

Negative Polarity

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Negative polarity items (NPIs)/Affective contexts

Ladusaw (1980)

NPIs

ever, any, anyone, anything, yet at all, lift a finger, spend a red cent, sleep a wink, so much as, a jot, an iota, a stitch of clothing, a stick of furniture, [_{Deg}all that] . . .

- 1 { no one
at most three people
few students
*someone
*many students } who had *ever* read *anything* about

Bloomfield attended *any* of the lectures.

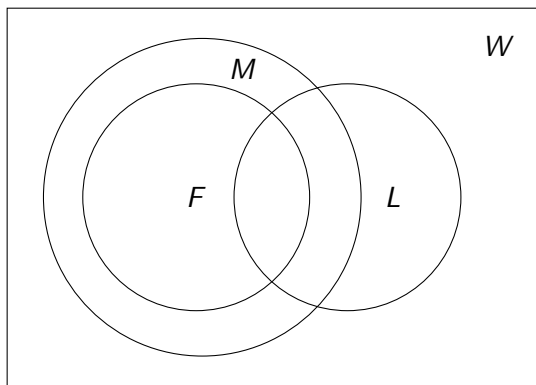
- 2 *The man who had *ever* read *anything* about Bloomfield attended the lectures.

Positive Polarity items (Israel 2004)

- (1)
 - a. Hugo (was/*wasn't) *considerably* impressed by her arguments.
 - b. Einstein (is/*isn't) *some* mathematician.
 - c. He (is/*isn't) a *regular* Einstein.
 - d. He (can/can't) calculate an Eigenvector *in the blink of an eye*.

Some F L's: F is in upward monotone context

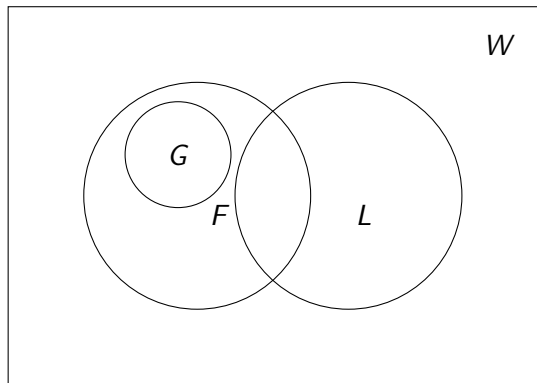
Some father limps \vdash some man limps.



$$F \cap L \neq \emptyset \quad F \subset M$$

Some F L's: not downward monotone

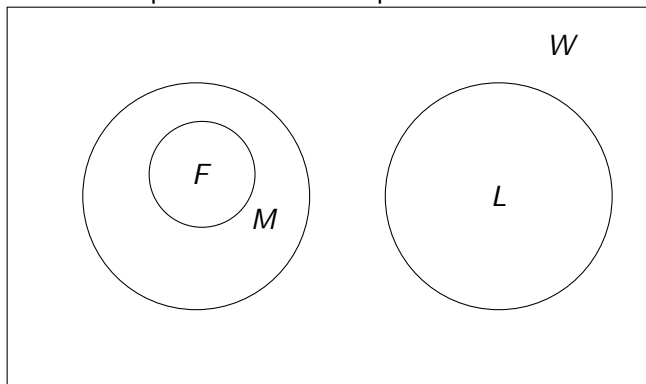
Some father limps ∇ some grandfather limps.



$$F \cap L \neq \emptyset \quad G \subset F$$

No M L's: M is in a downward monotone context

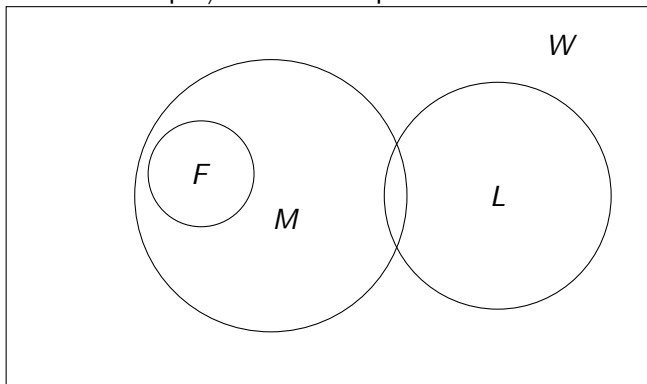
No man limps \vdash No father limps.



$$M \cap L = \emptyset \quad F \subset M$$

No M L's: not upward monotone context

No father limps ∇ No man limps.



$$F \cap L = \emptyset \quad F \subset M$$

The meaning of some, *in the scope*

Some(X)(Y) iff the intersection of X and Y is not empty.

$$\begin{aligned} \llbracket \text{some} \rrbracket &= \lambda X \lambda Y \exists x [X(x) \& Y(x)] \\ \llbracket \text{some man} \rrbracket &= \lambda Y \exists x [\llbracket \text{man} \rrbracket(x) \& Y(x)] \\ \llbracket \text{some man walks} \rrbracket &= \exists x [\llbracket \text{man} \rrbracket(x) \& \llbracket \text{walks} \rrbracket(x)] \end{aligned}$$

$$\llbracket \text{some} \rrbracket (\llbracket \text{man} \rrbracket)(\llbracket \text{walks} \rrbracket) = \llbracket \text{some man} \rrbracket (\llbracket \text{walks} \rrbracket) = \llbracket \text{some man walks} \rrbracket$$

- *man* is interpreted in the scope of $\llbracket \text{some} \rrbracket$.
- *walks* is interpreted in the scope of $\llbracket \text{some man} \rrbracket$

Understanding the function properties

The following axiom schema says f is **monotone increasing** on the first **X** argument:

$$\forall X \forall Y \forall Z \square [[X \subseteq Z] \rightarrow [f(X, Y) \rightarrow f(Z, Y)]]$$

Let's plug in *some* for f and some appropriate X , Y arguments for *some*

$$\forall Z [[\llbracket \text{father} \rrbracket \subseteq Z] \rightarrow [\llbracket \text{some} \rrbracket (\llbracket \text{father} \rrbracket , \llbracket \text{walks} \rrbracket) \rightarrow \llbracket \text{some} \rrbracket (Z , \llbracket \text{walks} \rrbracket)]]$$

In particular, since $\llbracket \text{father} \rrbracket \subseteq \llbracket \text{man} \rrbracket$:

$$\llbracket \text{some} \rrbracket (\llbracket \text{father} \rrbracket , \llbracket \text{walks} \rrbracket) \rightarrow \llbracket \text{some} \rrbracket (\llbracket \text{man} \rrbracket , \llbracket \text{walks} \rrbracket)]$$

Questions

- 1 Give an example of an affective expression (Ladusaw's theory)
- 2 Give an example of non-affective expression. (Ladusaw's theory)
- 3 Explain how the expression *every* can be affective, while the expression *every man* is not. Even if you can't work through the details of the formal analysis, what **facts** are relevant?
- 4 Criticize or support the following claim:

*The primary advance in Ladusaw's analysis is that he gives a semantic definition of what an **affective expression** is. That definition in turn actually predicts diverse facts about NPIs.*
- 5 Talk about the relation of L's analysis to (10) [Fauconnier/Fodor]. In what way is L's analysis an advance?

Issues with DE (Giannakidou 2011)

- *Each* and *both*: presuppositions, referentiality
- NPIs in questions
- Conditionals (not DE contexts, contra Ladusaw)
- Non-DE quantifiers that are licensors: *most*

Each, both

- $\llbracket \text{Each man laughed} \rrbracket = \llbracket \text{Every man laughed} \rrbracket$
- $\llbracket \text{Both men laughed} \rrbracket =$
 $\llbracket \text{Every man laughed and there were two men} \rrbracket$
- Each man laughed \Rightarrow Each tall man laughed.
- Both Sonny and Cher laughed \Rightarrow Sonny laughed.
- $\#$ Each man who ever went to Memphis laughed.
- $\#$ Both men who ever went to Memphis laughed.
- Every man who ever went to Memphis laughed.
- Presupposition properties? A pragmatic solution.

Questions

- Do you have **any** explanation for what just happened?
- Have you **ever** been to Memphis?
- Did he **even** lift a finger to help?
- An attempt to transfer the definition of DE to questions. For example, assume a question denotes a set of propositions (the true answers). Consider whether.

[[Are you walking slowly?]] \subseteq [[Are you walking?]]

Suppose you are walking but not slowly. Doesn't work.

Conditional examples (Heim 1984)

- If you put **so much as** a pinch of salt in this soup, I will throw it out.
- If has **ever** told you a lie, he must go to confession.
- If you had left **any** later, you would have missed the plane.
- If John has stolen **the least amount of** money, Mary has probably noticed it.

For Ladusaw, then, if $q \Rightarrow p$, it better be true that

If p then $r \Rightarrow$ If q then r

Conditionals fail the DE text

- 1 If you vacation in Malta, you will have a good time.
- 2 If you vacation in Malta and are attacked by terrorists, you will have a good time.
- 3 If (a) is true, that does not seem to guarantee (b).
- 4 Since

$$\begin{aligned} \llbracket \text{you vacation in Malta and are attacked by terrorists} \rrbracket \\ \subseteq \llbracket \text{you vacation in Malta} \rrbracket \end{aligned}$$

that means conditionals are NOT DE (contra Ladusaw).

Conditionals are highly context-beound

The essentially pragmatic nature of connditionals

Conditionals are **always** evaluated versus a rich background context. For example, we have to hold **some assumptions** constant in evaluating any counterfactual:

- (2) a. If Bizet and Verdi were compatriots, then Verdi would be French.
- b. If Bizet and Verdi were compatriots, then Bizet would be Italian.

Heim's pragmatically limited DE-ness

- NPIs do not require a context which yields all DEs. They only require a context yielding all entailments on a **pragmatic scale**: relevant to the conditional. (Israel 2004):

Informativeness scale

a reads N newspapers and a is informed to degree $d \Rightarrow$ a reads more than N newspapers and a is informed to at least degree d

- The speaker **only** commits themselves to strengthenings that move you up that scale.
 - (3) a. If you read any newspaper, you are well-informed.
 - b. If you read two newspapers, you are well informed.
 - c. If you read a newspaper and have a memory like a sieve, you are well informed.

Heim's prediction

Pragmatically sound vs. pragmatically odd

Given the informativeness scale:

- (4) a. If you read any newspaper at all, you are well-informed.
- b. If you read any newspaper at all, you remain quite ignorant.

Most Heim (1984), Israel (2004)

- (5)
 - a. Most of the boys who ate an apple got sick.
 - b. Most of the boys who ate a fruit got sick.
 - c. Entailment in **neither** direction. Neither upward nor downward entailing.

- (6)
 - a. Most children with **any** sense steal candy.
 - b. Most people who would lift a finger to help Bill now are either very foolish or very well paid.
 - c. Few children with any sense play Frisbee on freeways.
 - d. Few people with the least bit of human feeling could doubt her sincerity.

But maybe Heim's pragmatically constrained DE-ness can serve here as well.

Other pragmatically licensed cases: Minimizers

Linebarger (1980)

- Every restaurant that charges so much as a dime for iceberg lettuce ought to be closed down.
- ?? Every restaurant that charges so much as a dime for iceberg lettuce actually has four stars in the handbook.

But *every* IS DE! Moreover:

- (7) Every restaurant that I have *ever* gone to actually has four stars in the handbook.

Empirical issues (Giannakidou 2011)

- There are neg-licensed items in other languages (Greek, German, Dutch) that aren't licensed in the full range of DE contexts. (Zwarts 1998)
- There is a *scale* of NPI-ness. The English examples we've been looking at are weak NPIs.

Weak vs strong polarity (Zwarts 1998)

Weak	<p>a. <i>Niemand</i> zal zulk een beproeving hoeven te doorstaan <i>No one</i> will such an ordeal need to go through No one need go through such an ordeal.</p> <p>b. *<i>Iedereen</i> zal zulk een beproeving hoeven te doorstaan <i>Everyone</i> will such an ordeal need to go through *<i>Everyone</i> need go through such an ordeal.</p> <p>c. <i>Hoogstens een kind</i> zal zich hoeven te verantwoorden <i>At most one child</i> will himself need to justify At most one child need justify himself.</p>
Strong	<p>d. *<i>Hoogstens zes agenten</i> hebben ook maar iets bemerkt <i>At most six cops</i> have anything noticed *<i>At most six cops</i> noticed anything'</p> <p>e. <i>Niemand</i> heeft van de regenbui ook maar iets bemerkt <i>No one</i> has of the rain anything noticed No one noticed anything of the rain'</p>

Propositional attitudes

A propositional operator F is veridical iff Fp entails or presupposes that p is true in some individual's model $M(x)$; p is true in $M(x)$, if $M(x) \models p$.

- (8)
- a. John would like to invite any student.
 - b. John asked us to invite any student.
 - c. John is willing to invite any student.
 - d. # John invited any student.
 - e. # John believes that we invited any student.
 - f. # John dreamt that we invited any student.

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