Polarity and grammar

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Foreword on polarity items

- Deep question: does **logic play a role** in grammar?
- Important findings about polarity in the mid-seventies (Ladusaw 1979); hope for a simple explanation in terms of logical properties.
- The picture has since become murkier.
- It now seems hard to vindicate the intuition of the pioneers.

Licensing

Negative Polarity Items (NPIs)

(1) *John understood **anything.** Anti-licensing

(2) John didn't understand **anything.** Licensing

Positive Polarity Items (PPIs)

(3) John understood **something.** Licensing

(4) John didn't understand **something.** Anti-Licensing
≠ John understood nothing. *NEG≫SOME
= There is something that J. didn't understand. ✓SOME≫NEG

- The **narrow scope** reading of *some* ($\neg\exists$) is not available; only the wide scope reading ($\exists\neg$) is;
- This is why *some* is said to be a PPI.

Goal

I am going to show that a unified account (NPIs and PPIs) is possible, and this account is one where constituency and logic both play a role.

Two simple ingredients

Claim: What matters is the **monotonicity of the environment** of PIs.

The system that evaluates Polarity Items has access to **constituents** but **only to some** of them, i.e. the **eligible** ones.

Preview (1)

Principle: Find **at least one eligible** constituent in which the PI is acceptable.

NPI

*$[_{TP}$ **[** $[_{PolP}$ **DM DM** $\ldots[_{CP}\ldots\pi^{-}$

(5) *Il n'est **[pas impossible** que Léa ait mangé **quoi que ce soit.**

PPI

*$[_{TP}$ **[** $[_{PolP}$ **DM**$\ldots\pi^{+}$

(6) John did**[n't** understand **something.** (=(4))

*NEG$\gg$SOME

Preview (2)

Entanglement: In a given constituent *C*, the acceptability of a PI **depends** on the acceptability of other PIs in *C.*

*$[_{TP}$ **DM**. . . $[_{CP}$ π^{+} . . . $[_{PolP}$ π^{-}

(7) It's **impossible** that someone understood anything.

*IMPOS.$\gg$SOME

Roadmap

1. Two approaches, operators vs environments, but no winner
2. PIs are licensed by the monotonicity of eligible constituents (in favor of environments, against operators)
3. Two unnoticed properties: entanglement and cyclicity

Part 1: Operators or environments?

Preamble: downward-monotonicity (1)

(8) *John ate **anything.** Anti-licensing

- A family of ‘licensers’:

(9) John didn’t eat **anything.** Licensing

(10) At most five people ate **anything.** "
Only John ate **anything.** "
Everyone who ate **anything** feels better. "
If John ate **anything,** he feels better. "

Preamble: downward-monotonicity (2)

- All ‘licensers’ share the property of denoting **downward-monotonic** functions.

John didn’t eat _____.	John ate _____.
John didn’t eat **salmon.** ⇓	John ate **salmon.** ⇓
John didn’t eat **smoked salmon.**	John ate **smoked salmon.**
John didn’t eat **anything.**	*John ate **anything.**

Preamble: downward-monotonicity (3)

- Strikingly, the class of expressions that take part in the licensing of NPIs is characterized by a **logical** property;
- Downward-monotonicity is a generalized notion of **negativity.**

Part 1: Operators or environments?

1. Preamble
2. Composition of an even number of DM functions

Composition of DM functions

- **Two** negations **cancel** each other out; more generally, the composition of **two DM** functions creates an **upward-monotonic environment.**

(11)
a. It is not the case that John didn't eat **salmon.** ⇓ ⇑
b. It is not the case that John didn't eat **smoked salmon.**
c. (11b) ⇒ (11a) *(UM)*
d. (11a) ⇏ (11b) *(not DM)*

No apparent effect on NPIs

(12) It is not the case that John didn't eat _____.

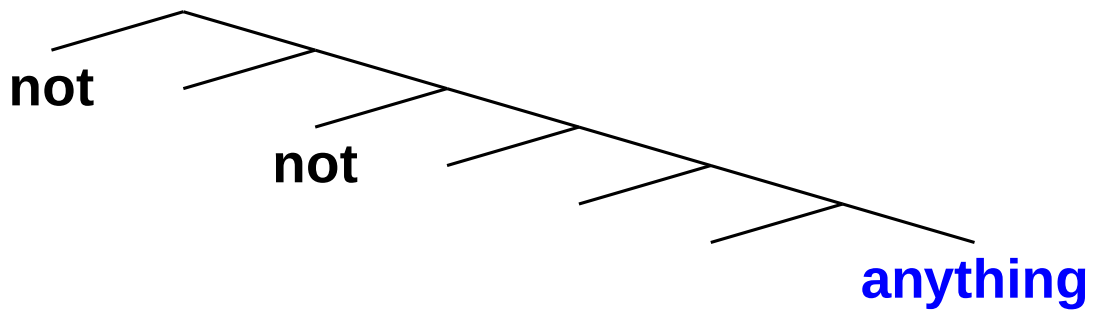
a. It is not the case that John didn't eat **salmon.** ⇓ ⇑

b. It is not the case that John didn't eat **smoked salmon.**

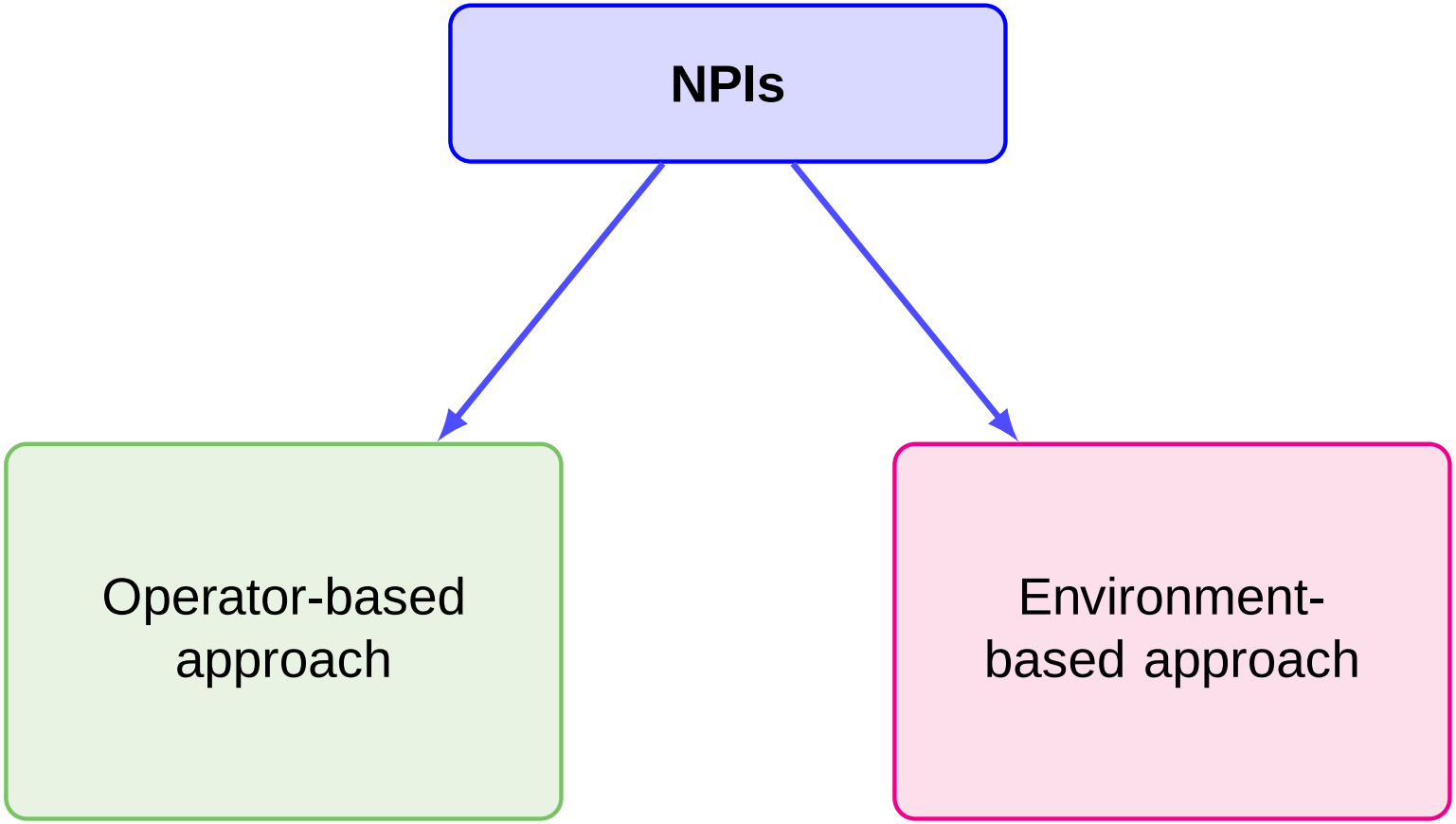
It is not the case that John didn't eat **anything.**

- Still, structures such as (13) seem to be generally licit:

(13)



'Flip-flop' doesn't seem to exist = it looks like NPIs are impervious to the composition of an even number of DM expressions.


NPIs
Operator-based approach
Environment-based approach

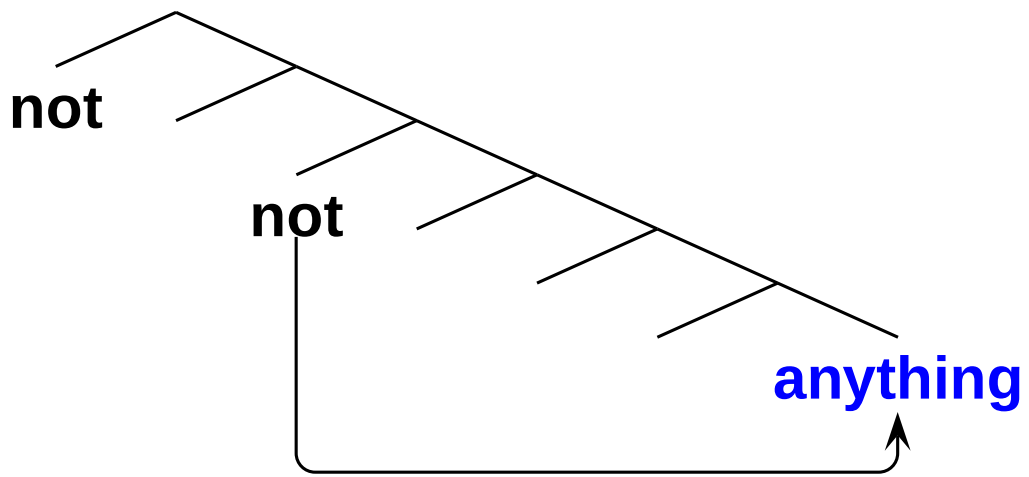
NPIs: operator-based approach

Ladusaw 1979, Progovac 1994, von Fintel 1999, Szabolcsi 2004, Guerzoni 2006, Gajewski 2009 a.o.

(14) It is **not** the case that John did**n't** eat **anything.**

- An NPI needs a **DM operator;**
- Once licensed, an NPI can no longer be anti-licensed (or so it seems): there can be an even number of DM expressions above an NPI:

(15)

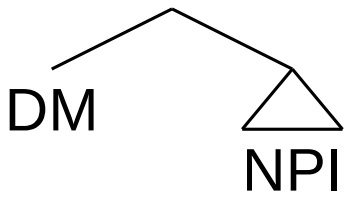


NPIs: operator-based approach

Licensing by operators

- A **structural dependency** between an operator and the NPI.

(16)



(17) **NOT**$_{NEG}$ . . . understood **anything**$_{NEG}$

- Licensing is a structural relation (**c-command**).

Operator-based licensing:
An NPI π^- is licensed in a sentence only if π^- is **c-commanded by an operator** α such that $[\![\alpha]\!]$ is DM.

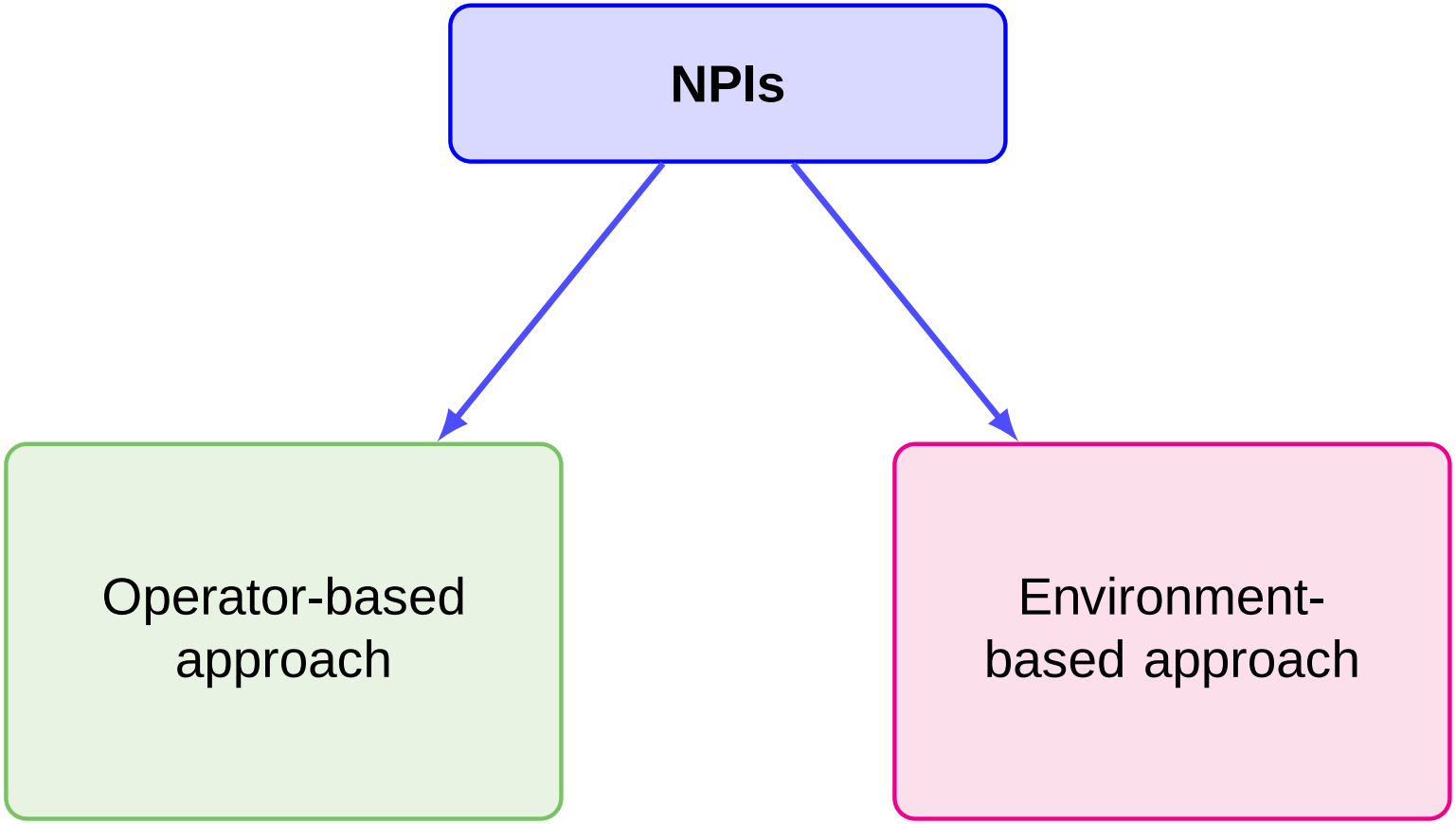
NPIs: operator-based approach

Licensing by operators

- DM^{ity} characterizes the class of licensing operators, it **does not license** NPIs directly;
- The meaning of other elements in the surroundings is, in principle, immaterial.
- **Prediction:**

  An even number of DM expressions cannot lead to anti-licensing of an NPI **(grammar doesn't count).**

Problem: How come it is not monotonicity per se which licenses PIs? Why a mediation by a structural requirement?

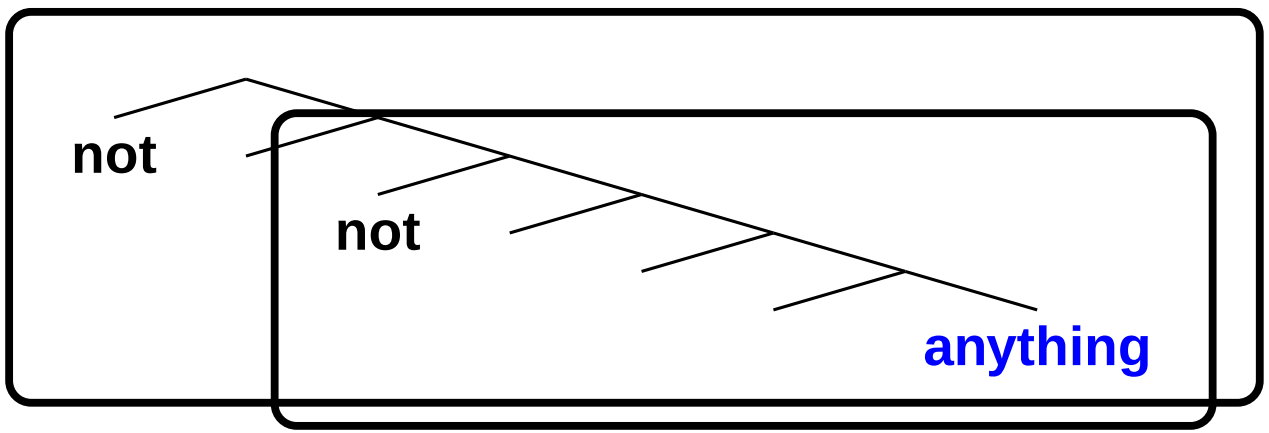

NPIs
Operator-based approach
Environment-based approach

NPIs: environment-based approach

- Polarity Items are sensitive to **monotonicity directly**, not to the structural relation of c-command;
- NPIs must be in a **downward-monotonic environment.**

(18) It is **not** the case that John did**n't** eat **anything.**

(19)



- The above tree is only a problem if the monotonicity of the environment must be computed **globally** (no 'flip-flop' observed);
- It is not if the monotonicity of the environment of **anything** can be computed **locally** (=in a subtree).

NPIs: environment-based approach

Licensing by monotonicity

- **Logical properties (monotonicity)** are what matters to the acceptability of PIs;
- The source of licensing is the monotonicity of **constituents;**
- The contribution to meaning of **all** the parts of the constituents that a PI finds itself in is taken into account.

Environment-based licensing (**localist version**):
An NPI π^- is licensed in a sentence *S* only if π^- is in **some constituent** *A* of *S* such that π^- is in a DM environment in *A*.

Chierchia 2004, Gajewski 2005

N.B.:

• A constituent *A* is DM with respect to the **position** of α ($[\![\alpha]\!] \in D_\sigma$) iff the function $\lambda x.[\![A[\alpha/\upsilon_{\sigma,i}]]\!]^{g[\upsilon_{<\sigma,i>} \rightarrow x]}$ is DM.

• $\alpha[\beta/\gamma]$ is the result of replacing β with γ in α.

Gajewski 2005

NPIs: environment-based approach

- But the theory is too weak in its localist version:

Problem: The localist version of the environment-based approach is weak (hard to **falsify**), since one can always find **a** constituent in which there is an odd number of DM expressions.

Summing up the issue

	Predicts observed lack of flip-flop	Direct usage of downward-monotonicity
Operator-based licensing	Yes	No
Environment-based licensing	Unclear	Yes

Table: No winner

Summing up the issue

- Downward-monotonicity defines the natural class of NPI licensers;
- But it takes a **back seat** in almost all accounts of licensing (**operator**-based accounts);

- The idea that licensing is done by **monotonicity** seems more principled;
- But to vindicate it, one has to show that the licensing system can **compute the meaning of subtrees;**
- There was so far little evidence that this does indeed happen.

Roadmap

1. Two approaches
2. Licensing by monotonicity
3. Entanglement and cyclicity

Part 2: Licensing by monotonicity

2. Domains: licensing by monotonicity

NPIs & PPIs

- The computation of licensing is **environment-based;** PIs are licensed by monotonicity.

- Acceptability is evaluated in constituents, but **not all** constituents are eligible for this procedure.

- A PI must find itself in **at least one domain, i.e. eligible constituent,** in which it is in the right environment (negative for NPIs, non-negative for PPIs).

2. Domains: licensing by monotonicity

NPIs

- The French NPI **quoi que ce soit** (‘anything’) is sensitive to **flip-flop** (same for the ‘strong’ NPIs **a single, yet**).

(20)
a. Léa n’ a **pas** mangé quoi que ce soit.
Léa NE has PAS eaten anything
‘Léa didn’t eat anything.’
b. Il est **impossible** que Léa ait mangé quoi que ce soit.
it is impossible that Léa has eaten anything
c. Il est **impossible** que Léa n’ait **pas** mangé qqcs.
d. *Il n’est **pas impossible** que Léa ait mangé qqcs.
e. **Non** qu’il soit **impossible** que Léa ait mangé qqcs.

Domains: the intuition

(20a) Léa n'a • pas mangé **quoi que ce soit.**

(20b) Il est • impossible que Léa ait • mangé **quoi que ce soit.**

(20c) Il est • impossible que Léa n'ait • pas mangé **quoi que ce soit.**

(20d) *Il n'est • pas ⨯ impossible que L. ait • mangé **quoi que ce soit.**

(20e) • Non qu'il soit • impossible que L. ait • mangé **quoi que ce soit.**

- In (20d), evaluation has to take into account both *not* and *impossible;*
- 'Flip-flop' is directly observable with certain NPIs (cf. also Schmerling 1971).

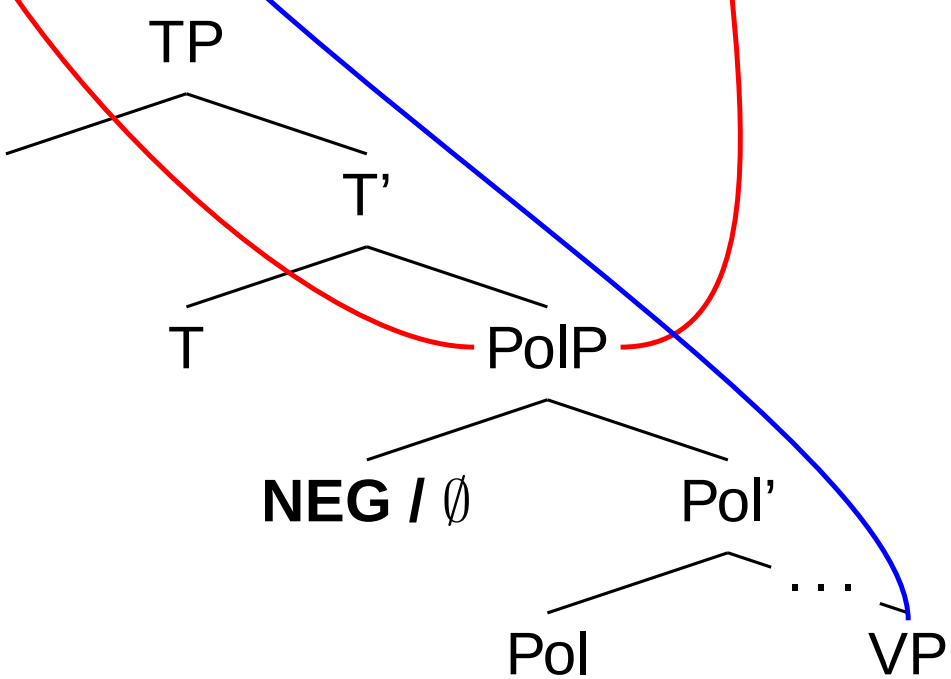
2. Domains: licensing by monotonicity

- What is important is the distribution of DM expressions relative to constituents.

(21) *Il n'est • **pas** × **impossible** que L. ait • mangé **qqcs.** (=(20d))

- Assumptions: negation is hosted by the Pol head; each clause contains one and only one Pol head.

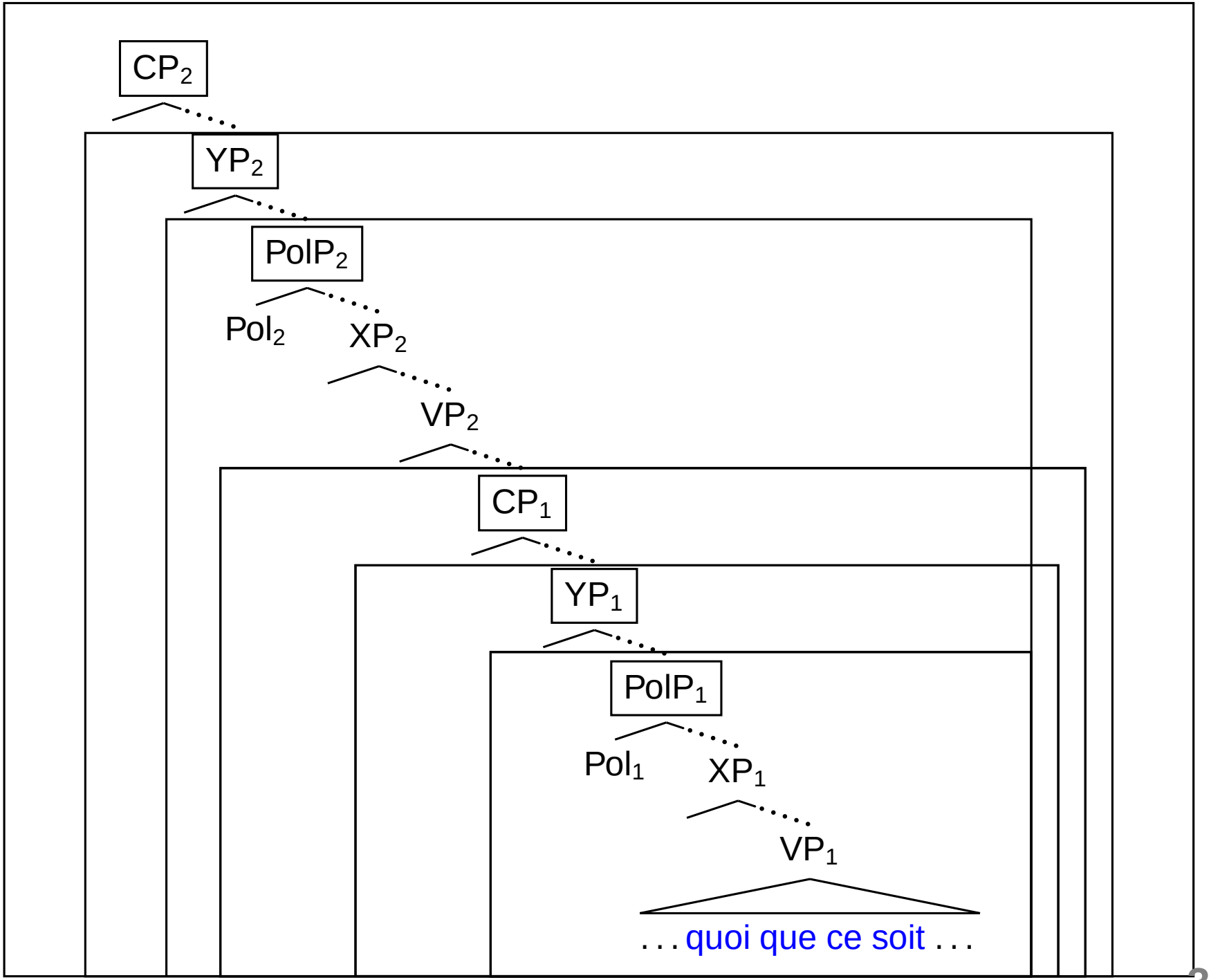
(22)

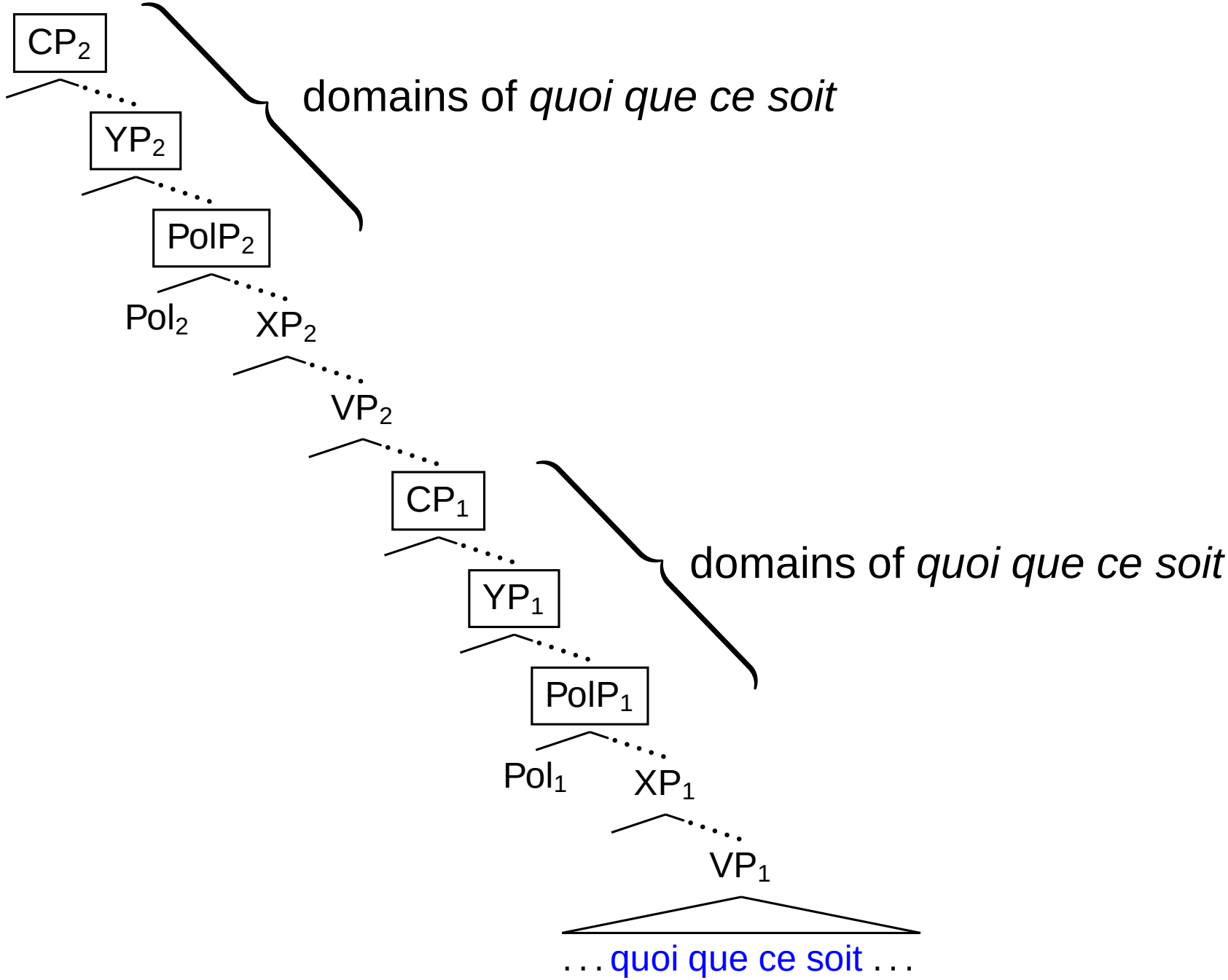


Domains

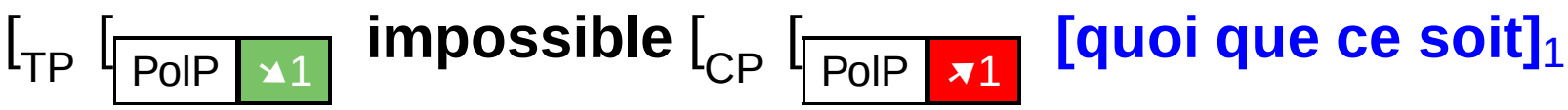
- **Domain of π:** a constituent in which the acceptability of π can be evaluated.

- PolP is the minimal domain of **quoi que ce soit** (other PIs may have a different minimal domain).
- Let S be a sentence containing **quoi que ce soit:** the set of domains of **quoi que ce soit** in S is the set of constituents of S that contain **quoi que ce soit** and their clausemate Pol head.


CP_2
YP_2
$PolP_2$
Pol_2
XP_2
VP_2
CP_1
YP_1
$PolP_1$
Pol_1
XP_1
VP_1
. . . quoi que ce soit . . .


CP2
YP2
PolP2
Pol2
XP2
VP2
CP1
YP1
PolP1
Pol1
XP1
VP1
domains of quoi que ce soit
domains of quoi que ce soit
. . . quoi que ce soit . . .

(20b) Il est **impossible** que L. ait mangé quoi que ce soit.



(20d) *Il n'est **pas impossible** que L. ait mangé quoi que ce soit.

(20e) **Non** qu'il soit **impossible** que L. ait mangé quoi que ce soit.

2. Domains: licensing by monotonicity

PPIs (of the *some*-type)

A PPI must be in a non-negative environment in **at least one of its domains.**

2. Domains: licensing by monotonicity

PPIs (of the *some*-type)

- The role of constituency is even more obvious with PPIs: A PPI of the *some*-type cannot be interpreted under a **clausemate negative** expression.

(23) a. John did**n't** understand **something.** *NEG≫SOME
≠ John understood nothing.

b. It's **impossible** that John understood **something.**
≈ John understood nothing. ✓IMPOS.≫SOME

- From (23a): the evaluation of *some* has to take place in a constituent at least as large as PolP.
- In (23b), the smallest PolP is not negative w.r.t. the position of *some* (in fact, it is upward-monotonic). This difference explains the contrast.
- We hypothesize that the **minimal domain** of **some** is PolP.

(23a) John did**n't** understand something.

*[$_{TP}$ [PolP ↘1] **not something$_1$**

(23b) It's **impossible** that John understood something.

✓[$_{TP}$ [PolP ↘1] **impossible** [$_{CP}$ [PolP ↗1] **something$_1$**

PPIs: Flip-flop

- Composition of DM functions, **'rescuing':**

(24) a. **Few people** did**n't** understand **something.**
≈ Many people understood something. ✓NEG≫SOME

b. It's **impossible** that John did**n't** understand **something.**
≈ John understood something. ✓NEG≫SOME

- In fact, this is just **'flip-flop'** applied to PPIs.

(24a) **Few people** did**n't** understand something.

✓[

few people [

not something$_1$

(24b) It's **impossible** that John did**n't** understand something.

✓[$_{TP}$ [

impossible [$_{CP}$ [

not something$_1$

Summary

- Licensing of both NPIs and PPIs is environment-based (flip-flop, locality condition);
- The system that evaluates polarity items has access to the meaning of subtrees;
- There are domains.

Licensing in two steps

- There can be **more than one** domain of PI π in which π is **acceptable,** i.e. in which its environment has the **appropriate monotonicity;**
- **Licensing** is the active process whereby an acceptable PI is **marked as grammatical;**
- Licensing of π takes place in **one** of the domains of π.

Licensing in two steps

- So there are at least **two steps** to license a PI π:

1. Acceptability

1 Evaluate the domains of π and retain the ones in which it is **acceptable.**

$$[\text{Domain \#1 of } \pi \quad \ldots \pi \ldots] \quad < \quad \begin{matrix} \text{Acceptable} \\ \text{Not acceptable} \end{matrix}$$

$$\ldots \qquad\qquad \ldots$$

$$[\text{Domain \#n of } \pi \quad \ldots \pi \ldots] \quad < \quad \begin{matrix} \text{Acceptable} \\ \text{Not acceptable} \end{matrix}$$

Licensing in two steps

- So there are at least **two steps** to license a PI π:

2. Licensing

2 Pick the domains of π (if any) where it is acceptable; choose the one in which you **license** it (= **mark** it as grammatical).

[Domain #2 of π $\ldots\pi\ldots$] $\Rightarrow$ 

$\ldots$

[Domain #5 of π $\ldots\pi\ldots$] $\Rightarrow$  $\Rightarrow$ 

Roadmap

1. Two approaches
2. Licensing by monotonicity
3. Entanglement and cyclicity

Part 3: Entanglement and cyclicity

3. Entanglement: a PPI and an NPI

NPIs & PPIs

Some and *any* are **entangled:**
In a given constituent, the acceptability of one depends on the acceptability of the other.

- This property leads to a **polarity clash** between *some* and *any* in certain configurations.

3. Entanglement: a PPI and an NPI

NPIs & PPIs

- Abstractly:

*__not__ . . . [$_{CP}$ some . . . any . . .

3. Entanglement: a PPI and an NPI

Entanglement

(25) *(Context: given the instructions that were given. . .)*
It's **impossible** that someone understood anything.
≠ It's impossible that anyone understood anything.
*IMP.≫SOME

*[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↘1 ↘2] **someone**$_1$ [$_{PolP}$ **anything**$_2$

3. Entanglement: two PPIs

2 PPIs

- Abstractly:

$$*[_{CP}\ \textbf{NOT}\ \ldots[_{CP}\ \text{some}\ \ldots[_{PolP}\ \textbf{NOT}\ \ldots\text{some}\ldots$$

3. Entanglement: two PPIs

Consider the sentence:

(26) It's **impossible** that **someone** is**n't** hiding.

- It has 2 readings, the 'someone' and the 'everyone' readings:

$[_{CP}$ **NOT** . . . $[_{CP}$ . . . $[_{PolP}$ **NOT** some . . . *'someone' reading*

$[_{CP}$ **NOT** . . . $[_{CP}$ some . . . $[_{PolP}$ **NOT** . . . *'everyone' reading*

3. Entanglement: two PPIs

(27) —A: Someone is hiding.
—B: That's exactly true, it's **impossible** that someone is**n't** hiding.

✓[$_{TP}$ [PolP ↘1] **impossible** [$_{CP}$ [PolP ↘1] **not someone**$_1$

(28) —A: Everyone is hiding.
—B: That's exactly true, it's **impossible** that someone is**n't** hiding.

✓[$_{TP}$ [PolP ↘1] **impossible** [CP ↘1] **someone**$_1$ [$_{PolP}$ **not**

3. Entanglement: two PPIs

Let's add a PPI under **n't:**

(29) It's **impossible** that **someone** is**n't** hiding **somewhere.**

- The 'everyone' reading has gone:

*[$_{CP}$ **NOT** . . . [$_{CP}$ some . . . [$_{PolP}$ **NOT** some . . . *'everyone' reading*

3. Entanglement: two PPIs

(30) —A: Someone is hiding.
—B: That's exactly true, it's **impossible** that someone is**n't** hiding somewhere.

✓[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [$_{CP}$ [PolP ↘1 ↘2] **not someone$_1$ swh.$_2$**

(31) —A: Everyone is hiding.
—B: #That's exactly true, it's **impossible** that someone is**n't** hiding somewhere.

*[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↘1 ↘2] **so$_1$** [PolP ↘2] **not somewh.$_2$**

Entanglement: a PPI, an NPI, and two negations

Let's put an NPI instead of a PPI under **n't:**

(32) It's **impossible** that **someone** is**n't** hiding **anywhere.**

- Now the 'someone' reading disappears:

*[$_{CP}$ **NOT** . . . [$_{CP}$ . . . [$_{PolP}$ **NOT** some . . . any . . . **'someone' reading*

Entanglement: a PPI, an NPI, and two negations

(33) —A: Someone is hiding.
—B: #That's exactly true, it's **impossible** that someone is**n't** hiding anywhere.

*[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [$_{CP}$ [PolP ↘1 ↘2] **not so$_1$ anywh.$_2$**

(34) —A: Everyone is hiding.
—B: That's exactly true, it's **impossible** that someone is**n't** hiding anywhere.

✓[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↘1 ↘2] **so$_1$** [PolP ↘2] **not anywh.$_2$**

A fact in favor of domains

- In those sentences, the surface scope reading is unavailable **due to entanglement:**

(35) It's **impossible** that someone understood anything.

(36) It's **impossible** that someone is**n't** hiding somewhere.

- Entanglement is a property which is relative to constituents, so we need **domains;**
- The entire **makeup of constituents** is relevant, as predicted by the environment-based approach.

3. Cyclicity

- Apparent problem with **two NPIs:** the following configuration should lead to ungrammaticality if *any* is entangled with itself:

$$[_{CP}\ \textbf{NOT} \ldots [_{CP}\ \text{any} \ldots [_{PolP}\ \textbf{NOT} \ldots \text{any} \ldots$$

- This is not the case:

(37) It's **impossible** that anyone did**n't** understand anything.

- Can mean: *'Everyone understood something.'*
- Compare with (38) (=(29)), which lacks the 'everyone' reading:

(38) It's **impossible** that someone is**n't** hiding somewhere.

3. Cyclicity

(39) It's **impossible** that **anyone** did**n't** understand **anything.**

✓[$_{TP}$ [PolP ↘1 ↗2] **imposs.** [CP ↗1 ↘2] **anyo**$_1$ [PolP ↘2] **not anyth.**$_2$

*[$_{TP}$ [PolP ↘1 ↗2] **imposs.** [CP ↗1 ↘2] **so**$_1$ [PolP ↘2] **not somewh.**$_2$

- **Hypothesis:** The lower NPI is licensed at a previous stage of a **cycle.**

(40) It's **impossible** that anyone did**n't** understand anything.

3. Cyclicity: a PPI and an NPI

Cyclicity

- Prediction borne out: remember the polarity clash in (25):

(41) It's **impossible** that someone understood anything. (=(25))

*IMP.≫SOME

*[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↘1 ↗2] **someone**$_1$ [PolP ↗2] **anyth.**$_2$

- It disappears when the PIs are **flipped:**

(42) It's **impossible** that anyone understood something.

✓IMP.≫SOME

✓[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↗1 ↗2] **anyone**$_1$ [PolP ↗2] **someth.**$_2$

(43) It's **impossible** that anyone understood something.

Summary

- Further evidence for domains comes from entanglement;
- The system that evaluates polarity items proceeds cyclically.

Conclusion

- What (anti)-licenses PIs? Licensing is done by monotonicity, computed within certain constituents;
- What evidence? Flip-flop (with NPIs and PPIs) and entanglement (one NPI and one PPI; 2 PPIs). Existence of minimal domains;
- Why do we observe NPIs available under an even number of DM expressions? Licensing is liberal within certain constraints;
- There is a new cycle.

Conclusion

- Implications:
- The connection of syntax and semantics (logic) is even tighter than originally thought;
- The above principles allowed me to bring to light the deep unity between the negative and the positive polarity phenomena (at least for the *some/any* pair)...;
- ...to evidence a whole new class of polarity items among modal verbs (*must, should, seem,* etc.)...;
- ...and to show that the licensing procedure interacts with other operations, namely movements, both covert and overt;
- We are now in a better position to ask more fundamental questions, in particular: why is there polarity in language?

Thank you!

Appendix

Negativity

Negative strength

- Expressions that denote **DM functions:** *not, no, doubt, without, at most three, few, if. . . ;*
- Among those, some are **more strongly negative** than others:

DM expressions

Anti-additive ('more negative') expressions

not, impossible, doubt, negative quantifiers (no one, never. . .)

at most five, few, rarely. . .

- Strength is important, because certain Polarity Items are sensitive to more strongly negative expressions than others.

Downward-monotonicity

A function f of type $<\sigma$,t$>$ is Downward-monotonic (DM) iff for all x, y of type σ such that $x \Rightarrow y$: $f(y) \Rightarrow f(x)$

Anti-additivity

- **Strong NPIs,** e.g. punctual *until* and *a single* require 'more negative' functions.

- A function f is Anti-additive (AA) iff $f(A \vee B) \iff f(A) \wedge f(B)$

  Zwarts 1998

- Negation and negative quantifiers (*no one, nothing, never, etc.*) are not just DM, they are AA:

(44) No one smokes or drinks $\iff$ No one smokes and no one drinks.

- *At most five* is strictly DM.

(45) a. **No one** left **until** Friday.
b. ??**At most 5 people** left **until** Friday.

(46) a. **No one** understood **a single** thing.
b. ??**At most 5 people** understood **a single** thing.

Any

Domains: licensing by monotonicity

- Domains are PI specific.
- Two English dialects w.r.t. *any*-type NPIs.
  - **Dialect A:**

(47) a. *It's **not impossible** that John understood **anything.**
b. *I do**n't doubt** that John understood **anything.**

  - **Dialect B:**

(48) a. It's **not impossible** that John understood **anything.**
b. I do**n't doubt** that John understood **anything.**

Two options

- Either the licensing of *any* in dialect B is not environment-based;
- Or it is environment-based but the minimal domain of this item is smaller than PolP.
- Thanks to entanglement, we can show that the latter option is correct, because in all dialects, the narrow scope reading of *some* is unavailable in (25):

(49) It's impossible that someone understood anything. (=(25))

Negative quantifiers

A difficult case: so-called negative quantifiers

(50) **No one** understood **something.**

$\neq$ No one understood. *NEG$\gg$SOME

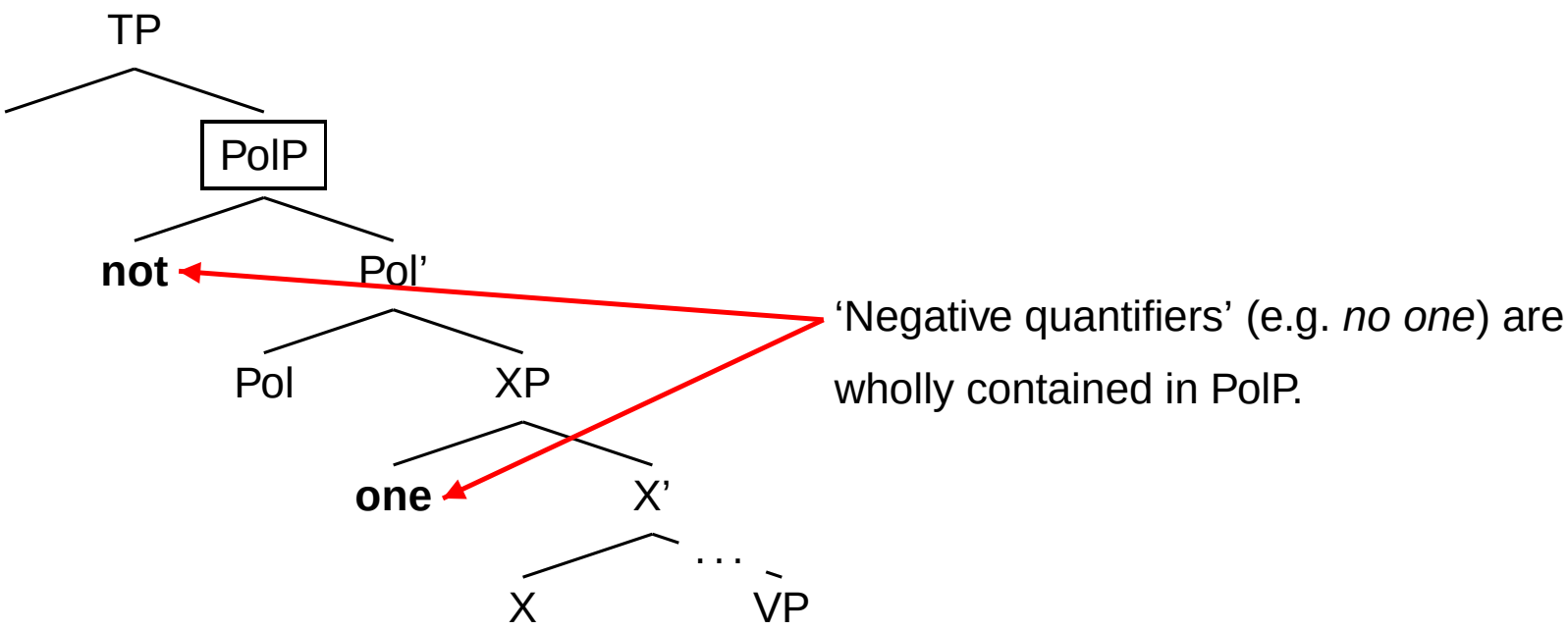
= There is something that no one understood. SOME$\gg$NEG

- The PPI is anti-licensed, although the source of negativity is in the 'subject' of the clause.

So-called negative quantifiers

- This is not a paradox, since ‘negative quantifiers’ are thought by many (Kratzer 1995, Sauerland 2000 a.o.) to be the **spellout** of sentential negation and an existential quantifier (¬∃):

(51)



(52) **No one** understood **something.** *NEG≫SOME

*[$_{TP}$ [PolP ↘1] **no one something$_1$**

So-called negative quantifiers

- Evidence for analyzing them as made up of negation and an existential quantifier in its scope (Kratzer 1995, Sauerland 2000, Iatridou and Sichel 2008, a.o.):
  - Reconstruction impossible (53b):

(53)
a. At most five people can be present. CAN≫AT_MOST_5
b. No doctor can be present. *CAN≫NO_DOCTOR
c. John cannot be present. *CAN≫NEG

  - Split scope possible (54):

(54) No doctor has to be present.
There is no doctor x such that x has to be present. (wide scope)
It is **not** required that **a** doctor be present. (split scope)

Symmetry

An problem for unification

- The acceptability conditions of NPIs (ex. *any*) and PPIs (ex. *some*) don't seem to be the **mirror images** of each other (**locality** condition on PPIs).

(55) It's **impossible** that he stole anything.

(56) It's **impossible** that he stole something. ✓IMP.≫SOME

- *Some* doesn't even seem to be anti-licensed by certain licensers of *any* (consensus so far: only Anti-Additive expressions are anti-licensers of *some*):

(57) **At most five people** stole anything.

(58) **At most five people** stole something. ✓AT_MOST_5≫SOME

- A unified account of *some* and *any* seems impossible. (Szabolcsi 2004)

Summing up the issue

	(Apparent) sensitivity to locality	(Apparent) sensitivity to mere downward-monotonicity
Any	No	Yes
Some	Yes	No

Table: Asymmetry

A confound

(59) **At most five people** understood **something.**
≈ At most five people understood. ✓AT_MOST_5≫SOME

- *At most five people* is one of those weakly negative expressions, which are **merely downward-monotonic.**
- **So far,** the fact that *some* is not anti-licensed in its scope has always been taken to mean that *some* is **not vulnerable** to mere downward-monotonicity.

DM expressions

Anti-additive (‘more negative’) expressions

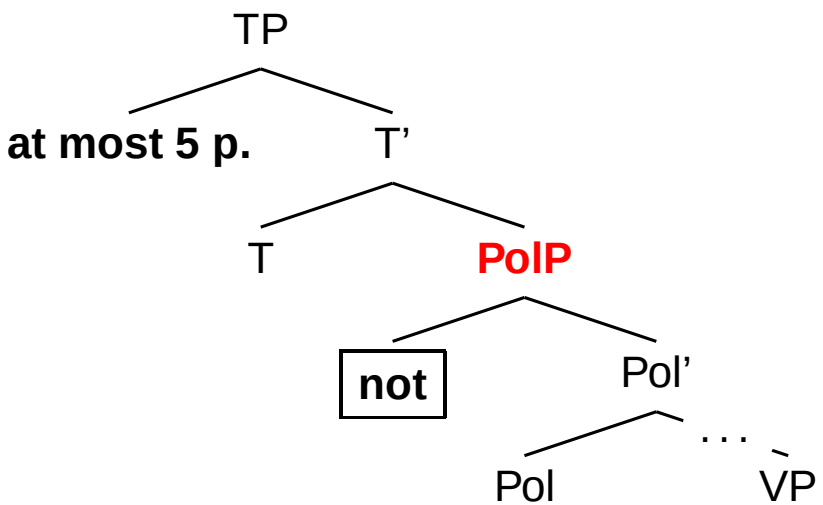
not, impossible, doubt, negative quantifiers (no one, never. . .)

at most five, few, rarely. . .

A confound

- *At most five people* can be interpreted **outside of PolP:**

(60)



'At most five people didn't come.'

- *At most five people* is not only weaker than *not* or *no one:* it is also outside of PolP. That makes **two differences.**

No one has been able to **show** that *some* is vulnerable to Anti-additivity rather than to mere DM^{ity}.

Symmetry

- We are now in a position to use **entanglement** as a diagnostic tool: *some* can be anti-licensed by **downward-monotonicity:**

(61) **At most five people** sold someone anything.

*AT_MOST_5≫SOME

*[

at most 5 people [

someone$_1$ anything$_2$

- Besides, *some* is not vulnerable to **non-monotonicity** (while *any* is): the combination of negation and a non-monotonic quantifier creates a non-monotonic environment for the PI in PolP:

(62) **No** salesclerk sold **exactly 42 people something**/***anything.**

Symmetry

Some and *any* cannot be licensed in the same constituent.

(63) $[_{XP} \ldots \left\{ \begin{array}{c} \text{any} \\ \text{XOR} \\ \text{some} \end{array} \right\}$

(64) a. John did**n't** understand anything.
b. John did**n't** understand something. *NEG≫SOME

Symmetry

- We are led to conclude that *some* and *any* are licensed in different constituents in (65)-(66):

(65) It's **impossible** that he did**n't** steal anything.

(66) It's **impossible** that he did**n't** steal something.

Licensing is liberal.

Summary

- Thanks to entanglement, we can show that the acceptability condition of *some* is the mirror image of that of *any* (contra all past research).

Interruption by *some?*

Some doesn't interrupt a syntactic relation

(67) **At most five people** sold someone anything.

*[

at most 5 p. T [

someo$_1$ **anyth.**$_2$ sell t_1 t_2

(68) **At most five people** sold anyone something.

*[

at most 5 p. T [

anyo$_1$ **someth.**$_2$ sell t_1 t_2

(69) a. **At most five people** told anyone that someone had come. AT_MOST_5≫SOME

b. **At most five people** told someone that anyone had come. *AT_MOST_5≫SOME

Some doesn't interrupt a syntactic relation

- The problem is general with PPIs (Baker 1970:

(70) a. He would rather be in Montpelier.
b. *He wouldn't rather be in Montpelier.

(71) There isn't anyone here who wouldn't rather do something downtown.

$[_{TP}$ [PolP ↘1 ↘2 ↘3] **not anyone**$_1$ $[_{CP}$ [PolP ↘2 ↘3] **not [would rather]**$_2$ **something**$_3$ do t_3

(72) *There isn't anyone here who wouldn't rather do anything downtown.

*$[_{TP}$ [PolP ↘1 ↘2 ↘3] **not anyone**$_1$ $[_{CP}$ [PolP ↘2 ↘3] **not [would rather]**$_2$ **anything**$_3$ do t_3

Some doesn't interrupt a syntactic relation

- Difference between the two kinds of intervention:

(73) a. If someone stole a camera, we're in trouble.
b. If John stole anything, we're in trouble.
c. If someone stole anything, we're in trouble. ?IF≫SOME

(74) *If everyone stole anything, we're in trouble.

- The difference is expected: *if*-clauses are not in fact DM (they are only DM given background assumptions).
- Narrow scope of the PPI is not perfect though. I propose that this is due to the tension placed on the system (constituent both DM and pseudo-DM).

More on entanglement and cyclicity

Entanglement: two PPIs

(75) a. You ca**n't** convince me that someone has**n't** already solved this problem. [Ladusaw 1979, McCawley 1998]
*NEG≫SOME≫NEG; NEG≫NEG≫SOME

b. You ca**n't** convince me that someone has**n't** solved this problem. NEG≫SOME≫NEG; NEG≫NEG≫SOME

*[$_{TP}$ [PolP ↘1 ↘2] **n't** [CP ↘1 ↘2] **so**$_1$ [PolP ↘2] **not already**$_2$

(76) a. You ca**n't** convince me that someone is**n't** still holed up in this cave. [Baker 1970, McCawley 1998]
*NEG≫SOME≫NEG; NEG≫NEG≫SOME

b. You ca**n't** convince me that someone is**n't** holed up in this cave. NEG≫SOME≫NEG; NEG≫NEG≫SOME

*[$_{TP}$ [PolP ↘1 ↘2] **n't** [CP ↘1 ↘2] **so**$_1$ [PolP ↘2] **not still**$_2$

Cyclicity: two PPIs

- Remember that (31) is a case of entanglement:

(77) —A: Everyone is hiding.
—B: #That's exactly true, it's **impossible** that someone is**n't** hiding somewhere.

*[$_{TP}$ [PolP ↘1 ↘2] **imposs.** [CP ↘1 ↘2] **so**$_1$ [PolP ↘2] **not somewh.**$_2$

- Let's add one level of embedding: the missing reading reappears.

(78) a. —A: Everyone is trying to hide.
b. —B: That's exactly true, it's **impossible** that someone is**n't** trying to hide somewhere.

✓[$_{TP}$ [PolP ↘1 ↘2] **impossible** [CP ↘1 ↘2] **someone**$_1$ [PolP ↘2]
not [$_{TP}$ [PolP ↘2] **somewhere**$_2$

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