

Negative concord as Downward Agree *

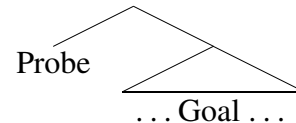
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1. Introduction

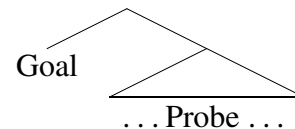
Agree is an operation—indeed *the* operation, according to much recent work—responsible for long distance dependencies in syntax. In its original formulation in Chomsky 2000, 2001, for Agree to obtain between a probe and a goal, the probe must c-command the goal. The path from the probe to its goal is thus downward, as depicted in (1). In the recent literature, the claim that Agree sometimes or always obtains in a downward configuration is defended by Preminger (2013), Preminger and Polinsky (2015), Bárány and van der Wal (to appear) and Keine and Dash (to appear), among others.

(1) Structural configuration for Downward Agree



This configuration for Agree may be contrasted with one in which c-command relations are reversed. Zeijlstra (2004, 2008, 2012), Wurmbrand (2012), Bjorkman and Zeijlstra (2019), Arregi and Hanink (to appear), among others, argue that Agree sometimes or always obtains in the opposite structure, (2), where the path from the probe to its goal is upward.

(2) Structural Configuration for Upward Agree



Empirical questions concerning the directionality of Agree involve several traditionally distinguished linguistic phenomena. Figuring prominently among these is negative concord, the empirical focus of Zeijlstra 2004—itsself the seed of a variety of current views regarding Upward Agree. Negative concord is a phenomenon wherein multiple negative elements yield, semantically, a single negation reading. In Italian, for instance, we can identify items such as *nessuno* ‘no one’ as negative based on their behavior as negative fragment answers (Zanuttini 1991; for crosslinguistic applications see Giannakidou and Zeijlstra 2017):

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(3) Italian (Zanuttini 1991:109)

Q: Chi ha telefonato?
Who has called?

A: Nessuno.
Nobody.

A clause with two such elements, however, yields a single negation reading, (4a). This is also the case when a (postverbal) negative element cooccurs with sentential negation, (4b).¹ These examples illustrate negative concord (NC).

(4) Negative concord in Italian (Zanuttini 1991:108, 111)

- | | |
|--|---|
| <p>a. Nessuno ha detto niente.
nobody has said nothing
Nobody said anything.</p> | <p>b. Non ha telefonato nessuno.
NEG has called nobody
Nobody called.</p> |
|--|---|

Negative concord has been approached both with syntactic tools and with semantic ones.² On a syntactic approach, the appearance of multiple negations need not be taken at face value. Zeijlstra (2004) has influentially proposed that the apparent mismatch between negative morphology and negative semantics reflects the contribution of Agree. Sentential negation semantically contributes negativity (and examples such as (4a) involve a covert sentential negation). Negative concord items (NCIs), such as *nessuno* ‘nobody’ or *niente* ‘nothing’, are not themselves semantically negative. Rather, they are indefinites in the scope of the semantic negation. NCIs are distinguished from other types of indefinites by virtue of the fact that they enter into Agree with the negation that scopes over them.

If NC involves Agree, which element is the probe and which the goal? The question is not readily answered by appeal to typical asymmetries between probes and goals from the realm of ϕ -agreement. For instance, ϕ -probes are heads, whereas ϕ -goals are typically DPs. In NC, however, the Agree relation may hold between two head-like elements. For a strict NC language like Czech, Zeijlstra proposes that NC holds between a covert negation (presumably a head) and the overt negative marker (also presumably a head). There is moreover no obvious correlate of the way that ϕ -probes take different inflectional forms depending on goal ϕ -features. Accordingly, Zeijlstra’s reasoning foregrounds *interpretability*. Negation is interpretable on the sentence negation, but not on NCIs (which, semantically, are just indefinites). So, NCIs must bear a [uNeg] feature, and be probes. The semantic negation must bear an [iNeg] feature, and be the goal.³ An NCI occurs in the scope of negation, thus in negation’s c-command domain, and probes upward to find its goal. Thus NC instantiates Upward Agree—indeed, Upward *Multiple* Agree, according to Zeijlstra, for cases like (5).

(5) ‘I haven’t said anything to anyone.’ (Zanuttini 1991:147)

Non	ha	detto niente	a nessuno.
NEG	have.1sg	said nothing	to nobody.
[iNeg] _{goal}		[uNeg] _{probe}	[uNeg] _{probe}
<div style="display: flex; justify-content: space-around; border-top: 1px dashed black; margin-top: 5px;"> </div>			

¹The split between preverbal and postverbal negation makes Italian an example of a non-strict negative concord language. On strict vs. non-strict NC, see Penka (2011:16-19), Giannakidou and Zeijlstra (2017).

²For helpful critical review, see Penka (2011:ch 2). A recent semantic approach is given by Kuhn (2021).

³This reasoning follows Brown (1999), who uses not Agree but rather its theoretical precursor, feature movement, to account for licensing of Russian NCIs that are not in an overt spec-head relation with negation.

This analysis is in the backdrop of a debate about Upward Agree between Zeijlstra and Preminger & Polinsky, all of whom accept the premise that Agree in NC would have to be upwards. Zeijlstra (2004 and especially 2012) argues as follows. If the NC relation (the relation between negation and NCIs) is Agree, it is Upward Agree. The NC relation is Agree. Therefore, Upward Agree must exist (*modus ponens*). Preminger (2013) and Preminger and Polinsky (2015) respond by denying the consequent (*modus tollens*). They concur that if the NC relation is Agree, it is Upward (so Upward Agree would need to exist). However, they argue that Upward Agree doesn't exist. Therefore, the NC relation must not be Agree.

In this paper, I argue that the shared premise of both arguments should be rejected. The NC relation can be handled purely with Downward Agree—a move that is especially natural if we adopt a view of Agree that de-centers (un)interpretability. In the next section, I provide such an account.

2. A new look at negative concord

I suggest a new look at negative concord through the lens of a theory of Agree that does away with uninterpretability entirely, namely the interaction/satisfaction theory (Deal 2015, To appear, a.o.). On this approach, the feature specification of a probe is not in terms of uninterpretable (or unvalued) features. Rather, probes are specified separately for the features they *interact* with (copy to themselves) and the features that *satisfy* them (cause probing to stop). Thus, the specification of a probe is [INT: α , SAT: β]. Interaction specification α means that the feature [α], when encountered, is copied to the probe.⁴ Satisfaction specification β means that encountering [β] halts further probing of additional goals.

Naturally definable in this theory is an *insatiable* probe—one for which no particular feature will halt probing. This idea can be understood against the backdrop of a variety of previous proposals for probes that Agree with all goals in their domain, e.g. Hiraiwa's (2001) Multiple Agree (adopted by Zeijlstra) or Bošković's (1999) invocation of "elements that possess a formal inadequacy that is overcome by attracting all features F." An advantage of the interaction/satisfaction theory is that it allows for one Agree algorithm to unify cases of "probe-one" with "probe-all". There is a simple knob to turn: the satisfaction condition. We will make use of this idea in capturing aspects of the typology of negative concord (those captured by Penka (2011) in terms of \pm Multiple Agree parameterization).

Returning now to negative concord: without uninterpretability playing any special role in the system, semantic questions are not pertinent to determining probe vs. goal status. Thus there is no obstacle to treating NC as purely downward Agree: *negation is the probe, not the goal*. Let us suppose that NCIs bear some feature, call it [NW]. In Italian, the head hosting clausal negation bears an insatiable probe, [INT:NW, SAT: –]. This probe interacts with (copies) the feature [NW], and there is no feature that it can encounter that will cause Agree to halt. Thus it enters into Agree with all bearers of [NW] within its domain.⁵

⁴In Deal (To appear), I furthermore assume that features are organized into geometries. Interaction specification α indicates that [α] and all features geometrically entailed by it interact with the probe. This further elaboration of the theory of interaction is not necessary for the analysis proposed here.

⁵The domain of NC is, roughly, the clause; NC relations are not possible across (indicative) complement clause boundaries. See Haegeman and Zanuttini (1991), among many others.

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(6) ‘I haven’t said anything to anyone.’ (Italian)

Non	ha	detto niente	a nessuno.
Neg	have.1sg	said nothing	to nobody.
[INT:NW,SAT:-] _{probe}		[NW] _{goal}	[NW] _{goal}

Agree affects the morphological realization of the goal: NCI morphology, e.g. the forms *niente* and *nessuno*, reflects Agree with Neg. This type of proposal is familiar from the literature connecting morphological case to Agree (see e.g. Deal 2010, Clem 2019, Colley and Privoznov 2020). It is this morphological effect that underlies the sense that NCIs are licensed by negation. Surface forms like *niente* and *nessuno* require semantic negation not due to a need to check a [uNeg] feature in the syntax (as Zeijlstra had proposed), but rather as a source of the agreement that gives rise to their distinctive morphology.⁶ If there were no Agree with Neg, these indefinites simply could not be pronounced in this way. *It’s the morphology that’s “licensed”, not the semantics.*

In terms of the questions about Agree directionality with which we began, a central consequence of this approach is that whether the NC relation involves Agree is independent of whether Upward Agree exists. A commitment to purely downward Agree directionality does not preclude an Agree-based analysis of NC (*pace* Preminger 2013, Preminger and Polinsky 2015). A commitment to an Agree-based analysis of NC does not preclude purely downward Agree directionality (*pace* Zeijlstra 2004, 2012).

I turn now to some additional consequences of this approach for the typology of NC.

3. Variation in negative concord

Negative concord shows substantial crosslinguistic variation. In this section, I show how various types of differences among negative concord systems can be captured in terms of familiar ways that probes can vary. First, focusing on (standard European) French, I propose that (i) not every head with negative semantics is a probe (much as not every T head is a ϕ -probe) and that (ii) negative probes vary in their satisfaction conditions. Second, turning to West Flemish, I propose that NC probes vary in their movement-driving properties, much as ϕ -probes do.

3.1 No probe, insatiable probe, simple probe: the case of French

Sentential negation in French has two parts, *ne* and *pas*; *ne* is typically omitted in speech. Negative concord in French is seen in examples such as (8), where NCIs are bolded. Note here that *ne* continues to be optionally present, but *pas* is absent.

⁶As an example of how this might be implemented, suppose that that interaction with Neg results in an [I:NEG] feature on goals. Given the vocabulary in (i), a syntactic element with features [INDEF,HUMAN] is realized as A if it interacted with Neg (yielding the NCI form), and as B otherwise. For Italian, NCI forms such as *niente* ‘nothing’ and *nessuno* ‘nobody’ would be treated as realizing [I:NEG], as in (i-a).

- (i) a. [INDEF,HUMAN,I:NEG] ↔ A
b. [INDEF,HUMAN] ↔ B

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- (7) Jean (ne) donne pas de l'argent à Paul.
 J (NE) gives PAS of money to P
 Jean doesn't give money to Paul.
- (8) **Personne** (ne) donne **jamais rien** à **personne**.
 Nobody (NE) gives never nothing to nobody
 Nobody ever gives anything to anyone. (Miller 1991)

I adopt two aspects of the analysis of NC in French from Zeijlstra (2009). First, I assume that *ne* is not a Neg head or even an NCI, but rather a negative polarity item.⁷ Second, sentential negation in French can be realized as *pas*, or it can be covert. (Appeal to a covert negation here is parallel to the analysis Zeijlstra gives for Italian examples such as (4a).) An example such as (8), where the negation is covert, is thus analyzed as in (9). This, so far, is exactly the same analysis as given for Italian above. (Note that *ne* is not shown as participating in the NC Agree relation because it is neither a probe nor an NCI goal.)

- (9) \emptyset personne (ne) donne jamais rien à personne. = (8)
 Neg nobody NE gives never nothing to nobody.
 [INT:NW,SAT:-] [NW] [NW] [NW] [NW]
 ┌──────────┴──────────┴──────────┴──────────┴──────────┴──────────┴──────────┘
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French differs from Italian in what happens when NCIs co-occur with a clausemate overt negation. In Italian, such combinations can give rise to NC (see 4b)).⁸ In French, however, the result is always a double negation (DN) reading (Rowlett 1998, Penka 2011:40-41).

- (10) Jean (n') a vu personne.
 Jean (NE) has seen nobody.
 Jean didn't see anybody.
- (11) Jean (n') a pas vu personne.
 Jean (NE) has PAS seen nobody.
 Jean didn't see nobody = Jean did see somebody. (Rowlett 1998:178)

Two previous approaches to this paradigm within an Agree-based view of NC have been given by Penka (2011:§2.3.3) and Zeijlstra (2009). Both analyses are couched within an interpretability-based view of Agree, and take NCIs to serve as probes, not goals. Penka's analysis focuses on properties of NCIs. She proposes that NCIs in French may only Agree with a covert negation; thus French NCIs bear not simply [UNEG], but rather a special feature [UNEG \emptyset], specifying covertness. Zeijlstra's analysis focuses on properties of negation itself. He proposes that, despite its negative semantics, *pas* actually does not bear an [iNeg] feature, and thus cannot be a goal for Agree with NCIs. On both analyses, an NCI must always Agree with a negation, and but only a null negation can be a goal for Agree in French. So, a null negation must be present in (11) in addition to *pas*, resulting in double negation.

⁷On the differences between NPIs and NCIs, see Penka (2011:§2.2.1, §2.3.2.1).

⁸It is important in Italian (4b) that the NCI is postverbal: preverbal NCIs in combination with overt negative marker *non* can result in a double negation reading, like in French (Penka 2011:52-53). Notably, (standard European) French shows the DN reading regardless of order when NCIs and *pas* combine (Rowlett 1998).

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The approach to NC outlined in the previous section allows for a particularly straightforward alternative: *pas* is a semantic negation, but syntactically simply bears no probe. Thus, like on Penka's and Zeijlstra's analyses, (11) must contain an additional negation beyond *pas* in order for the NCI to be licensed (morphologically). From this perspective, the syntactic difference between overt and covert negation in French is similar to the difference between finite and nonfinite T in terms of ϕ -Agree. One bears a probe and one does not. It is not necessary to stipulate a difference in the nature of NCIs between French and Italian; nor is it necessary to posit a level of "interpretable features" which cannot simply be read off of semantic interpretations. Rather, the facts reflect a familiar way that heads syntactically vary, within languages (French *pas* vs. \emptyset_{neg}) and across them (French *pas* vs. Italian *non*).

A further interesting property of NC in French concerns the readings possible when NCIs combine. A combination of two NCIs can yield either a negative concord reading or a double negation reading (see esp. de Swart and Sag 2002).⁹

- (12) *Personne (n') aime personne* (de Swart and Sag 2002:376)
 nobody (NE) loves nobody.
 a. 'Nobody loves anybody.' (NC)
 b. 'Nobody loves nobody = everybody loves somebody.' (DN)

To account for this pattern, Penka (2011) proposes that Multiple Agree is not obligatory in French. I suggest a translation of this insight into the interaction/satisfaction theory: negation in French may involve either an insatiable probe or one with [SAT:NW]. A probe of the latter type will only be able to Agree with one NCI, whereas a probe of the former type can Agree with an unlimited number of NCIs. For a sentence like (12), the NC reading is derived when a single, insatiable Neg probe Agrees with both NCIs (cp. Penka 2011:82).

- (13) Negative concord reading: 'Nobody loves anybody.'
 \emptyset *personne (n') aime personne.*
 Neg *nobody NE loves nobody.*
 [INT:NW,SAT:-] [NW] [NW]
- |-----|

The double negation reading is derived when two negations are merged, at least the higher of which bears [SAT:NW] (cp. Penka 2011:83).

- (14) Double negation reading: 'Nobody loves nobody.'
 \emptyset *personne* \emptyset *(n') aime personne.*
 Neg *nobody* Neg *NE loves nobody.*
 [INT:NW,SAT:NW] [NW] [INT:NW,SAT:-] [NW]
- |-----|

One correct prediction of this system, noted by Penka (2011:83), is that the availability of the double negation reading depends on the structural position of the NCIs. In (12), one NCI

⁹This pattern is typologically independent of the previous one: Romanian also allows both NC and DN readings for combinations of NCIs, but the combination of an NCI with sentential negation never yields double negation (Iordachioaia and Richter 2009, Penka 2011:87-88).

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occupies subject position and another is VP internal. Two plausible positions for negation in (14) are thus TP-level and VP-level. If, on the other hand, the two NCIs are both VP internal, there is not an attachment site for negation in between them. Accordingly, (15) must involve both NCIs Agreeing with a single negation, yielding a NC reading. A double negation reading is not possible.¹⁰

- (15) Je n'ai recommandé personne à personne. (Penka 2011:83)
I_{NE}-have recommended nobody to nobody.
Only reading: I haven't recommend anyone to anybody. (NC)

An additional correct prediction is that adding further NCIs to a sentence such as (12) will not change the number of readings available. Because the lower negation in (14) is insatiable, any number of NCIs within its scope can Agree with it. Thus clauses with three or more NCIs behave like those with two NCIs (de Swart and Sag 2002:397): they allow a full NC reading (one negation) and a double negation reading. It is *not* the case that every NCI requires its own negation, such that a three-NCI sentence would have only a triple negation (=single negation) interpretation.

Overall, the data from French show us three types of NC behaviors among semantic negations, (16). All three elements have the same semantics (clausal negation). They differ in whether they bear an [NW]-interacting probe, and in the satisfaction conditions thereof.

- (16) Syntactic variation among semantic negations in French
- a. *pas*: no probe
 - b. \emptyset_1 : insatiable probe, [INT:NW,SAT:-]
 - c. \emptyset_2 : simple [NW] probe, [INT:NW,SAT:NW]

Each of these behaviors occurs independently in other languages. In languages lacking NC (e.g. standard English), overt negation always lacks a [NW] probe, as in (16a). In languages with NC, but where multiple NCIs and negation-plus-NCI combinations never yield double negation readings (e.g. Russian, Brown 1999), the only option is an insatiable [NW] probe, as in (16b). Languages allowing (16c) but not (16b) require a separate negation for each NCI. However, the negation and the NCI are separate syntactic pieces, and can thus be separated by other (scope taking) material. Penka (2011) shows that this provides exactly the ingredients needed for an analysis of “scope-splitting” in non-NC languages, such as German and English. In (17), for instance, the possibility modal scopes between the negation and the existential associated with *no compromise with such people*.

- (17) There can be no compromise with such people. Scope: $\neg \diamond \exists$

Penka argues that the best analysis of such cases involves treating the *no*-phrase as an NCI that Agrees with a higher covert negation. This negation must bear a probe as in (16c): it can Agree only with one NCI. Thus, a sentence with two *no* phrases has only a DN reading. Overall, (standard) English and French are alike in having an overt, probe-free negation, (16a), along with a covert negation bearing an [NW] probe.

¹⁰Note that the contrast between (12) and (15) is potentially challenging from the perspective of theories that treat French NCIs as inherently semantically negative (e.g. de Swart and Sag 2002).

3.2 Negative concord and movement: West Flemish

Various proposals for the syntax of NC involve mandatory movement for NCIs, whether overtly or covertly, to the specifier of a negative head (see e.g. Zanuttini 1991, Haegeman and Zanuttini 1991, Haegeman 1995, Brown 1999, Giannakidou 2000). In West Flemish, for instance, sentential negation can be expressed by the negative marker *nie*, which appears at the left edge of VP (Haegeman and Zanuttini 1991). See (18a). *Nie* enters into negative concord with any number of NCIs appearing to its left, (18b). If, by contrast, an NCI follows *nie*, only a double negation reading is possible, (18c). This type of connection between negative concord and movement leads Haegeman and Zanuttini to propose the Neg Criterion, requiring that Neg⁰ and NCIs stand in a spec-head relation.

(18) West Flemish

- a. da Valère gisteren nie [_{VP} tegen zen voader geklaapt eet].
 that Valère yesterday not against his father talked has
 that Valère did not talk to his father yesterday. (Haegeman and Zanuttini 1991)
- b. da Valère **nooit**_i **an geen mens**_j **niets**_k nie [_{VP} t_i t_j t_k gezeid oat].
 that Valère never to no person nothing not said had
 that Valère had never told anything to anyone (NC) (Haegeman 1995:133)
- c. da Valère **nooit**_i **an geen mens**_j nie [_{VP} t_i t_j **niets** gezeid oat].
 that Valère never to no person not nothing said had
 that Valère never said nothing to no one (DN) (Haegeman 1995:133)

No such broad stipulation is required on the interaction/satisfaction theory. Patterns like (18) result simply from a [NW] probe that attracts all elements it interacts with—much as multiple *wh*-fronting results when a *wh*-probe attracts all elements it interacts with. In (18b), a [NW] probe on *nie* interacts with three NCIs, and thus all three move to it:¹¹

- (19) V. ~~nooit~~ [~~an geen mens~~] ~~niets~~ nie [_{VP} ~~nooit~~ ~~an geen mens~~ ~~niets~~ gezeid oat]
 never to no person nothing NEG neyer to no person nothing said had
-

If we assume that the *nie* probe obligatorily drives movement of elements that it interacts with, then a structure with Agree between *nie* and an NCI will always involve NCI movement. In (18c), the absence of this movement shows that the NCI *niets* has not Agreed with *nie*. However, the fact that it nevertheless is realized with NCI morphology shows that it has Agreed with a negation. This situation can only obtain if there is another, covert negation in the clause, along with negation *nie*. This explains the double negation reading.

One notable difference between the interaction/satisfaction account of these data and the Neg Criterion account concerns the nature of crosslinguistic variation. For Haegeman and Zanuttini, the Neg Criterion is universal. Variation could concern only the level at which it holds (S-Structure vs. LF). By contrast, on the interaction/satisfaction proposal, there is no particular reason why *all* negation heads participating in [NW]-probing should have to drive movement. This means that it is not necessary to appeal to covert NCI movement

¹¹While I treat *nie* as negation, negation could instead be covert, with *nie* as an NCI (Haegeman 1995).

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in languages such as Italian, (4). Furthermore, we might expect to see variation within a language, where some negation heads participating in [NW]-Agree drive movement whereas others do not. The result would be a system where NCIs move to negation, but only some of the time. (This approach is perhaps applicable to Scandinavian; see Penka (2011:188-9).)

Overall, the patterns just reviewed suggest that NC typology reflects two familiar properties of functional heads: what probe they bear, and whether the probe drives movement. Treating NC as a case of probing by Neg, rather than by NCIs, brings it in line with parameters we expect for other types of Agree relations. Indeed, the full typology produced by crossing the two points of variation yields five attested types of patterns:

	<i>Negation bears:</i>	
	no probe	Standard European French (<i>pas</i>), Standard English (<i>n't</i>)
(20)		<i>Probe drives movement</i> <i>Probe doesn't drive movement</i>
	[INT:NW,SAT:-]	West Flemish Italian
	[INT:NW,SAT:NW]	Swedish Standard English \emptyset negation

Without a probe on the negation, there is neither NC nor scope-splitting (as in (17)); this is the case with French *pas*. If there is a probe on the negation, Agree may or may not drive movement of interacting NCIs. Among languages with an [INT:NW,SAT:-] probe, interaction drives movement in West Flemish; in Italian, it at least does not drive overt movement, and I assume for simplicity that there is no movement at all. In a language with an [INT:NW,SAT:NW] probe, every NCI requires its own negation (and their syntactic separability is diagnosed by scope splitting). Again, in some such languages, e.g. Swedish, NCIs move to negation (Penka 2011:182-3), whereas in others (e.g. English) they plausibly do not.

4. In sum

I have aimed to show that treating negative concord as downward Agree is both theoretically viable and typologically productive. On the first count, I have pushed for a separation between analytical decisions as to probe vs. goal status and questions as to what is semantically interpreted (and how). This builds on a tradition of work on Agree that accords increasingly less status to questions of (un)interpretability (see esp. Béjar 2003, Preminger 2014). On the second count, I have argued that negation probes, like ϕ -probes, differ in their satisfaction conditions and in whether they drive movement. Thus central aspects of the typology of NC are assimilated to familiar parameters of the typology of agreement.

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