THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF FRENCH AND FRANCOPHONE STUDIES

A CROSS-LINGUISTIC ACCOUNT OF POLARITY

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Spring 2010

A thesis
submitted in partial fulfillment
of the requirements
for baccalaureate degrees
in French and International Studies
with honors in French

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Abstract

Polarity is a term that refers to the affirmative versus negative distinction exhibited by the following pair of sentences: *Cindy likes cats* (affirmative) and *Cindy does not like cats* (negative). Linguists use the term polarity item to refer to the many words, phrases, and idioms whose occurrence has long been known to be restricted (or licensed) in some way by the polarity of the sentences in which they appear. That is, negative polarity items (NPIs) are limited to negative sentences and affirmative/positive polarity items (PPIs) are limited to affirmative ones. With this in mind, I will provide various approaches to polarity, starting from the earliest and moving to the most recent. Some research questions after viewing the introductory data on the distributional characteristics of polarity that will be a recurring theme throughout the thesis: First, given the present account of the distribution of negative quantifiers that exists in the literature, namely Progovac (2005), what are the features of Romance *n-words* that account for their distribution? Or, put differently, how do we implement concord into modern syntactic theory? Progovac's account cannot simply be applied "as is". She proposes that items that encode semantic negation, like English negative quantifiers, have an [I –neg] feature, while those that do not (English NPIs) have an [U –neg] one.

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Chapter 1. INTRODUCTION

The Role of the Thesis:

The Role of this thesis is to provide a starting point and necessary background information for future graduate research in the underrepresented area of polarity. I have set up the thesis as a review of previous, and pertinent, literature of various accounts of polarity, with approaches ranging from more syntactic in nature to semantic, and then to a more pragmatic one. It is essential to understand the previous accounts in order that they are applied to nouvelle topics, such as polarity in romance languages, which is how the thesis ends. In taking into account all of the data, a general overview is given, which then can be applied, spliced, and edited for further doctoral work or a post specialization programme.

Polarity is a topic with a wealth of information. However, there are still a lot of unanswered questions that need to be examined. This is the hope and aspiration of my future career in academia. Like all theories, improvements are always made and reconsidered. We can see that one must analyze the structure of natural languages in a scientific manner capturing the greatest number of generalizations using the fewest number of mechanisms (i.e. rules). There is still a lot of unfinished business to be done, and I'd like to potentially be the forerunner.

Chapter 2. EARLY APPROACHES TO POLARITY

"Polarity" is a term that refers to the affirmative versus negative distinction exhibited by the following pair of sentences: *Cindy likes cats* (affirmative) and *Cindy does not like cats* (negative). Linguists use the term "polarity item" to refer to the many words, phrases, and idioms whose occurrence has long been known to be restricted (or licensed) in some way by the polarity of the sentences in which they appear. That is, negative polarity items (NPIs) are limited to negative sentence and affirmative/positive polarity items (PPIs), in a sense to be made clear shortly, are limited to affirmative ones. PPI- *Cindy likes **some** cats* (vs. **Cindy does **not** like **some** cats.)* on the reading equivalent to the grammatical *any* example *Cindy does not like any cats*. This is the so called wide-scope reading for negation.

To complicate the situation somewhat, polarity items are also frequently licensed by "affective" elements beyond negation, like questions (as opposed to declaratives), comparatives, *too*- constructions, relative clauses headed by universal quantifiers, complements of certain verbs, and so on. Polarity Sensitive Items (PSIs) are expressions, either words or idiomatic phrases, whose distributions are limited to certain 'polarity' sensitive context. The most studied PSIs are English *any* and *ever*, which can never appear in positive context but appear in other contexts. These are classic NPIs.

*(1) a. *****Bob saw **any** apple on the table.*
*b. Bob didn't see **any** apple on the table*
(any appears under the scope of negation).
*(2) a. *****I think I could **ever** trust you.*
*b. I don't think I could **ever** trust you*
(ever, an NPI, occurs under the scope of negation).

Identifying and characterizing the 'polarity sensitive context' has been the central subject of study on polarity phenomena since Klima's (1964) early work on *any, ever* and *either*. The term 'negative polarity item' (NPI) is generally used for polarity sensitive items such as *any* and *ever* due to their acceptability in 'negative' contexts. However, this characterization is too rough to capture the complexity of the distribution of *any*: it is allowed in a wider range of environments (e.g. questions- *Have you got **any** bananas?;* conditionals- *If I had **any** bananas I would eat one*; in the restriction of universal quantifier, etc.) and its free choice use diversifies the distribution further (e.g. imperatives, modals). Since there are items that are only grammatical with the presence of negation ('strong NPI' in the sense of Zwarts 1993) or under the scope of negation, the term NPI is misleading and confusing. I will reserve the term 'NPI' for strong NPIs and continue to use 'Polarity Sensitive Item (PSI)' to refer to any lexical item (or phrases) that are restricted in distribution and/or interpretation in 'polarity' contexts.

The first and most widely known attempt to elaborate a comprehensive grammar of negation within the generative paradigm was that of Edward Klima (1964). Klima was the first to put forth an analysis of polarity, in transformational terms, in a paper focused primarily on the syntax of English negation in generative terms. While the theoretical framework in which Klima worked has long since been modified and reconfigured beyond recognition, the insights and description generalizations in his paper defined the research programme in which all subsequent work on the grammar of negation has been developed. His analysis was a syntactic approach to polarity licensing and was inspired by traditional grammarians' observation that in what many view as the "core" context of polarity licensing, namely, the negative versus affirmative context, NPIs and PPIs are

usually in complementary distribution: for example, *I saw **some** cats/*__any__ cats.* versus *I didn't see ***some** cats/__any__ cats*. Another example to consider is the following: ***I already** did that. /*I did that **yet.** versus *I didn't **already** do that. /I didn't do that **yet.***

In Klima's transformational analysis of polarity, he proposed that PPIs (e.g. *some*) are the only basic expressions in the Lexicon; NPIs (e.g. *any*) are derived transformationally from their corresponding PPIs by Indefinite Incorporation (Klima, 1964). Indefinite Incorporation according to Klima is when indeterminate constituents (*too, sometime, somewhere, once, a*) as well as Quantifiers like *many, some* that occur with Affective constituents (*Wh-, negation, reluctant*) may, or in certain contexts must, become indefinite (e.g. *any yet,* etc.) Klima states that this rule: (i.) applies recursively: *I didn't say **anything** to **anyone;*** (ii.) is specified to be obligatory in certain contexts, optional in others: *John didn't see any/*some. vs. Did John buy any/some?*; (iii.) is triggered by affective operators like negation, conditionals, etc.; and (iv.) is subject to syntactic conditions, namely, polarity items must be in some syntactic domain associated with the trigger. However, he points out that the exact domain differs from NPI to NPI and doesn't discuss how exactly to define the relevant domain in each case.

In his analysis, a number of the negative-polarity items were derived transformationally from corresponding affirmative items. For instance, *any* was derived from *some*, *ever* from *sometime*, and *yet* from *already*. In his defense of such a transformational derivation, Klima cited the fact that these NPIs often appear in subordinate clauses which do not correspond to any well-formed simple sentences. Thus, for example, the ungrammatical sequences (1a.) of the following sentence below may appear as subordinate clauses in the perfectly grammatical sentences (1b.):

(3) a. **The doctor is doing anything at the moment.*

b. *I'm not sure that the doctor is doing anything at the moment.*

Klima noted that, corresponding to the unacceptable (1a.) sentence above, there were perfectly acceptable simple sentences which differed only in being negative instead of affirmative:

*(4) The doctor is**n't** doing anything at the moment.*

*(5) Ralph has**n't** ever seen a picture of Howard Hughes.*

Within the then-current theory, the possibilities for treating lexical items of this sort appeared to be only two in number. Either they could be introduced by base rules which were sensitive to the context provided by neighboring elements, or else they could be derived by a transformation which included certain triggering elements in its structural description. When considering this approach, there are always some observations to bear in mind. First, this complementary distribution between NPIs and PPIs does not necessarily obtain in other triggering environments, like questions, conditionals, etc. where one often finds both NPIs and PPIs, with a slight difference in meaning (use in different contexts): for examples, *Do you have **any/some** gas?; Did you **already** do that? /Did you do that **yet?**; **I'm surprised** that **anyone/someone** came.* Second, even in the "core" contexts, there are two environments where one finds counterexamples to the above observation. These are so called "double negative" contexts and counterfactual constructions discussed in depth in Baker (1970). Baker credits Jespersen (1909) for first pointing out the existence of PPIs in double negatives.

(6) Double Negatives Baker (1970a)

a. PPIs -*There is**n't** anyone in this camp who would**n't rather** be in Montpelier. (vs. *He would**n't rather** be in Montpelier.)*

b. *You ca**n't** convince me t hat someone is**n't still** holed up in this cave. (vs. *Someone is**n't still** holed up in this cave.*

c. NPIs *I'm **surprised** that John said **anything** to her about it. (vs. *John said **anything** to her about it.)*

(7) Counterfactuals Baker (1970b) *if…had (counter to what actually obtains in real world) and wish*

d. PPIs- ***If** the Red Sox had**n't already** used up all of their time outs, they would still have a chance to win this game! (vs. *The Red Sox have**n't already** used up all of their time outs.*

e. *Susan **wishes** that **someone** did**n't already** know of Norbert's proof of the theorem. (vs. ***Someone** does**n't already** know of…)*

f. NPIs -***If anyone** had seen **anything,** we would have called you.*

Klima's work is important for the wealth of data it introduces, as well as the observations he makes regarding the importance of syntax (domains) and semantics (use of "affective" triggers) in analyzing this phenomenon. However, there do seem to be some problems with his approach (beyond the fact that modern syntactic theory does not recognize the existence of transformational rules). It should be noted that some NPIs (*anymore, at all*) have been argued to lack a PPI counterpart from which they can be derived (argument first put forth in Jackendoff's 1969 paper in the journal *Foundations of Language*). Next, NPIs and PPIs are not always in complementary distribution. Klima is well aware of this, but he doesn't work out the details of when, exactly, his transformation occurs: for example, why is it sometimes obligatory, other times optional?

What are the relevant domains for triggering and why? (See Baker (1970a) for an in-depth look at the empirical problems that arise when one does attempt to work out these issues using a purely syntactic approach like Klima's). Baker tries to work out this domain and issue- accordingly, he believes that it is purely semantic and not purely syntactic).

An additional problem to Klima's approach is that in those contexts where NPIs and PPIs co-occur (e.g. questions), the meaning isn't the same. That is, one doesn't have the free variation in meaning that a transformational account would lead one to expect (See Bolinger (1960) and Lakoff (1969)). For example, *Do you have **some** gas? Versus. Do you have **any** gas?* Finally, Klima's account offers no definition of what an affective item is. That is, what semantic criterion/criteria determine membership in this class? We have no explanation for why just this class of items serves as triggers (criticism due originally to Linebarger (1987)). The term "affective" is used by Klima and by Jackendoff, whom will be discussed next, to refer to all those environments in which *any* and *ever* and other such items may appear. Included in the list of such environments, in addition to negatives, are questions, conditionals, and complements of certain verbs.

In an attempt to render these problems found with Klima's syntactic approach, Baker (1970) puts forth an analysis of polarity that recognizes a primary role for semantics in licensing polarity, and a very minor (filter type) role for syntax. Baker proposes that NPIs and PPIs are freely inserted into the syntactic structure of sentence and the paradigm (or core) cases of NPI licensing are due to an NPI's being in the semantic scope of negation representation of the sentence in which it appears. Baker takes no position on how the scope of negation is determined at the syntax/semantics

interface. He notes it cannot be simple c-command since *some* is c-commanded by *not* in the following example, yet *some* is not in the semantic scope of *not*: *Someone did **not** eat **some** of his soup. ≠ Someone did**n't** eat **any** of his soup.*

PPIs are appropriate in non-negative semantic representations. Again, according to Baker, only PPIs are appropriate "elsewhere," with the word "elsewhere" being understood not to refer to conditional sentences and questions, where Baker wishes both NPIs and PPIs to be licit. Remaining non-paradigmatic instances of polarity licensing (specifically, PPIs (but not NPIs) in his "double negative" and counterfactual contexts) are due to propositions entailed or presupposed by the actual sentence in which the primary licensing configuration obtains. However, before discussing Baker's approach, however, Jackendoff (1968) must be examined.

In demonstration of the failure of a Klima-style syntactic approach to polarity, Baker (1970) opens his paper by noting most of the problems listed above with Klima's original proposal. These problems lead to the conclusion that Klima's transformational syntactic account must minimally be reinterpreted as Jackendoff (1968) proposed, namely in terms of a feature-based, syntactic approach. In a treatment given by Jackendoff (1968), a slight modification is proposed for Klima's theory. Jackendoff notes that, in general, there is no morphological similarity existing between members of such pairs as *some-any, sometime-ever,* and *already-yet*. He asserts also that at least two NPIs, *any more* and *at all*, have no corresponding affirmative-polarity items from which they could possibly be derived. From these two considerations he argues that NPIs should be treated as basic lexical items rather than as items derived by a transformational rule from corresponding PPIs. In Jackendoff's account, lexical insertion is free, with individual

lexical items which require a negative or other affective environment being marked as such.

Jackendoff's (1968) syntactic feature approach to polarity states that: NPIs and PPIs are both basic expressions, freely inserted. Each type of expression is inherently associated with a lexical feature [+/- affective] E.g., *anyone* is inherently [+affective] (NPI); *some* is [-affective] (PPI); [+affective] elements require the presence of identically marked affective triggers (e.g. negation) or semantic ill-formedness results. E.g., *I did**n't*** [+affective] *see **anyone*** [+affective]**.** In this particular example, the features associated with the affective element *not* [+affective], and the NPI *anyone* [+affective] match. Therefore, this sentence is grammatical.

(8) **I saw **anyone***
[-affective] [+affective] NO MATCH= ungrammatical

Baker points out that Jackendoff's approach as it stands cannot account for PPIs in "double negative" contexts since, obviously, the polarity features don't match, yet the examples are acceptable.

(9) *There is**n't** anyone in this camp who would**n't** **rather** be in Montpelier*
[+affective] [+affective] [-affective]

*(10) You ca**n't** convince me that someone is**n't** **still** holed up in this cave*
[+affective] [+affective] [-affective]

Baker successfully modifies the Klima/Jackendoff approach as follows to account for these examples (but he will ultimately show it reaches an impasse/contradiction when further facts are considered): Baker's (1970a) revision of Jackendoff to accommodate PPIs in double negatives is as follows: (i.) NPIs and PPIs are both basic expressions, freely inserted; (ii.) each is inherently associated with a lexical polarity feature [+/- negative] (renamed the [+/- affective] feature) E.g., *anyone* is inherently [+negative] and *some* is [-negative]; (iii.) each sentence S is initially associated with a [-negative] derivational polarity feature; (iv.) if an S contains an affective element that takes scope over the polarity items in the sentence, the polarity feature of S must be reversed; (v.) if an S is embedded in a matrix S containing an affective element, the embedded S may optionally change its polarity feature. If the final derivational polarity feature of S and the inherent polarity feature of any polarity items immediately dominated by it do not agree, the sentence is semantically anomalous

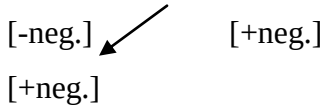
(11) [$_S$ *John has* ***already*** *left*]
[-neg.] [-neg.]

No affective elements in example 9 (e.g. negation) to trigger Polarity Reversal of S's derivational polarity feature; feature of S and feature of polarity item agree; therefore, the sentence is grammatical.

(12) *[$_S$ *John has left* ***yet***]
[-neg.] [+neg.]

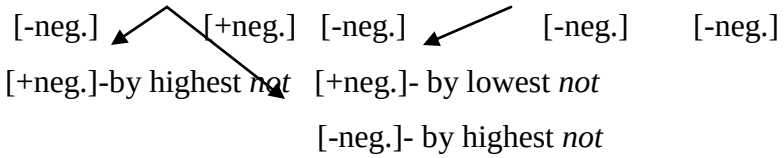
In example 10, again, there is no affective elements to trigger Polarity Reversal of S's feature; features do not agree; therefore, the sentence is ungrammatical.

(13) [S *John has* ***not*** *left* ***yet***]



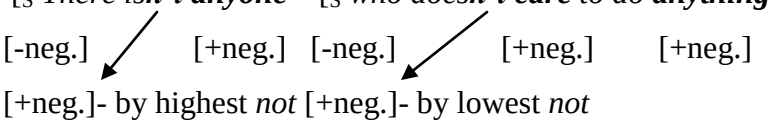
Not obligatorily triggers Polarity Reversal of its S's feature, the S's original [-neg.] is then reversed to [+neg.]; the features of the sentence and of the affective item do agree; therefore, grammatical.

(14) [S *There is****n't anyone*** [S *who would****n't rather*** *do* ***something*** *in town*]]



Each affective element (the two *nots*) triggers Polarity Reversal of their respective S's polarity feature. The option of having the matrix *not* trigger reversal of the embedded S's feature is selected. Final features of each S and the polarity item within its immediate domain agree; therefore, the sentence is grammatical.

(15) [S *There is****n't anyone*** [S *who does****n't care*** *to do* ***anything*** *in town*]]



In 13, the highest affective element (first *not*) is present, but doesn't obligatorily trigger polarity reversal of embedded S. All features within each S agree; therefore, this sentence is correctly predicted to be grammatical.

Still, as with many approaches, Baker notes certain problems with this syntactic approach to polarity. The first problem raised is one that considers the scope of negation. This approach rests on the assumption that the semantic scope of negation can eventually be formally determined since well-formedness considerations due to polarity only arise when the polarity items is in *not*'s semantic scope. That is, consider examples like the following, which would wrongly be predicted to be ungrammatical if *not* always triggered the matching polarity requirement

(14) [$_S$ ***Someone*** *did* ***not*** *eat* ***some*** *of his soup*]
[-neg.] [-neg.] [-neg.]
[+neg.]- S's polarity reverses due to presence of *not*

Here the affective element (*not*) is present, but it doesn't trigger the matching requisites because neither PPI is in the semantic scope of negation (i.e., this sentence doesn't mean "*No one at anything*.")

The second problem with this syntactic approach is the acceptability of the following example on the indicated reading:

(15) [$_S$ ***Nobody*** *did****n't*** *see* ***anyone***] = *Everybody saw someone*
[-neg.] [+neg.] [+neg.]
[+neg.]- reversal by *not*
[-neg.]- reversal by *nobody*

The NPI *anyone* is in semantic scope of negation, yet the final features of S and inherent feature of *anyone* do not match. This sentence is predicted and should be ungrammatical. However, native speaker intuitions tell a different story. Any theory must account of these intuitions.

Next, Baker notes the ungrammaticality of PPIs with double negatives embedded under the matrix verb *try.* In these sentences, affirmative-polarity items are not acceptable in structures commanded by the subordinate negation:

(16) *[$_S$ *John is**n't** trying* [$_S$ ***not** to do **somewhat better** than his brother*]]
[-neg.] [-neg.] [-neg.]
[+neg.]-by matrix *not* [+neg.]- by embedded *not*
[-neg.]- by matrix *not*

The features all agree and the sentence is predicted to be grammatical, yet the PPI *somewhat better* is unacceptable.

The fourth problem is the lack of a non-stipulative account of apparent (i.e. covert) doubles negative licensing NPIs: predicate verbs like *surprised, disappointed, be relieved, glad, sorry, consider it lucky, odd, strange,*etc. It was pointed out by Klima that many of these predicates provide suitable environments for *any, ever,* and other such elements:

(17) *I'm **surprised** that **anyone** bought **anything** at all.* Should be ungrammatical

License NPIs in affirmative contexts

(vs. **I **realized** that **anyone** bought the book)*

An explanation for the peculiarity of these complements is to be found in the definitions of the special predicates in which they are embedded. Speaking intuitively, we can say that each of these predicates expresses a relation of contrariness between a certain fact and some mental or emotional state. For example, we say that we are *surprised* when a certain fact does not conform to our *expectations; relieved* when it does not conform to our *fears*; *disappointed* when it is not in line with our *hopes*; and *lucky*, if it is not in line with some standard set of *probabilities*. Likewise, we say that a certain fact is *odd* or *strange* if it seems counter to our view of what is logical.

A feature-based, syntactic account along the lines of Klima and Jackendoff offers no explanation for why just these verbs "switch" polarity like negation does. They must stipulate the class of affective items. As was demonstrated by Baker, a purely syntactic approach to polarity faces several problems. Baker suggests that perhaps a better account would be possible if we make reference to semantic representations.

In Baker's (1970) primarily semantic account of polarity, he, in essence, took what Klima did in syntax and put it into semantics in order to attempt to extend Klima's and Jackendoff's accounts of lexical polarity in such a way as to provide an account of the problematic sentences. We will see that Baker's approach resolves all of the aforementioned problems except the first one (i.e. the determination of the semantic scope of negation), but it suffers from some new ones. First, Baker has modified the rule which changes *some* and *any* so as to make it an alpha rule, in which one application of the rule may nullify the effect of a previous application of the same rule. Second, Baker argues that such a rule must be thought of as applying to deep structures having in certain respects the character of formulae in the sentential calculus. Finally, the operation of such

a rule must be subject to a curious restriction; namely, that it must operate either everywhere or nowhere in any given S below the S of negation which triggers it.

Baker's analysis is comprised of two semantic principles and one syntactic restriction on those principles. The first principle is virtually identical with the original unidirectional rules of Klima and Jackendoff: NPIs are appropriate in structures within the scope of negations, whereas PPIs are appropriate elsewhere. In essence, this is "paradigm cases" of polarity licensing. This principle is not involved in conditional and questions. Baker proposes that both NPIs and PPIs can be freely generated in those contexts. This principle also does not apply in "double negative" or counterfactual contexts, nor does it apply in comparatives, with verbs like *surprised,* etc. A second principle ("derivative" licensing of PPIs) will handle PPIs in these contexts, but leave an NPI residue unaccounted for. Baker is adapting this from Klima: now, however, the presence of negation in the semantic representation of a sentence "licenses" NPIs. Syntactic features and transformations are removed from the equation.

The second principle that Baker introduces accounts for the type of exception found in double negatives- "derivative cases" of positive polarity licensing. This principle applies only to PPIs in double negatives, in counterfactual contexts, and with verbs like *surprised*, comparatives, etc. It does not apply to NPIs.

(18) Rule: Given semantic representations P_1 and P_2 satisfying the following conditions:

a. $P_1 = X_1\ Y\ Z_1$ and $P_2 = X_2\ Y\ Z_2$ where Y itself a well-formed semantic representation;

b. P_1 entails or presupposes P_2;

Then the lexical representation appropriate to Y in P_2 (by the Paradigm Licensing Condition above) is also appropriate to Y in P_1

This form of derivative licensing is totally new. Propositions whose truth is entailed or presupposed by a sentence can also license positive polarity items if the paradigm licensing context obtains in a sub formula of the semantic representation of the entailed or presupposed proposition. By way of illustrating the operation of this principle, consider the following examples:

(19) *There is**n't** anyone in this camp who would**n't** rather be in Montpelier.*

This sentence has the following semantic representation:

(20) ¬ ∃x [¬ (x would rather be in Montpelier)]

The PPI *would rather* is in the semantic scope of negation, so it is not licensed by the "core" licensing principle. However, the semantic representation of the sentence 20 entails the following proposition Y which is part of the original semantic representation:

(21) ∀x (x would rather be in Montpelier)

The PPI is not in the scope of negation in the shared sub formula Y (x would rather be in Montpelier) of the entailment. Therefore, the PPI is appropriate in the original sentence "derivatively".

In addition to these two semantic principles, there is one syntactic constraint on these principles which is discussed extensively in Ross (1967) as it applied to Klima's analysis; only briefly mentioned in Baker (1970). In agreement with previous literature, Baker states that complex NPs (CNPs) headed by *the fact/belief that*, etc. block derivative polarity licensing. Baker leaves it open exactly what does handle polarity distribution in CNPs but seems to imply that only Principle 1 does. As we'll see below, this is supposed to be designed to partially answer the following question: Why are both NPIs and PPIs accepted in the first example, but not in the second? :

(22) *We were**n't** aware that John had seen **anyone/someone**.*
(23) *Vs. We were**n't** aware of **the widespread belief that** John had seen **someone***
(24) **We were**n't** aware of **the widespread belief that** John had seen **anyone***

Baker wishes to account for at least part of the contrast between the first example and the other two below it. Discussion of the first example, 22, will lead to an interesting digression that clarifies why Baker believes only PPIs are subject to derivative licensing as it is formulated in his approach. Although Baker does not explicitly analyze this

particular example in Baker (1970a) – he just mentions such examples are due to CNP- the following reasoning could be potentially applied:

The first sentence in the series, 22, is ambiguous has the following semantic representation, associated with one presupposition with the PPI and two with the NPI:

(25) Semantic representation: ∃x [¬ We were aware that (SEE J, x)
(26) Presupposition with *anyone* and *someone:* [∃x (SEE J, x)]
(27) Presupposition with *anyone*: We thought that ¬ [∃x (SEE J, x)]

The PPI is acceptable because *someone* is not in the semantic scope of negation in the semantic representation or, for that matter, in the first presupposition. Baker (1970b) leaves open the question of why *anyone*, which is not in the scope of *not* in the semantic representation, is also grammatical. That is, he leaves open for further research (which can be described in Linebarger (1987)) why NPIs are found in these types of examples. Baker explicitly states that he does not want to extend derivative licensing (i.e. via entailments or presuppositions) to NPIs due various reason, one of which is the following: there seems to be an overgeneralization via "frivolous" entailments- this problem with derivative licensing only arises with NPIs, never PPIs. For example, why isn't the NPI *anything* in the example below, 28, licensed by the entailment below, in which the NPI is in the semantic scope of negation?

(28) **Everyone did **anything much***. (Meaning: Everyone did something.)
(29) Semantic representation: ∀x ∃x (DID x.y)
(30) Entailment: ∀x [¬ ∃y ¬ (DID x,y)]

The use of the sub formula Y in an entailment of the original sentence to license negative polarity items leads to overgeneration (since, e.g., P entails NOT NOT P etc.), so limit derivative licensing to PPI. This leads to one of the problematic examples for Baker's approach. Due to Baker (1970) himself, we as yet have no account of NPI licensing in all of the "derivative" contexts, namely, covert double negatives/adversatives (*surprise*-type verbs), comparatives, etc.

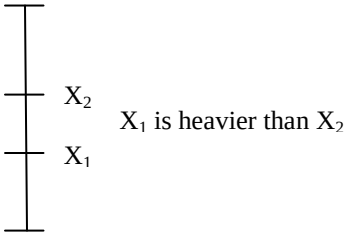
Another problematic example for Baker's approach is due to Fauconnier (1975). Fauconnier argues that Baker's approach leaves unanswered the question of why superlatives and *even* phrases seem to be polarized in exactly the same way at least one class of Baker's NPIs. Fauconnier suggests that minimally this class of NPIs be accounted for in purely pragmatic terms. Polarity seems to extend beyond the realm discussed by Baker and others.

In a slightly different approach to polarity, in this case, a primarily pragmatic account of polarity, Fauconnier (1975) defines the notion of a pragmatic scale. In Fauconnier's article, "Polarity and the scale principle", he states that NPIs are associated with ordered alternatives ("scales") and denote the minimal elements of the scales. The use of certain expressions (namely, superlatives, *even* NPIs, and NPIs of the *lift a finger/budge an inch* type) evokes a pragmatic scale ordering that expression at the lowest point of the scale relative to other expressions on it.

For example, in dealing with pragmatic scales and polarity one must consider superlatives. Suppose that it is true that "Alex can lift with x_1", then in the absence of additional information, we assume that if weight x_2 is lighter than x_1, Alex can also lift x_2. That Alex can lift x_2 is implicated, rather than implied. The use of a superlative

expression such as *the heaviest weight* evokes a heaviness scale of which *the heaviest* is the lowest point.

Figure 1: "Heaviness" scale



If one utters *Alex can lift the heaviest weight* then one conversationally implies that Alex can lift all other weights on the scale. This is so because, all other things being held constant, if one can lift the heaviest weight, on can usually lift the lighter ones, as well. However, this is only conversationally implied since one may, in fact, not be able to lift a lighter weight. That is, one may say without contradiction: *In yesterday's competition, Alex could lift the heaviest weight, but strangely enough, he couldn't lift the lightest one*.

A problem for Baker's previous account of polarity where certain types *Even* phrases. The use of *even* NP evokes a scale of likeliness with the focused NP being ranked at the lowest level of likelihood of having the property denoted by the predicate. Thus, if one utters *Even Chomsky doesn't understand <u>Aspects</u>* one conversationally implies that no one else, ranked higher on the scale of likelihood of not understanding *Aspects*, can understand it. However, one must also consider the example, *Although it is true that even Chomsky doesn't understand <u>Aspects</u>, my undergraduate students this year could.*

Another example in Fauconnier's use of the pragmatic scale is NPIs of the *lift a finger* type Expressions like *lift a finger/budge an inch/bat an eye* evoke a scale of activities of which the idiom is the lowest possible level of activity. Thus, if one utters *They didn't lift a finger to help* one entails that nothing higher on the scale of activity was done; in short, no help at all was offered.

When working with the role pragmatic scales in extended polarity phenomena, the existence of pragmatic scales, and particularly, the lowest ordering of certain superlatives, all *even* phrases and certain NPIs (like *budge an inch*) on those scales, results in logical equivalencies and deductions that account for the polarity phenomena introduced above. When considering the superlative facts, we must also pay attention to the existence or absence of the "universal" reading. First, the complementary distribution found in negative and affirmative sentences with respect to the universal reading:

(31) ***The most elegant suit*** *looks bad on Alex =* ***Every suit*** *looks bad on Alex.*

As mentioned above, the universal reading is due to the scale of which *the most elegant suit* is at the lowest point. If one were to state that Alex looks bad in the most elegant suit, then one implies that he looks bad in all the other (less elegant suits). Baker's analysis cannot account for Fauconnier's extended notion of polarity since the semantic scope of negation, the "core" licensor of NPIs in his account, in not relevant in these cases.

(32) ****The most elegant suit*** *does* ***not*** *look* ***bad*** *on Alex* ⊧ ***Every suit*** *does not look bad on Alex*

Here, the use of *the most elegant suit* does not evoke a scale at which the most elegant suit is at the lowest point because now one is speaking of not looking bad. That is, the truth of the original proposition *The most elegant suit doesn't look bad on Alex* implies nothing about how he looks at the many points lower on the scale (i.e. how he looks in the less elegant suits). In other words, just because he doesn't look bad in the most elegant suit, one is not able to deduce that he also doesn't look bad in less elegant ones.

Second, we must pay attention to the derivative licensing of the universal reading in "double negatives", with verbs like *surprised, etc.* For example, *You can't convince me that Alex doesn't look bad in the most elegant suit* = (unlike unembedded version just discussed) (i.e. *Alex doesn't look bad in the most elegant suit)*, now every suit looks bad on Alex. If you cannot convince someone of the truth of the states *Alex doesn't look bad in the most elegant suit* then which this person believes is that he does look bad in the most elegant suit. And if that is so (that he looks bad in the most elegant suit), then probably looks bad in every other suit, too.

Also, when working with the role pragmatic scales in extended polarity phenomena, we must now turn to the *even* phrase facts and the contextual felicity of "likelihood" presupposition. These phrases are in complementary distribution in negative and affirmative sentence if the context is held constant:

(33) *Even Chomsky doesn't understand* <u>Aspects</u>

In 33, there is a felicitous presupposition, given the context of the real world, that Chomsky is "among the people least likely" to have the property denoted by the predicate; i.e., he is among the least likely not to understand *Aspects*. The use of *even* evokes a scale of likelihood to possess the property denoted by the predicate and places Chomsky at the bottom of that scale of likelihood. In other words, Chomsky is among those "least likely" not to understand *Aspects*. Given real world knowledge (that he is the author of *Aspects*; that he is very intelligent), this presupposition accords with what we expect and is felicitous. The speaker also asserts that Chomsky actually doesn't understand *Aspects*. Since Chomsky is presupposed to be among those least likely not to understand it, and he doesn't, one would expect that the other people ranked higher on the scale of likelihood of not understanding it, will also not understand it.

(34) **Even Chomsky understand <u>Aspects</u>*

Example 34 does not equate to the presupposition that Chomsky is "one of the people least likely" to have the property denoted by the predicate (i.e. among the people least likely to understand *Aspects*) is unfelicitous in the same real world context in the logical negative of the original sentence. Being the author of the book, etc., Chomsky is the one we would normally judge to be among those most likely to understand *Aspects*. The use of *even*, however, encodes the opposite presupposition, namely, that Chomsky is at the bottom of the scale of those likely to understand *Aspects*. Since this runs counter to what we expect, we judge the example odd.

(35) *I'm* ***surprised*** *that* ***even*** *Chomsky understands* <u>*Aspects*</u>.

Sentence 35 is an example of derivative licensing in double negatives. The speaker expresses surprise at the fact that Chomsky, the author of *Aspects*, who is widely known to be intelligent, understands that work. Furthermore, the speaker, by using *even*, ranks Chomsky at the bottom of the scale of those likely to understand *Aspects*. Given that the average author of a book usually understands it, and that Chomsky has above average intelligence and is the author of *Aspects*, this presupposition that he is among those least likely to understand it leads one to conclude that the number of people higher on the scale is few. In other words, the scale is felicitous if one accepts the premise that *Aspects* is a particularly difficult book.

After having view the premises of Fauconnier's approach, let's now turn to the NPI facts that were somewhat difficult for other approaches to render. In their complementary distribution in negative and affirmative sentences:

(36) *John did****n't budge an inch*** *on this issue.*
(37)**John* ***budged an inch*** *on this issue*

The idiomatic expression *budge an inch* evokes a scale of activity and locates *budging an inch* at the lowest possible point. If John did not make the smallest concession on the scale, then he made no concessions. The reverse is not true, however. If one says *John budged an inch on this issue* this is usually pragmatically odd because one should, by Grice's Conversational Maxim of Quantity, be as informative as possible; that is, say just how much he did concede. In other words, the affirmative form does not

evoke a scale for which what x did is the lowest point, making the statement informative about other points. Evidence for this view: one can, in special contexts, use affirmative sentences with these NPIs, cf. *After hours of negotiation, we did finally manage to get John to budge an inch on this issue, although, let me tell you, it wasn't easy.* Here *budge an inch* is informative because it is clearly the sum total of John's concessions.

(38) *You **can't convince me** that John **lifted a finger** to help.*

Again, as in 38, one must consider derivative licensing in double negatives. The speaker states that they believe that it is untrue that John did the smallest thing possible to help. This evokes the proper scale since if the speaker believes John didn't do the smallest thing to help, then they must believe that John did nothing to help.

(39) **Everyone lifted a finger.*
(40) Semantic representation: ∀x ∃y (DID x,y)
(41) Entailment: ∀x [¬∃y ¬ (DID x,y)]

Remember that from Baker (1970) that examples like this one were problematic for any proposal that straightforwardly extends derivative licensing to NPIs given that in an entailment of this sentence the NPI *a finger* is in the semantic scope of negation and hence would be derivatively licensed. Fauconnier's approach does not suffer from this flaw since *lifting a finger* doesn't evoke a scale of which *lifting a finger* is the lowest point, committing one to the truth of other points on the scale (only *not lifting a finger* tells us what other things obtain or do not obtain).

Fauconnier puts forth an alternative, purely pragmatic analysis of a subset of Baker's NPI data. He leaves open the question of whether polarity items he does not analyze (*already, yet, bother, still, any, etc.)* will ultimately reduce to the same scalar analysis or whether we must have two distinct types of polarity: "standard" (which he calls "syntactic") polarity, analyzed as in Baker, and pragmatic/semantic polarity, analyzed in Fauconnier's paper "Polarity and the scale principle". It would appear that Fauconnier's approach is correct for these idiomatic NPIs, but will never extend to "standard" NPIs like *any*. One reason why is that "standard" polarity items, unlike the *budge an inch* type, cannot ever be licit in affirmative contexts: for example, *After hours of negotiation, we did finally manage to get John to* ***budge an inch*** *on this issue, although, let me tell you, it wasn't easy.* Compare this with *I saw* ***any*** *cats.*

Chapter 3. POLARITY IN ROMANCE

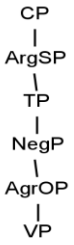
For this chapter, I will look at a modern Minimalist syntactic approach to polarity as developed by Progovac in her 2005 book entitled *A Syntax of Serbian Clausal Architecture*. Also, I will dive into romance polarity, particularly that of Spanish and Catalan, after having review Progovac account of polarity.

In order to fully understand the nature of romance polarity we must first examine Progovac's modern Minimalist syntactic approach to polarity. This analysis has important consequences for the analysis of polarity in Romance, which shares with Serbian (and Russian) a class of polarity items known as n-words, which will be discussed at a later point in this assignment. Progovac's (2005) account can be viewed as a modern re-working of the Klima (1964)/Jackendoff (1968) feature –based approach to polarity discussed in detail in Baker (1970a). Progovac's Minimalist account differs from the transformational analyses in important respects, of which will also be made clear later in this assignment. Progovac's work relating to Serbian n-words/*ni*-NPIs (words like *nikoga* 'no one') draws from earlier work on Russian and English n-words by Brown (1996, 1999), who herself was inspired by some earlier (Government-Binding or GB) work on Romance by Haegeman & Zanuttini (1991). However, Progovac's work extends well beyond the n-words Brown discusses since Progovac treats a wider range of clause types and polarity items.

Progovac takes as her point of departure a reduced version of the "split" IP hypothesis developed in part in Pollock's (1989) article in *Linguistic Inquiry* and even more so in Chomsky's (1991) "Economy" paper in the *MIT Working Papers in*

Linguistics. Specifically, evidence involving (but not limited to) phenomena such as VP-adverb placement, the treatment of Romance object clitic pronouns, and past participle agreement motivated the existence of two functional projections known as NegP and ArgOP; similarly, facts involving Romance subject clitic pronouns, *there* sentences in Germanic, and distinct heads to encode subject/V agreement and tense in African languages led many to the conclusion that there are separate AgrS and T heads replacing I. In short, there seems to be a layering of Subject and Object *functional* projections.

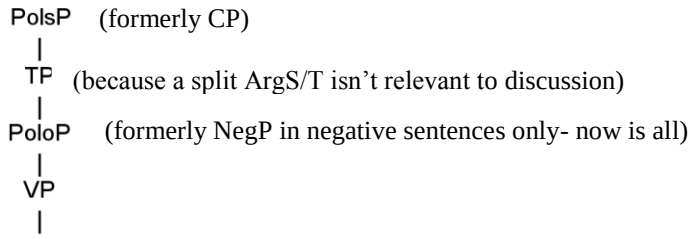
Diagram 1: Layering of Subject and Object functional projections



Progovac reinterprets this "layering" hypothesis to account for polarity. Importantly, she does so without introducing any "new" heads. Specifically, she hypothesizes that each sentence may contain maximally two polarity heads which are: C, which she renames Pol_s (C was long thought to encode polarity in the sense of known vs. indeterminate truth value cf. *that* vs. *whether* – Progovac is radically reworking this idea); and Neg, which she renames Pol_0. Neg was already thought to refer to the set of false (0) states of affairs, but Progovac proposes that even non-negative clauses have a polarity head – it simply has a [-negative] value (and no more). Since it isn't relevant to her discussion, Progovac doesn't need to make use of AgrS or AgrO. She is aware of

their existence, but does not include them in her work. Thus, we find maximally in her paper tress of the type:

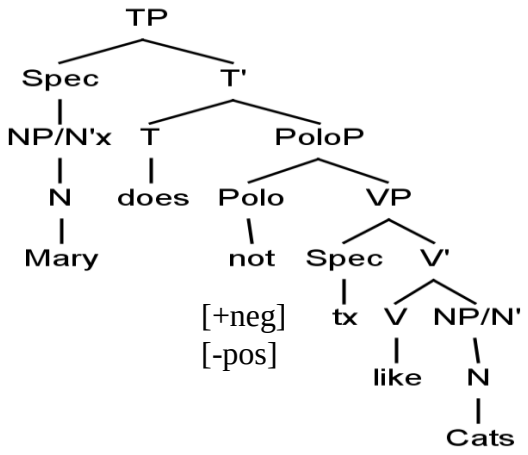
Diagram 2: Syntactic Tree Heads used by Progovac



According to Progovac's account of polarity, the function of the two polarity heads in her system is to encode two distinct, but related aspects of meaning known collectively as "polarity". First, Progovac makes reference to the positive (theses express states of affairs known to exist, i.e. *Mary likes cats*) versus negative (these express states of affairs known to not exist, i.e. *Mary does not like cats*) statement distinction. Secondly, Progovac makes reference to the true (states affairs that are true, i.e. *Mary likes cats*) as opposed to false or indeterminate (possibly false) statements. The false or indeterminate (possibly false) statements are those states of affairs that are False or True/False (they are indeterminate). These two polarity distinctions are encoded via combinations of two "Minimalist" features located in the polarity heads: [+/- negative] and [+/- positive]. No one feature uniquely encodes one type of polarity. It is the two in combination of these two features that encode the relevant aspects of polarity.

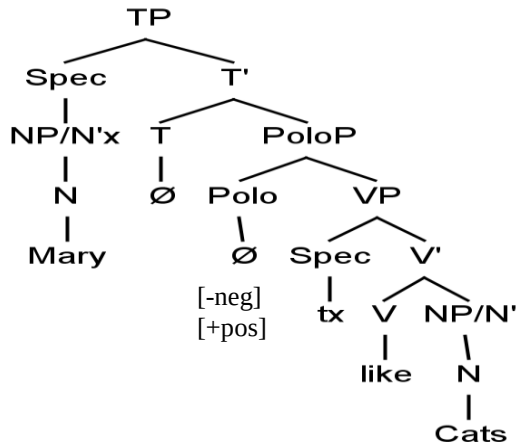
Next, we will look at a partial list of the "clause types" that result from various feature combinations. This is just a sample of what Progovac actually does.

Diagram 3: Simple negative statements: *Mary does not like cats.*



A single overt polarity head, Pol_0, (equivalent to the former Neg) enters the derivation with the interpretable features [+neg, -pos]. These two features collectively express a state of affairs known not to exist.

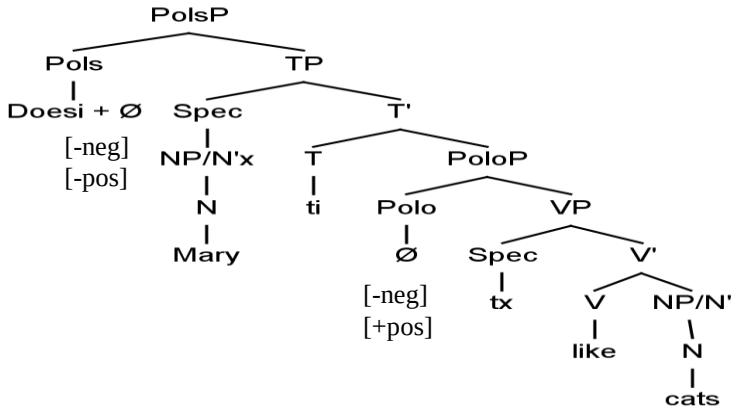
Diagram 4: Simple affirmative statements: *Mary likes cats.*



In simple affirmative statements, the exact opposite occurs in terms of features settings: A single non-overt polarity head, Pol_0, enters the derivation with the

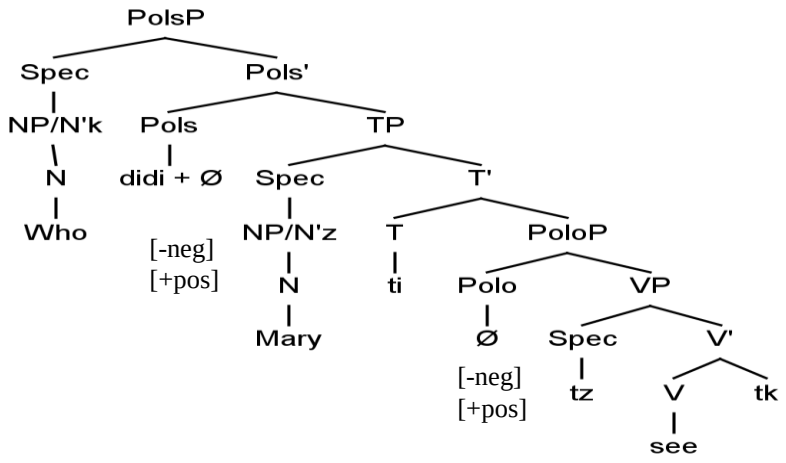
interpretable features [-neg, +pos.]. These features express a state of affairs known to exist.

Diagram 5: Affirmative yes/no questions; also affirmative conditionals: *Does Mary like cats?*



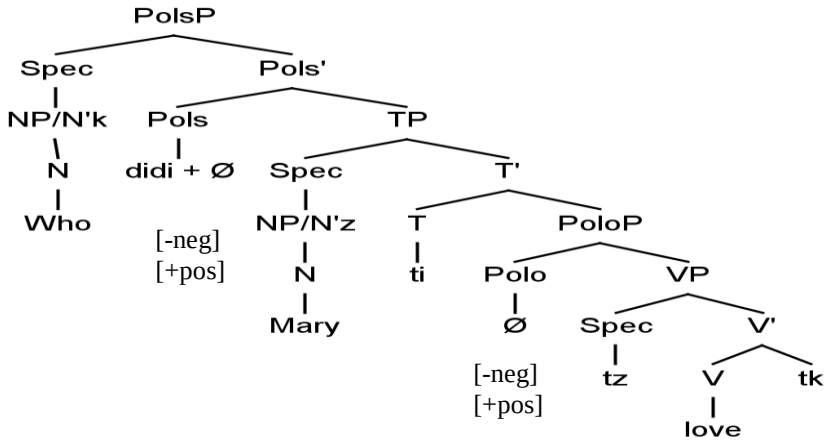
Two non-overt polarity heads, Pol_s and Pol_0, enter the derivation with the interpretable features indicated in the above Diagram 5. The features of Pol_s express a clause with indeterminate (True or False) value. The features of Pol_0 express the fact that the VP is not negated.

Diagram 6: Genuine *Wh*-Questions. *Who did Mary see?*



Progovac deems genuine *Wh* questions to be a "tentative proposal". Two non-overt polarity heads, Pol_s and Pol_0, enter the derivation with the interpretable features indicated in the above diagram 7. The features of Pol_s express a clause lacking negation. The features of Pol_0 express a positive presupposition associated with genuine *Wh* questions (in this example, that Mary did see someone).

Diagram 7: Rhetorical *Wh*-Questions. *Who did Mary (ever) love?*



This is, again, a "tentative" proposal. Two non-overt polarity heads, Pol_s and Pol_0, enter the derivation with the interpretable features indicated. The features of Pol_s again express a clause lacking negation. The features of Pol_0 express the lack of a positive presupposition. Namely, in rhetorical *Wh* questions, the speaker does not presuppose that Mary ever loved anyone.

Polarity items are lexemes sensitive in any way to the polarity features of the heads. This "sensitivity" is captured in Progovac's systems by associating polarity items with one or a combination of the two polarity features [+/- neg] and [+/- pos]. Specifically, one finds in English:

Diagram 8: Polarity features in English

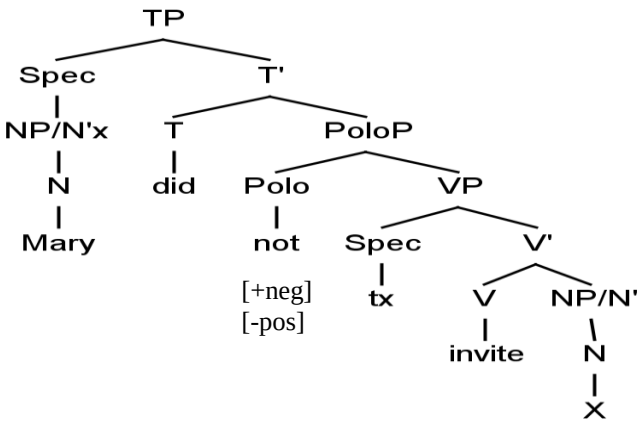
- English "non-strict" NPIs, e.g. *any* [U –pos]
- English "strict" NPIs, e.g., *until* [U +neg]
  These are subject to locality restrictions. Namely, they must be c-commanded by the head which checks its uninterpretable feature.
- *Wh*- items, e.g. *who* [U +pos]
- English PPIs, e.g. *someone* [U –neg]
- English negative quantifiers e.g. *no one* [I +neg]
  These encode negation on their own.

As can be seen in the chart above, the setting for the features may be either interpretable (I) or uninterpretable (U). Interpretable (I), which, in Minimalist terms, means directly encoding the relevant aspect of meaning and hence can (but need not) remain without a "matching polarity head". For example, the English negative quantifier *no one* has an [I +neg] feature that directly encodes semantic negation and thus has no

need for a "matching" polarity head, such as *not*, to do so. Thus, one finds *I saw no one* as well as *I didn't see no one.* 'No one' can occur in an affirmative statement or under the scope of negation. Uninterpretable (U) means just the opposite: the item cannot directly encode the aspect of meaning, but relies on an overt or covert checking relationship with a polarity head with the same feature(s), in order to value its Uninterpretable feature, for the derivation to converge at LF (i.e. for the sentence to be grammatical). For example, the strict NPI *until* requires the most local polarity head to have a [+ neg] feature. Thus, one finds *He didn't leave* ***until*** *I asked him to* (there is a [+neg] feature associated with the negation, *n't) vs. *He left* ***until*** *I asked him to* (this is an affirmative sentence and has a [-neg] feature, therefore the [U –neg] feature on until cannot be checked and the derivation crashes).

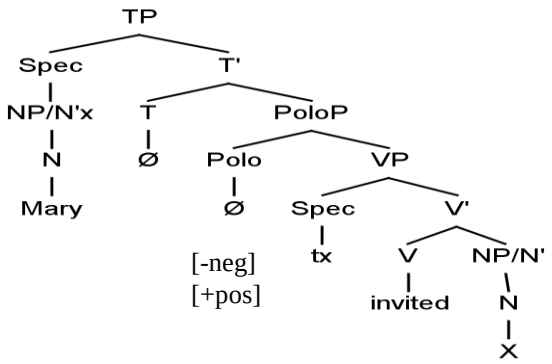
Feature combination in the polarity heads of various clause types combine with the features of polarity items to give raise to the attested grammaticality judgments.

Diagram 9: Simple negative statements: *Mary did not invite X (X being a variable)*



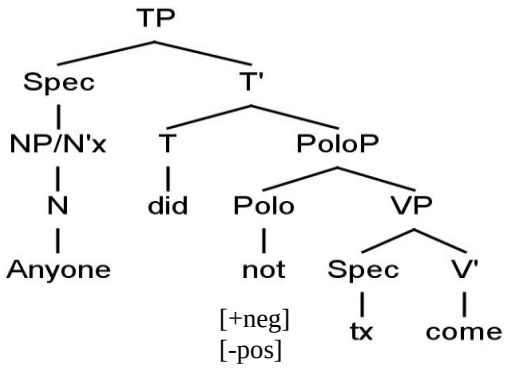
In capturing the polarity data, if one were to substitute an English "non-strict" NPI, e.g. *anyone* (which has a [U –pos] feature) - *Mary did not invite anyone*, the derivation would converge because the Uninterpretable feature of *anyone* is checked/valued covertly by the [-pos] feature on the Pol_0 head. If one were similarly to substitute an English "strict" NPI, e.g. *until* (which has a [U +neg] feature) - *Mary did not invite Bill <u>until</u> I asked her to*, the derivation would converge because the Uninterpretable feature of until is checked and valued covertly by the most local [+neg] polarity head, being Pol_0. However, if one were to substitute an English PPI for X, e.g. *someone* (which has a [U –neg] feature) - **Mary did not invite someone* (on the relevant reading; i.e., with someone in the scope of negation), the derivation would crash at LF due to an unchecked [U –neg] feature. However, this is not good considering that the sentence is grammatical on the reading [∃x, x a person, ^ [~ invite (Mary, x)]]. Moreover, if one were to substitute an English negative quantifier, e.g. *no one- Mary did not invite <u>no one</u>*, the feature of the polarity item is interpretable, therefore, there is no need to seek a goal to check its feature. This type of polarity item encodes double negation.

Diagram 10: Simple affirmative statements: *Mary invited X*.



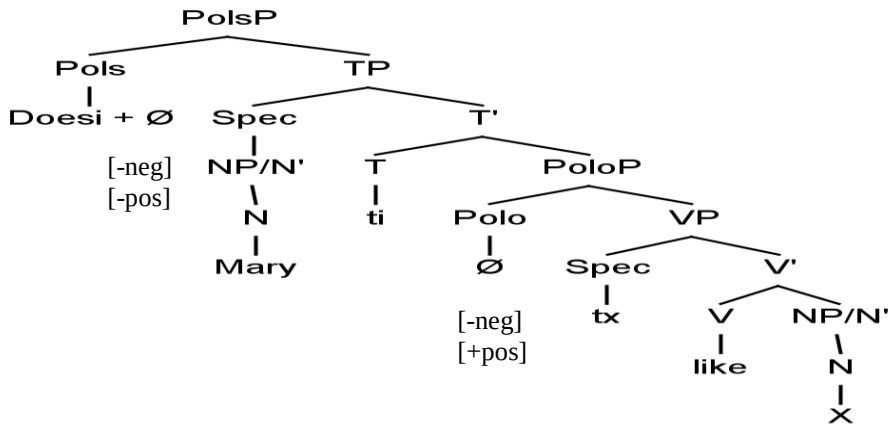
In capturing the polarity data, if one were to attempt to substitute an English NPI for the variable X, e.g. *anyone* (which has a [U –pos] feature)- **Mary invited anyone*, the derivation would crash at LF due to an unchecked [U –pos] feature. If one were to insert an English PPI, e.g. *someone* (which has a [U –neg] feature) – *Mary invited someone*, the derivation would converge and the Uninterpretable feature of *someone* is checked covertly (or, in more modern terms, agree (in situ)) by the Pol_0 head. And again, if one were to insert an English negative quantifier, e.g. *no one* (which has a [I +neg] feature), the feature of the polarity item *no one* is interpretable, and therefore, there is no need for it to be checked. This encodes negation.

Diagram 11: **Anyone did not come.*



Anyone, an English "non-strict" NPI has a [U –neg] feature. Although there is also a [U –neg] feature associated with the polarity head Pol_0, and the features match, the sentence is still rendered ungrammatical. An English NPI, such as *anyone*, requires a c-commanding relationship with negation (i.e. Probes look for Goals in th eir c-command domain).

Diagram 12: Affirmative yes/no questions; also affirmative conditionals: *Does Mary like X?*



In capturing this type of polarity data, if one were to insert an English "non-strict" NPI, e.g. *anyone* (which has a [U –pos] feature) – *Does Mary like anyone?*, the derivation would converge and the Uninterpretable feature of *anyone* is checked and valued covertly by $Pol_{s.}$ "Non-strict" NPIs do not need to be checked by the most local polarity head. By the same token, if one were to insert and English PPI, e.g. *someone* (which has a [U –neg] feature) – *Does Mary like someone?*, the [U –neg] feature of *someone* is checked by $Pol_{0.}$ And finally, if one were to insert an English "strict" NPI, e.g. *until* (which has a [U +neg] feature) - **Does Mary like until,* the derivation would crash and Uninterpretable feature is left unchecked by the most local polarity head, Pol_0. Also, *until* cannot be inserted in an argument position since it is a conjunction.

In comparing Progovac's approach with some earlier approaches, we find that Progovac's system (marginally) has the best empirical coverage to date. This approach encodes semantics in the syntax to account for polarity. Unlike Progovac, Klima's syntactic approach (1964) assumed only PPIs were basic: NPIs were derived transformationally from PPIs in affective domains, such as negated clauses, questions,

etc. There were many problems with Klima's analysis, beyond the rejection of transformational rules and Progovac's account suffers from none of them. For example, in Klima's syntactic approach: some NPIs lacked a positive counterpart from which to derive them; NPIs and PPIs are not always in complementary distribution (e.g. both appear in questions), which Klima handled by making the transformation optional in these domains- however, this leads one to expect that in these domains, NPIs and PPIs are synonymous and this is untrue (*Would you like some/any coffee?*); and finally, Klima never defined the relevant domains, which Progovac makes explicit in the syntax.

Like Progovac, Jackendoff (1968), which is a reworking of Klima (1964), proposed that both NPIs and PPIs were basic expressions, which resolves the first two problems listed above. Like Progovac, polarity items are associated with a lexical feature. However, in Jackendoff's system, there is just one, namely, [+/- affective]: NPIs are treated as [+affective] and PPIs as [- affective]. Also like Progovac, Jackendoff assumed that polarity items must find a "matching" head, like negation, which is associated with the same feature. In his system, negation is [+affective] and so licenses NPIs which are also [+ affective]; T (a.k.a. S) is [- affective] and so licenses PPIs, which are [- affective]. However, there were still many problems with Jackendoff's approach. Jackendoff's system used only one feature [+/affective], which meant that it couldn't accommodate all of the data Baker (1970a) discusses at length. Consider as one example the case of adversatives like *surprise* – there is no negation with a [+affective] feature to license NPIs: *I'm surprised that <u>anyone</u> bought anything at all*. Progovac can easily handle these, and, in fact, all the other data Baker introduces.

A third approach to polarity was Marcia Linebarger's (1987) approach, which can be viewed as a significantly refined version of C.L. Baker's (1970a, b) semantic approach, despite her claims to the contrary. Linebarger proposed that *primary* NPI licensing is achieved at LF by an NPIs being in the (immediate) scope of negation. *Secondary* NPI licensing was achieved via conventional implicatures (i.e. semantic presuppositions) in which two conditions hold: 1.) primary licensing obtains in either the presupposition or an entailment of the original sentence, and 2.) In the case of the former, the truth of the presupposition must strengthen that of the original sentence. Interestingly, Progovac's approach appears to cover everything Linebarger's can and perhaps a bit more. One problem that Progovac resolves is that of trivial entailments, a problem that Linebarger noted in 1978. Linebarger uses entailment to derivatively license NPIs; therefore the following "trivial" entailment will lead to overgeneration: P entails NOT NOT P. For example, *John saw cats.* Entails *It is <u>not</u> the case that John did<u>n't</u> see <u>any</u>* <u>cats</u>. Derivatively licensing **John saw any cats.* Since Progovac uses only polarity heads in the original sentence to license NPIs, she will not overgenerate.

Being a feature-based approach, Progovac's analysis naturally shares with its predecessors a few characteristics. However, Progovac's Minimalist analysis is a greatly enriched feature-based system, which allows for a greater number of feature combinations in a larger number of heads, giving it far superior empirical coverage.

Now, in turning the discussion over to polarity in romance, I will examine Eric Vallduví's 1994 article entitled "Polarity Items, n-Words and Minimizes in Catalan and Spanish". This article examines certain polarity phenomena in Romance with the empirical base being Catalan and Spanish, with mention in passing of French and Italian.

Specifically, Vallduví is interested in two issues. First, he is interested in the semantic status of n-words. These n-words are words like Spanish *nadie* 'no one', Catalan *ningú* 'no one' and, for some authors, French *personne* 'no one'. However, the exact distribution of *personne* is not the same as its Spanish and Catalan counterparts, so some authors do not call it an "n-word". Vallduví will convincingly argue in favor of Zanuttini's inherently negative universal quantifier approach. Linguists have wondered whether n-words are inherently negative universal quantifiers (∀¬ or ¬∃), as first proposed by Zanuttini (1991), or a type of non-negative indefinite/NPIs (∃) that must be licensed by negation in the some way (a type of NPI), as in Bosque (1980) and Laka (1990, 1993). Distributionally, n-words act like both. Secondly, Vallduví is interested in the nature of negative concord. The term "negative concord" refers to the fact that in some language or dialects of some languages, apparently negative items, when occurring in combination, do not continue to introduce separate semantic negation into the interpretation of the sentence.

In non-standard English, we find examples such as *No one came*. If *no one* occurs in isolation, it introduces negation. We also find examples such as *I didn't do nothing to no one*. In this sentence there is only one semantic negation despite three negative elements, which, if alone, would introduce negation. There is a debate in the literature as to whether or not negative concord is necessarily linked to an item's being an NPI; Vallduví will convincingly argue that it is not. However, one could also argue that this is a different dialect, and therefore, one could say that it involves a different grammar.

Vallduví begins his article by outlining the types and distributional characteristics of the polarity items that exist in Spanish and Catalan. In these two Romance language

one finds Negative Polarity Items (NPIs) and Negative Quantifiers. First, the NPIs are the exact distributional equivalents to the English *any.* Examples include: Spanish nouns with post-nominal determiners (e.g. *queja alguna* 'any complaints'), Catalan *gaire* 'much, any', and French *qui que ce soit* 'anyone at all'. Vallduví doesn't actually give Spanish and Catalan data in relation to the first two distributional characteristics below, nor does he give any data from French; however, it is well known that NPIs require negation in post-verbal position, presumably due to either NPI licensing requirements, as in Linebarger (1987) or due to the [U –pos] feature of these items, as in Progovac (2005): *I didn't see anyone* vs. **I saw anyone.* See diagram 9 and 10 for a similar example and explanation. Vallduví (p. 285) assumes derivative negative licensing of NPIs in *without* clauses such as *I left without eating anything*. NPIs could be said to undergo a type of negative concord, presumably due to the fact that they do not ever introduce negation in isolation. (So, perhaps calling this 'concord' is not really accurate.) *I didn't do anything to anyone.*

Further distributional characteristics of NPIs also include: (i.) NPIs cannot appear in isolation in answer to questions, due to Zanuttini (1991). This is presumably due to either the lack of either a licensor or due to the lack of a Pol_0 to check the NPI's uninterpretable feature. For example, if one were to ask *Is there sugar left?* One could not respond with **Any*. In Catalan, Vallduví gives the example (23a) *Que queda sucre?* (Literally, what remains sugar?) The response to this question cannot be **Gaire* 'much'. In Spanish, Vallduví gives the example (49b), in response to a question, one is forbidden to say **Queja alguna* meaning 'no complaint' (literally, 'complaint some'); (ii.) NPIs also cannot be modified by *almost* or *absolutely.* This observation is due to Horn (1972),

presumably due to the fact that it is an indefinite existential (singular) quantifier (i.e., on a par with **I saw almost someone*) **I saw almost anyone*. In Catalan, Vallduví's example (26b) is *Què funciona? *Absolutament gaires coses.* This literally means, "What works? Absolutely many things". In Spanish, he notes a similar problem (50b). One could not respond to this question by stating **Absolutamente queja alguna* meaning literally, "absolutely complaint some"; (iii.) Finally, Vallduví states that NPIs are disallowed in the preverbal position of a sentence, due to Klima (1964), presumably due to an overt c-command requirement on licensing or feature checking, and no one has worked out the details on this one. *Anyone didn't come.* In Catalan, one could not say **Gaires coses (no) funcionen* meaning 'Not many things are (not) working', (literally, 'many things (not) working'). The NPI, *gaires*, in this example, occurs in preverbal position, and this is disallowed.

Vallduví notes that overall, NPIs are existential indefinites subject to a licensing requirement. Vallduví explicitly states that he would accept current accounts of such items like Progovac's account in the 1980s or Ladusaw's (1980).

The second element, besides NPIs, that one finds in these Romance languages is Negative Quantifiers. These would be the equivalents of English 'no one', 'nothing', 'never', etc. In Standard English (SE) these words are inherently negative quantifiers (∀¬ or ¬∃)**;** i.e. they always introduce semantic negation in sentences in which they appear. This class of items does not seem to straightforwardly exist in Romance. However, Vallduví will argue, with Zanuttini (1994), that n-words actually are of this class; i.e. he will argue that the distributional differences between Standard English, on one hand, and Southern English and Romance, on the other, should be attributed to a separate process of

negative concord. The distributional characteristics of Standard English negative quantifiers, which Vallduví does not actually supply, but which are well known, are the opposite of NPIs.

Unlike NPIs, negative quantifiers do not require negation in post-verbal position, presumably due to the lack of any licensing requirement or uninterpretable feature. According to Progovac (2005), negative quantifiers have an [I +neg] feature. For example, *I saw nothing* (nothing being a negative quantifier that does not need to be checked by any other feature in the sentence because of its Interpretable feature). Unlike NPIs, negative quantifiers do not undergo negative concord, presumably due to the fact that they always introduce negation via their [I +neg.] feature. For example, *I didn't do nothing* which means in SE *I did something*. Unlike NPIs, negative quantifiers can appear in isolation in answer to questions due to Zanuttini (1991), presumably due to the lack of any licensing requirement of an Uninterpretable feature. One can ask the question *How much sugar is left?* and one can respond *None.* Unlike NPIs, negative quantifiers can be modified by *almost* or *absolutely*, due to Horn (1972). This is presumably due to the fact that they are inherently negative universal quantifiers- *I accomplished almost nothing today.* Finally, Unlike NPIs, negative quantifiers are allowed in the preverbal position of a sentence, presumably due to the lack of any licensing or feature checking requirement- for example, *No one came.* Negative Quantifiers are inherently negative universal quantifiers that exhibit the exact opposite distribution of NPIs in the key context.

A third type of polarity item is known as **n-words**. These items do not exist in Standard English (SE). SE uses negative quantifiers where other languages and dialects of Southern/Non-Standard English use n-words. N-words do exist in French, Spanish,

Catalan, Serbian, non-standard English, etc., although they differ in some of their exact distributional properties from language to language. It should be noted that there is a difference between French and Spanish/Catalan.

Diagram 13: A few examples of Romance n-words

Catalan	**Spanish**	
ningú	*nadie*	*'no one'*
res	*nada*	*'nothing'*
cap	*ningún/ninguno/a*	*'no, none'*
mai	*nunca*	*'never'*
tampoco	*tampoco*	*'neither'*
en llue		*'nowhere'*
gens		*'none-mass'*

The term "n-word" is due originally to Luigi Rizzi's (1982) book, *Issues in Italian Syntax*. It refers to items that exhibit both NPI and SE negative quantifier distributional characteristics. This "hybrid" behavior explains why three approaches have been taken to their semantic nature. Firstly, Bosque (1980) & Laka (1990, 1993) note that "n-words are non-negative indefinites (∃) that must be licensed by negation in some way. In other words, they are a type of NPI". Secondly, Zanuttini (1991) notes that "n-words are inherently negative quantifiers (∀¬ or ¬∃)". This approach by Zanuttini is the one that Vallduví will defend. Thirdly, Ladusaw (1992) notes that "n-words are a special type of non-negative indefinite (∃) that, unlike NPIs, license by themselves the constructional expression of negation". Vallduví doesn't really provide enough detail about this option in his paper and it seems to be fairly stipulative.

The distributional characteristics of "classic" Romance n-words (i.e. not the Standard French (*e.g. personne* 'no one') or Serbian (e.g. *niko*) types, which either do not undergo concord with the equivalent of *not* or do obligatorily undergo it, even in subject position) include: (i.) like NPIs, "classic" Romance n-words require negation in post-verbal position: is this due to a licensing/feature checking requirement (if they're NPIs) or is it simply some type of obligatory negative concord? In Catalan, one finds *No en vaig veure cap* meaning 'I didn't see any' (literally, no PART saw none). In Spanish, one finds *No vi ninguno* meaning 'I didn't see any' (literally, no saw none); (ii.) Like NPIs, they undergo negative concord: is this due to their lack of introducing negation (like NPIs) or due to the nature of negative concord (which non-Standard English allows as well with negative quantifiers)? For this, one can use the previous examples to illustrate this point. In Catalan, *No en vaig veure cap* and in Spanish, *No vi ninguno;* (iii.) Unlike NPIs, n-words can appear in isolation in answer to questions: is this due to lack of any licensing/feature checking requirement or to some type of "special" licensing/feature for this class of NPIs? In Catalan one can ask the question, *Quants en vas veure?* ('How many did you see?). In response to this question, one can respond *Cap* ('none'). In Spanish, similarly, one can ask the question *¿Cuantos viste?* ('How many did you see?') and one can respond with *Ninguno* ('none'). (iv.) Unlike NPIs, n-words can be modified by *almost* or *absolutely*. In Catalan, *Gairebé ningú* ('Almost no one') and in Spanish, *A (casi) nadie* ('(Almost) no one').

Also, n-words, unlike NPIs, are allowed in the preverbal position of a sentence: is this due to no licensing requirements (negative quantifiers) or some kind of "special" licensing/feature checking that only extends to this class of NPI? In Catalan, Vallduví's

example (27b), *Res funciona* ('Nothing works') and in Spanish, Vallduví's example (37b), *Nada funciona* ('Nothing works'). However, one final note, in (the post-verbal position of non-negative) interrogative, conditional, (and adversative) sentences, one finds cross-linguistic variation: n-words are fine in these contexts in Catalan (*Que vol res ningú?* meaning 'Does anyone want anything?'), whereas in Spanish, n-words are ungrammatical here (**¿Quieres nada?* also meaning 'Do you want anything?'). Both accounts might led one to expect them to be grammatical, albeit with different readings: On the NPI account, one would expect them to be licensed by/have their Uninterpretable feature checked in these contexts; on the negative quantifier account, according to which they have no licensing requirement/Uninterpretable feature, they should also be okay (on a negative reading).

In the final pages of Vallduví article, Vallduví evaluates two basic positions on the semantic status of Romance n-words. First, As for the NPI approach to n-words as set forth by Bosque (1980) and Laka (1990, 1993), Vallduví argues that this is the most problematic approach for the following three reasons: 1.) No other type of NPI can appear pre-verbally without a c-commanding negation. Laka (1990) allows a phonologically null head to license n-words in this position, via Spec-head agreement. But Vallduví says (p. 282), this is ad hoc since this licensing mechanism must be restricted to just n-words (not other NPIs); 2.) No other type of NPI can appear in isolation. Again, Laka (1990) assumes there is a full phonologically null syntactic structure for just these "types" of NPIs. Vallduví again judges this to be ad hoc (p. 282); and 3.) No other type of NPI allows modification by *almost* and *absolutely*. Van der

Wouden & Zwarts (1993) were the first to level this (unanswered) criticism against this NPI approach to Romance n-words.

As for a second approach to the semantic status of Romance n-words, the Negative Quantifier approach as set forth by Zanuttini (1991), Vallduví argues that this is the best approach because it straightforwardly resolves the three preceding problems that face the NPI approach of Bosque and Laka. However, by adopting this approach he must address the issue of why the following three (NPI-like) distributional characteristics do obtain the following: 1.) No other negative quantifier requires negation post-verbally; 2.) No other negative quantifier undergoes concord; and 3.) No other negative quantifier is ungrammatical in the post-verbal position of non-negated questions and conditionals.

To resolve these issues, Vallduví follows Zanuttini (1991) in assuming that Romance languages possess a separate semantic rule of negative concord- one that English lacks. While Vallduví unfortunately does not provide a formal, explicit account of concord, he briefly mentions what has been previously proposed (work by Zanuttini (1991), Ladusaw (1992), van der Wouden & Zwarts (1993), and Quer (1993)). He goes into detail only for Zanuttini's approach, according to which, "In concord languages, negation must always stand in an overt c-command relation to tense and agreement". Consider how this accounts for the negation/no negation contrast one finds with n-words in pre-verbal versus post-verbal position.

Diagram 14: N-word in pre-verbal position.

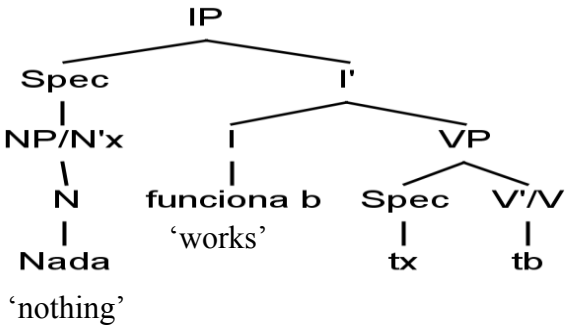
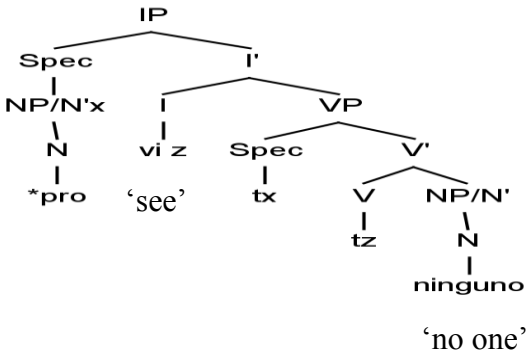


Diagram 15: N-word in post-verbal position.



In the first example, diagram 14, the fronted n-word, which encodes negation, stands in an overt c-command relation to tense and agreement. This is not true of the second example, diagram 15. Therefore, in order for an n-word to remain post-verbally, one must introduce sentential negation which either c-commands tense and agreement when it enters the derivation (by the Belletti (1991) approach to negation) or would do so after V-Movement (under a Pollock (1989) approach). The same account would explain the facts in questions and conditionals. Of course, this approach also entails that these languages have some sort of semantic rule of either factorization (cf. van der Wouden & Zwarts (1993)) or absorption (as in Zanuttini (1991)) of the negation normally encoded

by these negative quantifiers in examples of the second type, diagram 15. This seems to be rather ad hoc and needs work.

Vallduví's conclusion that n-words are inherently negative universal quantifiers which, due to a separate overt c-command requirement on negation and Tense/Agreement, must somehow "lose" their inherently negative value in post-verbal position raises some questions. However, for those dialects of Catalan that do allow n-words post-verbally in non-negated questions and/or conditional, Vallduví (pp. 286-8) provides four convincing that these are historical relic from when n-words were Vulgar Latin NPIs of the minimizer type. Vallduví "historical relic" proposal raises some interesting questions about how native speakers of Catalan and Spanish can store "two" grammars for the same item. He envisages three options: 1.) Lexical ambiguity which is along the lines of Ladusaw (1992). Two separate entries for n-words: one NPI, one negative quantifier. (But, again, what rules out the negative quantifier entry in questions, conditionals, etc. is that it is grammatical with the English counterparts; 2.) Single entry; Two types of licensing: as in Quer (1993). and 3.) Single entry; negative "absorption" in questions, conditionals, etc. and this is along the lines of Zanuttini (1991).

Vallduví convincingly argues that Romance n-words should be treated as inherently negative universal quantifiers, not as NPIs and a process of negative concord exists and it is not tied in any way to an item's being an NPI. Polarity is a rather complex topic that needs to be continued to be explored today.

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