

Intervention by Presuppositions

We argue that presuppositions disrupt NPI licensing. That an inference can be responsible for the non-licensing of NPIs is a claim which has already been made about scalar implicatures (Chierchia 2004). The parallel is further reinforced: even exceptions to the disruption by presupposition resemble exceptions to the disruption by scalar implicatures.

1. The facts. Observe the pair formed by (1) and (2). The only relevant difference between the two sentences is that the former presupposes that Peter broke something, while the latter presupposes nothing about a breaking event: the NPI *anything* is not allowed in a *because*-clause whose content is presupposed. Illicit NPIs in singular definite descriptions (3) or in the restrictor of *both* (4-b) are subject to the same kind of intervention. Now observe the pair (5)-(6): the presupposition trigger *too* causes an intervention effect, while the presupposition trigger *either* doesn't. The main difference is that the presupposition of the former doesn't contain a downward-entailing function, while the presupposition of the latter does. Assuming (in accordance with the Fauconnier-Ladusaw tradition) that NPIs are only licensed in downward-entailing (DE) environments, we are led to propose that presuppositions should be incorporated into the computation of NPI licensing.

2. Proposal. We thus avail ourselves of an operator μ , designed to turn a trivalent meaning into a bivalent one (7): the so-called μ meaning of sentence ϕ is the conjunction of the assertive component of ϕ and of all its presuppositions. The monotonicity of the environment an NPI finds itself in is evaluated on μ meanings: since $\mu(\llbracket(8-a)\rrbracket)$ doesn't entail $\mu(\llbracket(8-b)\rrbracket)$, (5) is out. To account for the data presented here, one might want to harness the proposal that Lahiri (1998) (drawing on von Stechow 1999) makes. The rule he offers states that an NPI must be in a SDE, non SUE, environment ((9)-(10)); it captures the ungrammaticality of (11) (as does our proposal); however, this rule won't help for (5). Our idea has a precedent in Chierchia's (2004) strong meanings, designed to account for intervention effects caused by indirect scalar implicatures: these are triggered by strong scalar terms, e.g. *every*, placed in the scope of scale reversers (DE functions) like *no* or *not* (13-a). The strong meaning of a sentence ψ is the conjunction of its truth conditions and implicatures. A pragmatic condition (spelled out for the weak NPI *any*) is that the widening of the domain of quantification signaled by *any* must lead the sentence containing it to entail the corresponding sentence where all occurrences of *any* are replaced with *some*.

3. Exceptions and Consequences. There are presupposition triggers which do not cause any intervention. This holds especially of *only* and emotive factives, e.g. *regret* and *be surprised*. We propose a novel generalization: a presupposition trigger does not intervene if it is at the same time an NPI licenser. Interestingly, a scalar implicature trigger does not intervene either if it is an NPI licenser (15). This parallelism is undoubtedly worth pursuing, as it might shed light on common properties of presuppositions and scalar implicatures. Other presupposition triggers (English cognitive factives, *it*-clefts) disrupt the licensing of strong, but not weak, NPIs ((17)-(18)). Others (aspectual verbs, *again*, *even*) simply do not intervene. The picture that arises is very different from other typologies of presupposition triggers (e.g. Abusch 2002 groups *again* and *too* together as hard triggers). We hypothesize that the module in which NPI licensing is computed has access to the modules where some, but not all, presuppositions are computed. Lastly, our exploration yields another important result: the intervention effect remains when the presupposition is locally accommodated (19-a) or satisfied (19-b), but doesn't obtain when the presupposition is not triggered (2): we claim that intervention effects provide the first empirical grounds for distinguishing these phenomena.

- (1) (Context: Peter broke your vase.) *You're mad at Peter, not because he broke anything, but because he won't own up to it.

- (2) (*Context*: Peter didn't break your vase.) You're mad at Peter, not because he broke anything, but because he says you're on the chubby side.
- (3) (*Context*: Two men are flirting with Mary; one is every generous and successful, the other is not.) *I don't like the man who offered Mary anything.
- (4) a. Every student who knows any linguistics has applied.
b. *Both students who know any linguistics have applied.
- (5) (*Context*: Mary read something interesting.) *It's not the case that [John]_F read anything interesting too. (*But*: ✓ 'It's not the case that John read something interesting too.')
Presupposition: Somebody other than John read something interesting.
- (6) (*Context*: Mary didn't read anything interesting.) It's not the case that [John]_F read anything interesting either.
Presupposition: Somebody other than John didn't read anything interesting.
- (7) Let F be a sentence. $\mu(\llbracket F \rrbracket) = 0$ iff $\llbracket F \rrbracket = \#$ or 0 and $\mu(\llbracket F \rrbracket) = 1$ iff $\llbracket F \rrbracket = 1$.
- (8) a. It's not the case that John read a book too.
b. It's not the case that John read a novel too.
c. $\mu(\llbracket (8-a) \rrbracket) = \exists x [x \neq j \wedge (\text{a book})'(\lambda y. x \text{ read } y)] \wedge \neg((\text{a book})'(\lambda y. j \text{ read } y))$
d. $\mu(\llbracket (8-b) \rrbracket) = \exists x [x \neq j \wedge (\text{a novel})'(\lambda y. x \text{ read } y)] \wedge \neg((\text{a novel})'(\lambda y. j \text{ read } y))$
e. $\mu(\llbracket (8-a) \rrbracket) \neq \mu(\llbracket (8-b) \rrbracket)$
- (9) A function f of type $\langle \sigma, t \rangle$ is Strawson-Downward Entailing (SDE) iff for all x, y of type σ such that $x \Rightarrow y$ and $f(x)$ is defined: $f(y) \Rightarrow f(x)$
- (10) A function f of type $\langle \sigma, t \rangle$ is Strawson-Upward Entailing (SUE) iff for all x, y of type σ such that $x \Rightarrow y$ and $f(y)$ is defined: $f(x) \Rightarrow f(y)$.
- (11) *The student who read any books on NPis passed the exam.
- (12) a. It is not the case that everyone has some potatoes.
b. $\llbracket (12-a) \rrbracket^s = \neg[\forall x \text{ some}_D'(\text{potatoes}')(\lambda y. x \text{ has } y)] \wedge \exists x \text{ some}_D'(\text{potatoes}')(\lambda y. x \text{ has } y)$
- (13) a. *It is not the case that everyone has any potatoes.
b. $\llbracket (13-a) \rrbracket^s = \forall g \in \Delta [\neg[\forall x \text{ some}_{g(D)}'(\text{potatoes}')(\lambda y. x \text{ has } y)] \wedge \exists x \text{ some}_{g(D)}'(\text{potatoes}')(\lambda y. x \text{ has } y)]$ (with D the domain of individuals, g a function with turns a domain into a superset of that domain, and Δ the domain of such functions.)
- (14) $\llbracket (13-a) \rrbracket^s \neq \llbracket (12-a) \rrbracket^s$
- (15) Fewer than three students have read anything.
Direct Implicature: At least one student has read something.
- (16) *Jean ne sait pas que Marie a la moindre chance de gagner. (*French*)
Jean NEG knows NEG that Marie has the slightest chance to win.
'Jean doesn't know that Marie has any chance to win.'
- (17) Mary doesn't know that John read anything interesting/?slept a wink.
- (18) (*Context*: Mary has not done her homework alone, somebody helped her; but John and Mary are not friends.) I doubt that it was John who did anything/?lifted a finger to help Mary.
- (19) a. ??Peter doesn't know that Mary slept a wink, for she didn't sleep at all.
b. ??I doubt that Peter read a book by Hemingway and that [Mary]_F read anything by Hemingway too.

Abusch, Dorit (2002), 'Lexical Alternatives as a Source of Pragmatic Presuppositions'.
Chierchia, G. (2004), 'Scalar Implicatures, Polarity Phenomena, and the Syntax/Pragmatics Interface', in *Structures and Beyond*, A. Belletti (ed.), Oxford.
Lahiri, U. (1998), 'Focus and Negative Polarity in Hindi', *Natural Language Semantics* 6: 57-123.
Von Stechow, K. (1999), 'NPI Licensing, Strawson Entailment and Context Dependency', *Journal of Semantics* 16: 97-148.