Title: Logical Integrity: from *Maximize Presupposition!* to *Mismatching Implicatures*
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• **My goal** is to argue for a novel generalization, called Logical Integrity (hf. LI), which gives a unified account of a broad class of acceptability patterns including *Maximize Presupposition!* effects (e.g., Percus 2006 a.o.), *Presupposed Ignorance* effects (Spector & Sudo 2017), and *Mismatching Implicature* effects (Magri 2009a,b). I will show that LI matches the good predictions of the competing theories and, on the basis of some novel evidence, I will argue that where LI diverges from other theories, its predictions are superior. • **The intuition behind LI is this:** it is unacceptable to use expressions that "obfuscate" logical boundaries. Roughly, if an expression β does not *logically* entail its alternative β', it ought not be used in a context in which it would *contextually* entail it.
• **Background assumptions:** The analysis is framed in a trivalent setting with the third truth-value '#' marking presupposition failure. If ϕ and ψ are sentences, I assume ϕ logically entails ψ, $\phi \vDash \psi$, iff $\forall w \in W : [\![\phi]\!]^w = 1 \Rightarrow [\![\psi]\!]^w = 1$ (where W is the set of all possible worlds) and ϕ contextually entails ψ in C, $\phi \vDash_C \psi$, iff $\forall w \in C : [\![\phi]\!]^w = 1 \Rightarrow [\![\psi]\!]^w = 1$ (where C is a Stalnakerian Context Set). This definition generalizes to property-denoting expressions straightforwardly. I will adopt Schlenker's (2009) theory of local contexts, assuming that to each (occurrence of each) constituent β of each sentence ϕ in each context C, a local context can be associated, $lc(C, \beta, \phi[\cdot])$.

• LI is built around a Core Condition, CC. **Definition:** An expression β violates CC with respect to β' in context C iff $\beta \nvDash \beta'$ but $\beta \vDash_C \beta'$. **Definition:** An expression β violates CC in C iff it has an alternative β', $\beta' \in \text{ALT}(\beta)$, w.r.t. which it violates CC in C. **The Principle of Logical Integrity (LI):** A sentence ϕ is unacceptable in context C if it contains a constituent β and $\exists \beta' \in \text{ALT}(\beta)$ such that (i) β violates CC w.r.t. β' in C and (ii) β' does not violate CC in C.

• *Maximize Presupposition!* (MP) states that given two alternatives ϕ and ψ that encode the same assertive content one must use the one that has the stronger presupposition, unless that presupposition is not known to be true. Since 'all' and 'both' encode the same assertive content (it is impossible for one to be true and the other be *false*), 'all Ns' is blocked if it is known that there are exactly two Ns. LI makes the same prediction here: the 'all'-sentence in (1) is odd because (i) it does not logically entail its 'both'-alternative (it is possible for the 'all'-sentence to be true and the 'both'-sentence to be undefined) but (ii) relative common knowledge 'all' contextually entails its 'both'-alternative (because it is assumed that people, by default, have exactly two arms).

(1) John broke {#all,✓both} of his arms.

But the predictions made by LI are in general a bit stronger and, as it happens, more adequate than MP. Consider (2), from Percus 2010.

(2) [Context: we have not established whether Mary has any students this semester, but it is common knowledge that as a rule she takes two students on at a time.] Mary will bring {#all,✓both} her students.

The oddness of the 'all'-sentence in (2) cannot be accounted for by MP because the presupposition of the 'both'-sentence is not known to be true. LI however makes the correct prediction: the context specified in (2) is still a context in which the 'all'-sentence contextually entails the 'both'-sentence.

• *Presupposed Ignorance* (PI) was proposed by Spector & Sudo 2017 to account for the oddness of cases like (3).

(3) [Context: all students smoke.] #John is unaware that some students smoke.

MP cannot account for the oddness of (3) because the 'some'-sentence does not encode the same assertive content as its 'all'-alternative: in a world in which all students smoke and John only believes that some students smoke, (3) is false but 'John is unaware that all students smoke' is true. According to PI a sentence is unacceptable in a context C as soon as it has an alternative which has a stronger presupposition ($\star$) which is satisfied. Since the 'all'-alternative of (3) has a stronger presupposition (namely, that all students smoke) which is satisfied in the context of (3), PI predicts (3) to be deviant. LI makes the same prediction: the 'some'-sentence in (3) does not logically entail its 'all'-alternative, but in the context specified in (3) it does so contextually. Therefore, (3) is predicted to be odd. But the predictions made by LI are in general superior. Consider (4).

(4) [Context: two students solved all of the math problems, the rest solved none.] Both students who solved {#some,✓all} of the math problems passed.

The two alternatives in (4) have logically independent presuppositions (exactly two students solved *at least* some of the problems vs. exactly two solved all of the problems). Therefore PI makes no prediction (see $\star$ above). Further, if we assume PI dictates a preference for alternatives with non-weaker presuppositions, we predict *both* alternatives in (4) to be odd. LI correctly predicts the contrast in (4). The 'some'-sentence is ruled out because it contains the constituent 'students who solved some math problems' which in the context of (4) contextually entails its alternative 'students who solved all math problems', therefore being ruled out by LI. The 'all'-sentence is acceptable because its only alternative, namely the 'some'-sentence, already contains a CC violation in its restrictor (as just pointed out), and therefore is not taken into consideration by clause (ii) of LI.

• Magri's (2009b) *Mismatching Implicatures* (MM) accounts for the contrast in (5) as follows. The 'some'-sentence is obligatorily parsed with an *exh* operator with the following property: for any $\psi \in \text{ALT}(\phi)$, if ψ can be negated without incurring a contradiction with the truth of ϕ (this is a simplification), then $exh\phi$ entails $\neg\psi$ iff ψ is relevant. He further assumes that if a sentence is used it is relevant and if two sentences are contextually equivalent, one is relevant iff the other is as well. Applied to (5), since the 'some'-sentence is used, it is relevant. Since it is contextually equivalent in the context of (5) with its 'all'-alternative (since the possibility of John giving an A to only some of his students is ruled out) the 'all'-sentence is relevant too. Further the 'all'-sentence can be consistently negated, therefore the 'some'-sentence in the context of (5) is obligatorily interpreted as John gave an A to some but not all of his students, contradicting the background assumptions.

(5) [Context: John always gives the same grade to his students.] This term, he gave {#some,✓all} of his students an A.

LI makes the same prediction: since the 'some'-alternative does not logically entail its 'all'-alternative, it cannot be used in the context of (5) since in that context it contextually entails the 'all'-alternative. But MM has an undesirable consequence. According to MM, for a negatable alternative to trigger a scalar implicature it is necessary and sufficient that the alternative be relevant. However, it is also a mainstream assumption that for an alternative ψ to trigger a primary implicature (that the speaker does not know that ψ) it is necessary that ψ be relevant. It immediately follows that negatable alternatives cannot trigger primary implicatures: either they are not relevant (no primary implicature, no scalar implicature) or they are relevant (scalar implicature). In the paper

I will argue that this problem cannot be solved by adopting a grammaticalized theory of primary implicatures *à la* Meyer 2013. I furthermore argue that, *contra* Magri, his account cannot be extended to *Maximize Presupposition!* and related effects. One example comes from *Presupposed Ignorance*. S&S observe that (6) is infelicitous.

(6) [Context: Mary lives in Paris.] #John is unaware that Mary lives in Paris or London.

LI predicts this immediately: (6) competes with 'John is unaware that Mary lives in Paris' which is logically non-weaker, but in the context of (6) it is contextually entailed by the disjunctive sentence in (6), hence oddness. MM cannot possibly capture this because the alternative 'John is unaware that Mary lives in Paris' is not one that *exh* is allowed to negate (it is not "innocently excludable").

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