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# A formal typology of indefinites interacting with negation and its diachronic consequences

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# Goals

- **Theoretical goal:** to present a formal typology of indefinites interacting with negation that
  - capitalizes on and makes sense of their **morphological makeup**
  - provides a possible analysis for the '**versatility**' in polarity preferences shown by Negative Concord Items in some languages / historical stages
- **Historical goal:** to apply aspects of the proposed typology to the analysis of the **grammaticalization of Negative Concord indefinites** in the history of Romance, to show how the proposed typology can account for observed **pathways of change**



# On the role of formal diachronic semantics

Formal diachronic accounts of the development of indefinites can support synchronic models by providing

→ **etymological correlates for assumed meaning components**

= e.g. overt, transparent realization of operators which later become morphologically opaque due to grammaticalization

→ **information on contextual conditions favoring (or inhibiting) reanalysis**

= e.g. discourse contexts inviting domain widening (or lack of domain restriction); syntactic contexts favoring the conventionalization of interpretive dependencies

→ **information on preferred patterns of development**

= e.g. role of focus particles;

= e.g. bidirectionality 'more positive' > 'more negative' and 'more negative' > 'more positive', but at the same time higher frequency of one of the two directions ('more positive' > 'more negative')

survey of research in this area in Willis, Lucas, Breitbarth 2013 and Breitbarth, Lucas, Willis 2020, *The history of negation in the languages of Europe and the Mediterranean*, vol. 1 : Case studies; vol. 2: Patterns and Processes



## Theoretical assumptions

→ **Negative Concord is syntactic agreement**

(Zeijlstra 2004, 2008; Penka 2011)

→ **Polarity sensitivity is connected to the presence of lexically activated alternatives**

(Krifka 1995; Chierchia 2004, 2006, 2013)

exhaustification-based approach to NPI licensing



# The inventory of indefinites interacting with negation

«interacting with negation»: contributing to express sentential negation or dependent on negation for their licensing

A formal typology has to account for:

- **NI**s: Negative Indefinite of Double Negation languages; e.g. German *niemand* ‘nobody’, English *no*
- **NCI**s: Negative Concord Item; e.g. Spanish *ninguno* ‘nobody’
- **NPI**s: Negative Polarity Item; e.g. English *any*
- ambiguous **NCI / NPI** indefinites: element that alternates between an NCI and NPI behavior; e.g. Old French *nul*, residually Italian *nessuno*

(1) Old French

*Se il y a frere **ne** sereur qui soit encuses de **nul** meffait...*

‘If there is a brother or a sister who is accused of any misdeed...’

(Document from Amiens, 1305; Ingham 2011: 452, cf. Labelle & Espinal 2014)



## NClS: Negative Concord

- Ladusaw (1992: 237)

Negative Concord: «the indication at multiple points in a clause of the fact that the clause is to be interpreted as semantically negated»

→ negation is “redundantly indicated”

- Weiß (2002: 127)

«there seems to be a strong necessity to ‘close off’ or ‘encapsulate’ weak indefinites when occurring in the scope of clausal negation», i.e., to overtly signal the narrow scope of the existential quantification they introduce

- Zeijlstra (2004, 2008)

Negative Concord (NC) is a form of syntactic Agree between items endowed with formal syntactic features [iNeg, uNeg] = negative marker (NM) and n-words or Negative Concord Items (**NClS**)

Redundancy in marking with NClS and NM is an acquisitional trigger for positing a dedicated position NegP (cf. Biberauer’s 2018, 2019 notion of *emergent parameter*)

Double Negation (DN) languages do not display such formal features: all negatively marked elements are semantically negative [syntactically inactive feature Neg] = Negative Indefinites (**NIs**)



# Negative Concord vs Double Negation systems /1

Zeijlstra (2004, 2008, 2014): features related to negation belong to two classes:

- class of **semantic features**:

A semantic feature [F] carried by a given lexical item inserted in the derivation represents an interpretational instruction for the semantic component. In the case of negation, an element carrying the semantic feature [Neg] will introduce a logical operator of negation in the structure. Semantic features do not enter Agree processes.

(2) English *Peter saw* [Neg *nothing*]

(3) German *Peter sah* [Neg *nichts*]

- class of **formal syntactic features**:

Formal features come in pairs, constituted by a formal uninterpretable feature [uF] and a formal interpretable feature [iF]. They represent an instruction for the syntax to create a dependency between the locus where the need for the insertion of an operator is signaled ([uF]) and the locus where the operator is actually inserted (iF).

(4) Italian *Pietro* [iNeg ***non***] *ha visto* [uNeg ***niente***] ‘Peter saw nothing’

(5) Italian [iNeg  $\emptyset$ ] [uNeg ***nessuno***] *ha visto Pietro* ‘Nobody saw Peter

(“self-licensing”)



## Negative Concord vs Double Negation systems /2

→ important consequence at the syntax-semantics interface:

While NC languages require an overt morphosyntactic signal of propositional negation in a certain area of the clause (the CP-TP phase), DN languages can realize this signal also in the lower vP phase (and scope is obtained independently) (Gianollo 2018, 2021)

(6) Italian

*Pietro* [iNeg *non*] *ha visto* [uNeg *niente*]

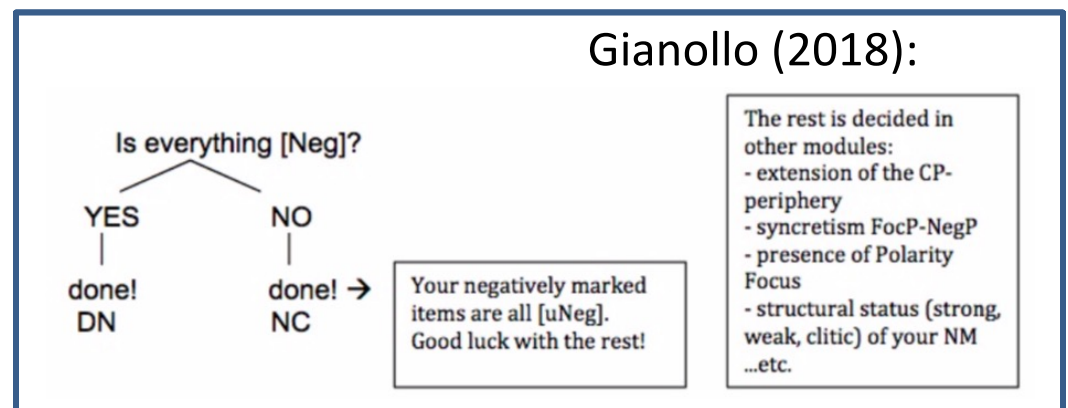
[CP *Pietro* [NegP [*non*<sub>iNeg</sub>] [TP *ha* [VP *visto* [DP *niente*<sub>uNeg</sub>] ] ] ] ]

(7) German

*Peter sah* // [Neg *nichts*]

[CP *Peter* [TP *sah* [VP [DP *nichts*<sub>Neg</sub>]]]

‘Peter saw nothing’





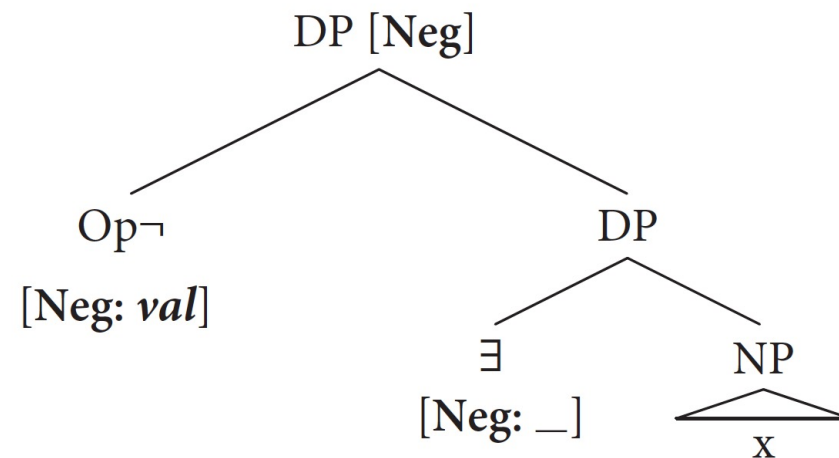
# Negative indefinites

→ negative indefinites (NIs) are existentials that are immediately closed off by a negation operator *in the syntax*, without establishing further negation-related syntactic dependencies (Zeijlstra 2011)

(8)

Negative indefinite

e.g. English *no*



- for split scope of Neg and  $\exists$  (spelled out together but able to take scope independently) see Zeijlstra 2011
- for constituency as [[Neg  $\exists$ ] body] cf. Collins & Postal (2014), Collins (2019) on *nobody*



# Negative Concord Items vs Negative Polarity Items

- Zeijlstra 2004, Zeijlstra & Penka 2005, Penka 2010, Espinal, Etxeberria, Tubau 2021:
  - Negative Concord Items are licensed syntactically (through Agree)
  - Negative Polarity Items are subject to semantic-pragmatic felicity conditions
- main distributional difference between NCIs and NPIs: NCIs are self-licensing (Ladusaw 1992) = they can introduce a negative operator by themselves (a highly constrained last resort operation in Zeijlstra 2004, in fragment answers and for pre-verbal NCIs)



# Negative Concord Items vs Negative Polarity Items

- Chierchia 2004, 2006, 2013:

Negative Polarity Items are subject to exhaustification of their obligatorily activated alternatives by means of focus (= alternative)-sensitive operators, which derives the semantic-pragmatic felicity conditions (= makes them semantically compatible only with downward-entailing contexts)

Through the exhaustification mechanism, a unification between NPIs and NCIs is possible (NCIs are a subclass of NPIs)

- Homer 2021:

The semantic-pragmatic requirement for downward-entailingness has a syntactic licensing counterpart: it is checked in specific syntactic domains (it is sensitive to locality, not just to c-command)

Cf. also Guerzoni (2006) for a syntactic treatment of intervention effects and the parallelism with interveners of *wh*-movement



## *even*-indefinites

On *even*-indefinites cross-linguistically: Haspelmath (1997), Lahiri (1998), Herburger (2003), Giannakidou & Yoon (2013), Chierchia (2013)

### *even*-NPIs

- obligatorily evoke scalar alternatives
- require exhaustification by means of a (covert) E (=even) operator (cf. Krifka's 1995 Emph.Assert)

(29)  $E(p) = p \wedge \forall q \in \text{ALT} [p <_{\mu} q]$  (where  $\mu$  : probability measure)

- result in emphatic readings

In the proposed system I represent this as syntactically active, semantically determined features:

- **[uFoc]** = obligatory activation of alternatives *encoded in the lexical entry as a presupposition* (comply with the Inclusiveness Condition); cf. scalar feature  $\sigma$  in Labelle & Espinal (2014)
- **[iFoc]** = (covert) exhaustification operator



## Proposed system

**[Neg] indefinites:** indefinites locally combining with a negative operator in Double Negation systems. Do not enter Agree relations

**[uFoc] indefinites:** indefinites that obligatorily activate alternatives, requiring exhaustification by a c-commanding (abstract) operator in a DE context  
= NPIs

**[uNeg] indefinites:** indefinites that can self-license in negative contexts and do not have NPI-uses  
= NCIs in Modern Romance, Slavic

**[uFoc], [uNeg] indefinites:** indefinites that can self-license in negative contexts and can also be licensed in DE-contexts  
= indefinites with ambiguous NPI / NCI behavior in Early Romance (some residual uses in Modern Romance)



## Romance *nec*-words

pan-Romance phenomenon of indefinites formed with the

- Latin negative focus particle *nec* «neither...nor, not even»
  - +
    - cardinal numeral 'one' *unus* = *nec*-words

Spanish *ninguno*, Portuguese *nenhum*, Old French *neuns*, *nesun*, Italian *nessuno* (also Old It. *niuno*), Old Catalan *ningú*, Romanian *nicî* (< Lat. *neque*) *un*.....

- Evidence for a grammaticalization cline:

[uFoc] > [uFoc, uNeg] > [uNeg]

in the development from Latin to Romance

**[uFoc], [uNeg] indefinites**: indefinites that can self-license in negative contexts and can also be licensed in DE-contexts

→ the Early Romance *nec*-words belong to this type



## Romance *nec*-words

- Belong to the type of *even*-indefinites
- Source constructions (syntactic combination) in Latin (=common inheritance):

(9) *nec unum pro ea verbum contra fratrem responderunt*  
not.even one:ACC for her:ABL word:ACC against brother:ACC answer:3PL  
'they didn't answer even a word in her defense against the brother' (Aug. serm. 323.1)

(10) *et non dedit illi hereditatem in ea nec*  
and not give:3SG that:DAT inheritance:ACC in it:ABL and.not  
*passum pedis*  
step:ACC foot:GEN  
← **redundancy**  
'He gave him no inheritance here, not even enough ground to set his foot on'  
(Vulg. act. 7.5)

- Interaction between negation and *even*:

'even [not x]': it is even the case that the most probable alternative does not hold

## Indefinites and the «Generalized Jespersen Cycle»

- Cycle of strengthening > bleaching > strengthening with narrow-scope existential indefinites specialized for negative contexts: NPIs, NCIs

Latin → Italian 'nobody'			Ancient Greek 'nobody'			Ancient → Modern Greek		
phase	PLAIN	EMPH.	phase	PLAIN	EMPH.	phase	PLAIN	EMPH.
I	nemo	nec...unus	I	ou...tis	oudeis	I	oudeis	kan...enas
II	neuno	...	II	oudeis	...	II	kanenas	...

*nec...unus*

'not even...one'

*ou...tis*

'not...wh'

*oudeis*

'not even one'

*kan...enas*

'even if...one'

- This process is only in part captured by the so-called *Argument Cycle* (Ladusaw 1993), whereby indefinites can be recruited as negation strengtheners and become themselves negative in the course of time.
- “Generalized Jespersen Cycle”: wants to account for the fact that indefinites themselves and independently from the negative marker are subject to **strengthening and formal renewal**.



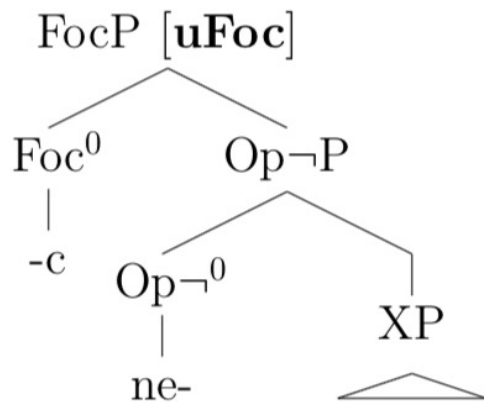


# Syntactic interpretation

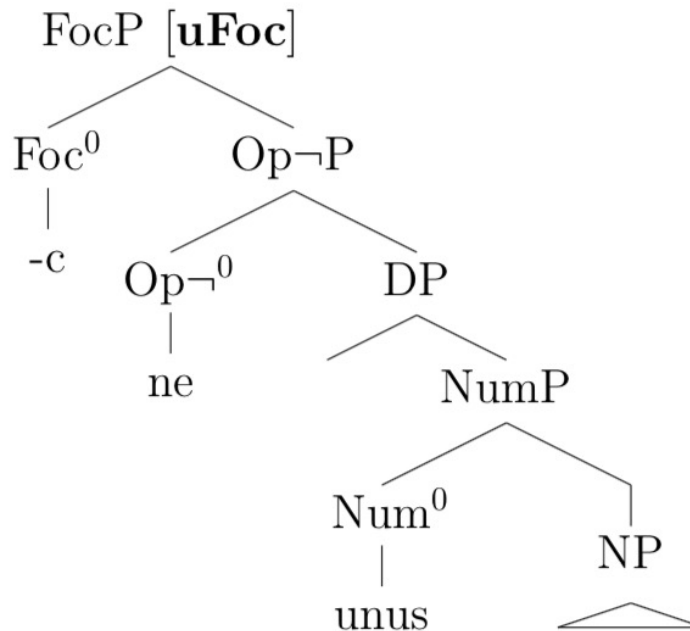
“Generalized Jespersen Cycle”:

- triggered by the creation of a **morpho-syntactically encoded focus dependency** motivated by strengthening / emphasis: [uFoc]-[iFoc] licensing relation, where [uFoc] = obligatory activation of alternatives and [iFoc] = (covert) focus operator (Gianollo 2018, cf. Simpson & Wu 2002, Watanabe 2004).
- this focus dependency is later **reanalyzed as a negative dependency**: [uNeg]-[iNeg] licensing relation, originally in addition and later in substitution of the [uFoc]-[iFoc] dependency.

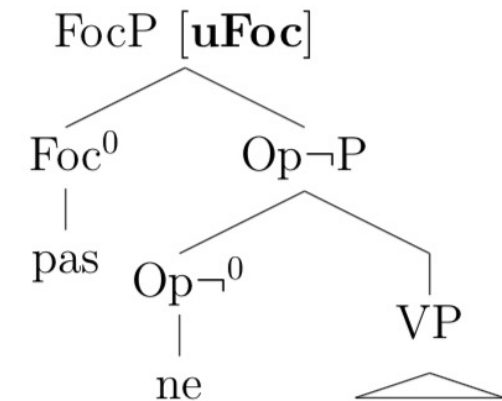
*nec* focus particle



*nec unus* indefinite



*ne...pas* negative marker



# Focus-sensitive particles and the grammaticalization of *nec*-words

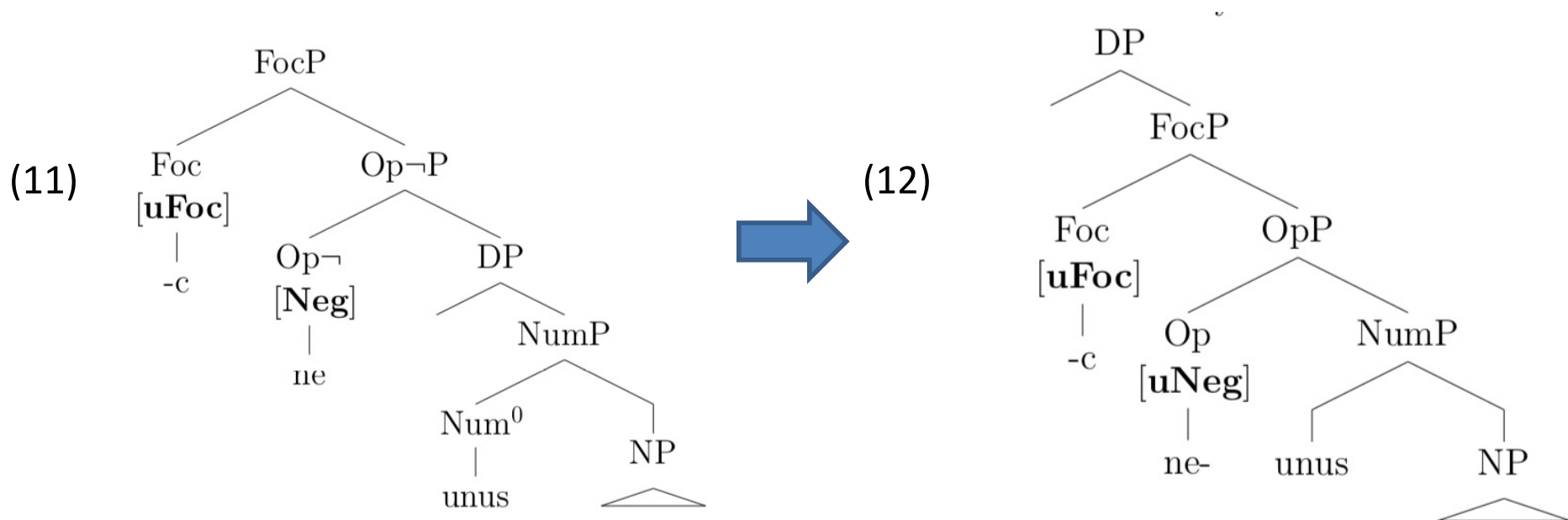
Gianollo (2018: 252-253): from Focus shell to DP-internal projection

- lexically determined activation of alternatives

+

- generalization of syntactic dependency also to negation (“Maximization” of Agree)

→ *nec* carries over its Concord properties, which start to develop already in Late Latin, to the newly created Romance indefinite



## Ambiguous NCI / NPI uses

Italian

(13) **Niente** *lo soddisfa* 'Nothing pleases him' (N.B. *niente* is also a *nec*-word!)

nothing him pleases

(14) *Mi chiedo se* *Pietro abbia visto niente* 'I wonder if Pietro saw anything'

myself wonder whether Pietro has.SJV seen anything

- basic intuition: the ambiguity of NPI/NCI uses is due to the presence of **formal uninterpretable features** on the NCI that **force it to a licensing dependency**  
--> NIs of DN languages do not have this kind of ambiguous uses: the very local selection between existential core and negative operator established in that case blocks the 'interference' of other operators
- maybe then the feature structure of these NCIs is more complex than just [uNeg] and allow for dependencies with other operators? ---> [uFoc, uNeg] indefinites



## Early Romance *nec*-words and ‘polar versatility’

- main difference between NCIs and NPIs: NCIs are self-licensing (Ladusaw 1992) = they can introduce a negative operator by themselves (a highly constrained last resort operation in Zeijlstra 2004, in fragment answers and for pre-verbal NCIs)

BUT they do so **only in contexts that are not already Downward Entailing (DE)-contexts**

→ only NCIs *in non-DE-contexts* can trigger the presence of an abstract negative operator, which turns the context into a DE one

Hypothesis:

- in a [uFoc [uNeg ...]] configuration the exhaustification of [uFoc] by an operator other than negation renders [uNeg] inactive → ‘shielded’

= [uNeg] is activated only when needed

- the evoked negative operator creates a DE context that also satisfies [uFoc]
- in [uNeg] indefinites (‘plain’ NCIs), instead, [uNeg] is always active



## *nec*-words

Dual / multiple feature systems to account for the NPI/NCI difference and ambiguity:  
already in e.g. Martins 2000; Jäger 2010; Labelle & Espinal 2014; Longobardi 2003, 2014

Proposal about *nec*-words:

- connection between **complex featural specification** and **complex internal structure** (cf. work attributing properties of NCIs to their internal structure by Déprez & Martineau 2004, Déprez 2011)
  - the proposed features for *nec*-words are a fossilized memory of their lexical make-up
- connection between grammaticalization of new items of the functional lexicon and **rise of Negative Concord** (encoding of variation in the lexicon): the grammatical expression of emphasis amounts to the creation of a Focus Concord dependency, reanalyzed as a purely formal one in terms of [uNeg] features



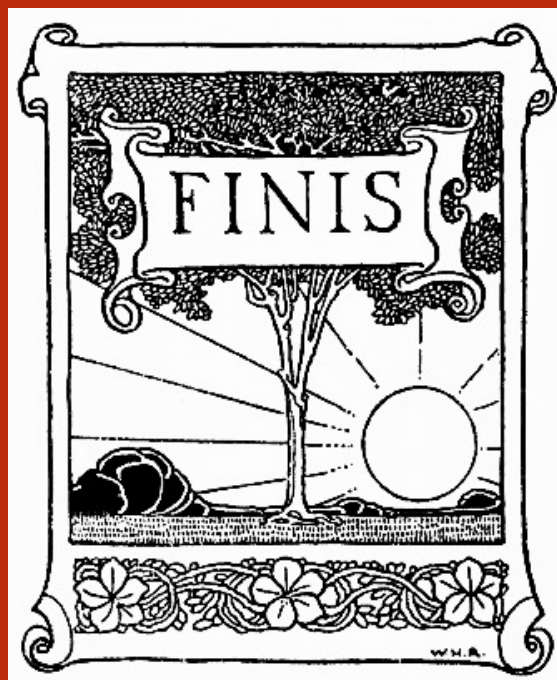
## Diachronic generalizations and conclusions

- feature reanalysis in indefinites interacting with negation is often not caused by semantic changes happening to the indefinite itself, but rather by **changes in the surrounding syntactic system**  
---> e.g. reanalysis of Focus dependency as NC in Romance
- **competition** between plain and pragmatically emphatic indefinites tends to oust the old indefinite (rather than leading to its reanalysis)  
---> e.g. disappearance of old Latin NIs *nihil* 'nothing', *nemo* 'nobody' etc. (but not of *nullus* 'no')
- feature **reanalysis** happens with the new indefinite, when it loses emphasis  
---> e.g. progressive loss of NPI uses for *nec*-words





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