence that post-verbal expressions can outscope the event operator $\exists e$. This happens when, as part of the Jespersen Cycle, a former postverbal [u-neg] expression of a two-part negation becomes [i-neg].

In this article, I have advanced a view of NPI-licensing as a purely syntactic affair. I have argued that pragmatic strength is relevant not to the licensing of NPIs per se, but to the historical development of NPIs. One way in which it matters is that their pragmatic strength in DE contexts helps explain why some low scalar expressions come to be frequently used in, and then ultimately restricted to, such contexts. Importantly, however, the ability to express strength in DE-contexts makes an expression susceptible to occurring frequently in DE contexts, but is neither a necessary nor a sufficient condition for an expression becoming an NPI. That it is not sufficient is shown by the existence of numerous expressions with existential meaning that do not have the limited distribution of NPIs (e.g., *some*, *a*). That it is not a necessary condition is shown by the existence of attenuating NPIs. The other area in which pragmatic strength matters is in the history of NPI-Dualization. There an existential NPI quantifier or a universal one seem to have such a strong association with pragmatic strength that the association stays constant while quantificational force (existential or universal) and feature specification ([u-neg] or not) change. Obviously, many open issues remain. These include establishing the specifics of the syntactic

licensing process (including its application to the weak/strong spectrum and the locality of NPI-licensing), and also studying in more detail the history of non-low scalar NPIs. I leave these and other issues for future study.

REFERENCES

- Bayer, Josef. 1990. What Bavarian negative concord reveals about the syntactic structure of German. In *Grammar in progress*, ed. Joan Mascaró and Marina Nespó, 13–24. Berlin: De Gruyter Mouton.
- Bernini, Giuliano, and Paolo Ramat. 1996. *Negative sentences in the languages of Europe: A typological approach*. Berlin: Mouton de Gruyter.
- Bosque, Ignacio. 1980. *Sobre la negación*. Madrid: Cátedra.
- Bréal, Michel. 1897. *Essai de sémantique*. Paris: Hachette.
- Breitbarth, Anne, Christopher Lucas, and David Willis. 2020. *The history of negation in the languages of Europe and the Mediterranean. Volume II: Patterns and processes*. Oxford: Oxford University Press.
- Chierchia, Gennaro. 2013. *Logic in grammar. Polarity, free choice, and intervention*. Oxford: Oxford University Press.
- Corblin, Francis. 1996. Multiple negation processing in natural language. *Theoria* 62(3): 214–259.
- Crnič, Luka. 2014. Non-monotonicity in NPI-licensing. *Natural Language Semantics* 22(2): 169–217.
- Dayal, Veneeta. 1998. Any as inherently modal. *Linguistics and Philosophy* 21(5): 433–476.
- Déprez, Viviane. 1997. Two types of Negative Concord. *Probus* 9:103–143.
- Déprez, Viviane, and J. Yeaton. 2018. French Negative Concord and discord. An experimental investigation of contextual and prosodic disambiguation. In *Proceedings of Linguistic Symposium on Romance Languages (LSRL) 2018*, ed. Francisco Ordoñez and Lori Ripetti. Amsterdam: John Benjamins.
- Dowty, David. 1994. The role of negative polarity and concord marking in natural language reasoning. In *Proceedings of Semantics and Linguistic Theory 4 (SALT) 1994*, ed. Mandy Harey and Lynn Santelmann, 114–144. Ithaca, NY: Cornell University.
- Eckardt, Regine. 2006. *Meaning change in grammaticalization*. Oxford: Oxford University Press.
- Espinal, Maria Teresa, Susana Tubau, Joan Borràs-Comes, and Pilar Prieto. 2016. Double negation in Catalan and Spanish. Interaction between prosody and syntax. In *Negation and Polarity. Experimental Perspectives*, ed. Pierre Larrivée and Chungmin Lee, 145–176. Berlin: Springer.
- Fauconnier, Giles. 1975. Pragmatic scales and logical structure. *Linguistic Inquiry* 6(3): 353–376.
- von Stechow, Kai. 1999. NPI-licensing, Strawson entailment, and context dependency. *Journal of Semantics* 16(2): 97–148.
- Gajewski, Ion. 2011. A note on licensing strong NPIs. *Natural Language Semantics* 19(2): 109–148.
- Giannakidou, Anastasia. 1998. *Polarity Sensitivity as (Non)veridical Dependency*. Amsterdam: John Benjamins.
- Gianollo, Chiara. 2018. *Indefinites between Latin and Romance*. Oxford: Oxford University Press.
- Haegeman, Liliane, and Raffaella Zanuttini. 1991. Negative heads and the neg criterion. *The Linguistic Review* 8(2–4): 233–251.
- Haspelmath, Martin. 1997. *Indefinite pronouns*. Oxford: Oxford University Press.

- Heim, Irene. 1984. A note on Negative Polarity Items and Downward Entailingness. In *Proceedings of the North Eastern Linguistic Society (NELS) 1984*, 98–107. University of Massachusetts, Amherst: GLSA.
- Herburger, Elena. 2001. The negative concord puzzle revisited. *Natural Language Semantics* 9(3):289–333.
- Herburger, Elena. 2003. A note on Spanish *ni siquiera*, *even* and the analysis of NPIs. *Probus* 15(2), 237–256.
- Herburger, Elena, and Simon Mauck. 2013. The chance of being an NPI. In *Beyond 'any' and 'ever'. New reflections polarity sensitivity*, ed. Eva Csipak, Regine Eckardt, Mingha Liu, and Manfred Sailer, 213–240. Berlin: de Gruyter.
- Hoeksema, Jack. 1998. On the (non)loss of polarity sensitivity: Dutch *ooit*. In *Historical linguistics 1995: Selected papers from the 12th international conference on historical linguistics*, ed. Richard Mogg and Linda van Bergen, 101–114. Amsterdam: Benjamins.
- Horn, Larry. 1989. *A natural history of negation*. Chicago: Chicago University Press.
- Horn, Larry. 2000. *Any* and *(-)ever*. Free choice and free relatives. In *Proceedings of the 15th Israeli Association of Theoretical Linguistics (IATL XV) 2000*, 71–111.
- Horn, Larry. 2002. Assertoric inertia and NPI licensing. In *Proceedings of the Chicago Linguistic Society (CLS) 2002. Part 2: The Panels*, ed. Mary Andronis, Erin Debenport, Anne Pycha, and Keiko Yoshimora, 55–82. Chicago: Chicago Linguistic Society.
- Icard, Thomas F., and Lawrence S. Moss. 2013. A complete calculus of monotone and higher-order functions. In *Proceedings of topology, algebra, and categories in logic*.
- Israel, Michael. 2011. *The grammar of polarity*. Cambridge: Cambridge University Press.
- Jäger, Agnes. 2010. *Anything is nothing is something*. On the diachrony of polarity types of indefinites. *Natural Language and Linguistic Theory* 28(4): 782–822.
- Jespersen, Otto. 1917. *Negation in English and other languages*. Copenhagen: A. F. Høst.
- Kadmon, Nirit, and Fred Landman. 1993. *Any*. *Linguistics and Philosophy* 16(4): 353–422.
- Kiparsky, Paul, and Cleo Condoravdi. 2006. Tracking Jespersen's cycle. In *Proceedings of the 2nd International Conference of Modern Greek Dialects and Linguistic Theory*, ed. Mark Janse, Brian D. Joseph, and Angela Ralli. Mytilene: Doukas.
- Klima, Edward S. 1964. Negation in English. In *The Structure of language*, ed. Jerry A. Fodor and Jerrold J. Katz, 246–323. Englewood Cliffs: Prentice Hall.
- Krifka, Manfred. 1995. The semantics and pragmatics of polarity items. *Linguistic Analysis* 25: 209–257.
- Labov, William. 1972. Negative attraction and negative concord in English grammar. *Language* 48(4): 773–818.
- Ladusaw, William. 1980. *Polarity sensitivity as inherent scope relations*. New York: Garland.
- Ladusaw, William. 1992. Expressing Negation. In *Proceedings of Semantic and Linguistic Theory (SALT) 1992*, ed. Chris Barker and David Dowty, 237–259. Columbus: The Ohio State University.
- Lahiri, Utpal. 1998. Focus and negative polarity in Hindi. *Natural Language Semantics* 6:57–123.
- Laka, Itziar. 1994. *Negation in syntax: On the nature of functional categories and projections*. New York: Garland.
- Lee, Young-Suk, and Laurence Horn. 1994. *'Any' as indefinite plus 'even'*. Ms. Yale University.
- Linebarger, Marcia. 1987. Negative polarity and grammatical representation. *Linguistics and Philosophy* 10(3): 325–387.
- Ludlow, Peter. 2002. LF and natural logic. In *Logical form and language*, ed. Gerhard Preyer and Georg Peter, 132–168. Oxford: Oxford University Press.

- Martins, Ana Maria. 2000. Polarity Items in Romance: Underspecification and lexical change. In *Diachronic syntax. Models and mechanisms*, ed. Susan Pintzuk, George Tsoulas, and Anthony Warner, 191–219. Oxford: Oxford University Press.
- Milner, Jean-Claude. 1979. Le système de la négation en français et l'opacité du sujet. *Langue Française* 44 : 80–105.
- Muller, Claude. 1991. *La négation en français. Syntaxe, sémantique et éléments de comparaison avec les autres langues romanes*. Genève : Droz.
- Penka, Doris. 2011. *Negative indefinites*. Oxford: Oxford University Press.
- Rowlett, Paul. 1998. *Sentential negation in French*. Oxford: Oxford University Press.
- Sánchez Valencia, Víctor. 1991. Studies on natural logic and categorial grammar. Doctoral dissertation, University of Amsterdam.
- Schein, Barry. 2003. Adverbial, descriptive reciprocals. *Philosophical Perspectives* 17(1): 333–367.
- de Swart, Henriëtte, and Ivan A. Sag. 2002. Negation and Negative Concord in Romance. *Linguistics and Philosophy* 25(4): 373–417.
- Tubau, Susagna. 2016. Lexical variation and negative concord in traditional dialects of British English. *Journal of Comparative Germanic Linguistics*. 19(2): 143–177.
- Vallduví, Enric. (1994). Polarity items, n-words, and minimizers in Catalan and Spanish. *Probus* 6(2–3): 263–294.
- van der Wouden, Ton. 1997. *Negative contexts: Collocation, polarity and multiple negation*. London: Routledge.
- Zanuttini, Raffaella. 1997. *Negation and clausal structure: A comparative study of Romance*. Oxford: Oxford University Press.
- Zeijlstra, Hedde. 2004. *Sentential negation and negative concord*. Utrecht: LOT Publications.
- Zwarts, Frans. 1998. Three types of polarity. In *Plurality and quantification*, ed. Fritz Hamm and Erhard W. Hinrichs, 177–238. Dordrecht: Kluwer.

LITERARY WORKS CITED

- Bradstreet, Anne. 1678. *To my dear and loving husband*. In *Several Poems*. Boston: printed by John Foster.
- Rodoreda, Mercè. 1981. *Parecía de seda y otras narraciones*. Barcelona: Edhasa.

APPENDIX

The licensing question, in particular the challenge that the contrast between *every* and *no* poses for Klima's feature-based account, is addressed in Dowty (1994) and Ludlow (2002), both of which rely heavily on Sánchez Valencia's (1991) 'Monotonicity Calculus'.²⁰ What follows is a brief description of this type of proposal to show how it can solve the *every* vs. *no* problem.

At the heart of the proposal is the idea that lexical items mark their arguments in terms of monotonicity. This is illustrated with "+" and "-" in (1) for the lexical entries of the determiners *every*, *no* and *some* and the sentential negation *not*:

²⁰Mathematical underpinnings of the Monotonicity Calculus are investigated in Icard and Moss (2013), for example.

- (1) a. $[[every]] = \lambda f_{(e,t)}^- . \lambda g_{(e,t)}^+ . \{x:f(x) = 1\} \subseteq \{y:g(y) = 1\}$
 b. $[[no]] = \lambda f_{(e,t)}^- . \lambda g_{(e,t)}^- . |\{x:f(x) = 1\} \cap \{y:g(y) = 1\}| = 0$
 c. $[[some]] = \lambda f_{(e,t)}^+ . \lambda g_{(e,t)}^+ . |\{x:f(x) = 1\} \cap \{y:g(y) = 1\}| > 0$
 d. $[[not]] = \lambda x^- : x \in D_r, x = 0$

Crucially, the polarity of the *local* environment matters for NPI licensing; if the polarity is later reversed by an additional DE expression, this does not undo the licensing (Ladusaw 1980).

- (2) I didn't say that Elizabeth didn't notice anything.

Monotonicity marking allows us to compute the Local Polarity induced by the licensors:

(3) Local Polarity:

- a. A lexical item whose argument is lexically marked “-” marks its syntactic sister “-”. A lexical item whose argument is lexically marked “+” marks its syntactic sister “+”.
- b. All syntactic mothers are assigned “+” except when they themselves are sisters of an expression that assigns “-” to its argument.

Given Local Polarity, NPIs can now be licensed syntactically in the following manner (see Dowty 1994):

(4) Syntactic licensing of NPIs:

- a. Local Polarity determines the propagation of the lexically-marked negation features in the syntax.
- b. An expression bearing an NPI-feature is licensed iff it is dominated by a phrase bearing a negation-feature.

In contrast with *some*, the first argument or restriction of *every* and *no* receive a negation-feature through Local Polarity, as they offer a DE context. They can then check the NPI feature of anything that is dominated by the syntactic sister of *every* and *no*. This holds true even if later ‘Global Polarity’ reverses entailment patterns. In addition, the second argument of the determiner *no* (the scope of the QP, if one assumes Quantifier Raising) also has a negation-feature from Local Polarity – it is DE – and consequently NPIs that appear within it are licensed. In contrast, the second arguments of *every* and *some* have a positive polarity feature and are hence unable to provide an environment in which the NPI feature is valued as described in (4).

One way to implement this in terms of the features [i-neg] and [u-neg] is to replace “-” in the above definition with [i-neg]. Similarly, *not* assigns [i-neg] to its sister, as do other NPI-licensors like *without*, *before*, *if*, *doubt*, *dare* etc. The [u-neg] feature that characterizes NPIs is valued if the expression finds itself dominated by a node bearing an [i-neg] feature.

It is worth pointing out that the [i-neg] feature, as conceived here, is not the head of a particular functional projection, NegP, that triggers movement. Whether there is movement to a particular functional projection NegP in a given language is a separate issue. Also, [u-neg] behaves rather differently from Case, tense, and other features, in that [i-neg] values it by being on a phrase that dominates the constituent with the [u-neg] feature. This fits with the fact that NPI-licensing is different from other kinds of agreement. As we saw, both NPI-

hood and Negative Concord can afflict expressions of various syntactic and semantic categories, ranging from verbs (e.g., auxiliary *need, dare, cope with*), to temporal adverbials (e.g., *yet, punctual until*), adverbial quantifiers (e.g., *ever*), focus particles (e.g., *even, either*), expressions like *whatsoever*, connectives (e.g., *ni... ni*) etc. A great many NPIs are also collocations (*give a damn, budge an inch, in ages, all that, any too, the least bit...*). The cross-categorical nature of NPIs and NC-terms is consistent with NPI-licensing by sheer domination. It also fits with the fact that both NPI-licensing and Negative Concord are in principle not clause-bound, and that they have special locality restrictions (see, e.g., Linebarger 1987). This is shown by the examples in (5) and (6).

- (5) I don't think that John said that anyone had called.
- (6) No creo que Juan dijera que nadie haya llamado.
Not believe-I that Juan said that n-body has called
'I don't think that Juan said that anyone has called.'