Conditional antecedents are a typical licensing environment for negative polarity items (NPIs), which is commonly attributed to their nonveridicality (Giannakidou 1998) or scalar properties (von Fintel 1999). Both indicative and counterfactual conditionals (henceforth, ICs and CCs) license the NPIs such as ever/any. Here, we make the novel observation that attenuating NPIs (aNPIs) like sonderlich (‘particularly’) (1a) and all that (1b) are degraded in ICs compared to CCs. We propose a licensing mechanism based on Condoravdi (2010), Israel (1996), and Krifka (1995), and argue that the degradation in ICs is due to implicatures (i.e. conditional perfection).

1. Experiments (German: subject N=160, item N=12; English: subject N=75, item N=24).
To empirically confirm whether ICs with aNPIs are degraded, we conducted rating studies in German and English. Using a 2x2 design which manipulated the type of conditional (IC/CC) and the presence of the aNPI sonderlich/all that, subjects saw sentences like (1a/b) and rated their naturalness on a 1-7 scale. The results (Figs. 1+2) are: First, ICs with aNPIs are less natural than CCs in both languages (Bayes ordinal regression, Interaction effect: German: $\mathbb{E}(\mu)=0.58$, CrI=[-0.01, 1.19], $P(\delta>0)=0.97$; English: $\mathbb{E}(\mu)=0.48$, CrI=[0.16, 0.81], $P(\delta>0)=1$). Second, ICs with aNPIs are not rated as completely unnatural. Our proposal takes into account both findings.

2. Previous approaches. aNPIs like English much/all that, Japanese a(n)mari (‘very’), German sonderlich (‘particularly’)/so recht (‘really’), are called that as their presence renders a sentence attenuated or understating (Israel 1996). Israel assumes that aNPIs lexically specify a high “quantitative” and low “informativity” value, such that they are restricted to contexts in which the proposition with aNPI is entailed (in conditionals: Strawson-entailed (von Fintel 1999)) by a contextually salient alternative. The contrast in (1) is not discussed by Israel. Strawson-entailment, however, holds for both types of conditionals; the degradation of aNPIs in ICs is thus not predicted. Alternatively, the nonveridicality approach (Giannakidou 1998 et seq.) assumes that NPIs are licensed under nonveridical operators—such as ICs and CCs. A possible explanation for (1) would be that aNPIs are strong NPIs, i.e., only licensed in antiveridical contexts like sentence negation or CCs. However, this predicts a stronger-than-observed degradation in ICs and is incompatible with examples of aNPIs in nonveridical (2a) or downward entailing contexts (2b/c).

(2) a. Halte ihr den Satz für sonderlich gelungen?
   ‘Do you think the sentence is particularly well-formed?’ (DeReKo: WDD11/ P01.72378)

b. About glass surface buildings: (DeReKo: T09/MAR.03687)
   Wenige sind sonderlich einladend für den Betrachter draußen.
   Few are particularly inviting for the viewer outside.

c. ...., few [guests] are all that happy about having to pay extra for extended Wi-Fi access.
(https://www.trivago.ae/manchester-38961/hotel/travelodge-manchester-piccadilly-3509960)
3. Proposal. We closely follow Israel (1996), but present a formalization based on the proposal of Krifka (1995) a.o. that NPIs lexically trigger ordered alternatives, as well as Condoravdi’s (2010) version of scalar assertion. The preliminaries from the latter are:

(3) Strawson contextual update (Condoravdi 2010): c +\text{str} p = c \setminus \{w \in c \mid \llbracket p \rrbracket_w = 0\}

Informational strength (Condoravdi 2010): p’ is informationally no stronger than p iff for any context c, c +p +\text{str} p’ = c + p

We assume that aNPIs lexically introduce alternatives, such that the meaning of sonderlich, e.g., is equivalent to very (McNally 2016), but introduces lower degree alternatives, see (4). We propose that aNPIs are licensed under the condition in (5): In the first conjunct, this states that p is true in w. In the second conjunct, it states that there must be an alternative p’ such that there is a world compatible with context c where p’ is true and p’ is informationally stronger than p.

(4) $\llbracket$sonderlich$\rrbracket = \lambda G.\lambda x.[G(x) \geq d_{st(y \text{post}(G(x)))} \land \forall z \in \text{ALT}(x) [G(x) \sqsubseteq G(z)]$\]

(5) Licensing condition: $\{w \in c \mid w \in \llbracket p \rrbracket_c \land \exists p' \in \text{Alt}(p) (\exists w' \in c \mid w' \in \llbracket p' \rrbracket_c \land c + p +\text{str} p' \neq c + p\}$

A conditional with a NPI is less informative than the evoked alternatives (e.g., p (1b) is Strawson-entailed by p’). If the readers have liked the book (to some lesser degree), they will buy the sequel, such that both ICs and CCs in principle license aNPIs. Note that this matches the relatively high acceptance of both types of conditionals in the experiments. To account for the IC/CC contrast, we appeal to the presence of two implicatures—conditional perfection (CP) and the implicature to the falsity of the antecedent. CP is a highly common pragmatic inference that is arguably present in both ICs and CCs (Horn 2000:321). In perfected conditionals, however, aNPIs are no longer licensed: Under CP, given p, the alternative p’ must necessarily be false (and the other way around). In (1b), for instance, if buying the sequel is contingent on liking the book very/all that much, the alternative p’ that buying the sequel is contingent on liking the book (to some lesser degree) cannot also be true. The contextual update step yields c + p +\text{str} p’ = c + p +\text{str} \emptyset = c + p, contra the licensing condition above. This explains the data for ICs: They are degraded but not completely unnatural due to the pragmatic nature of the CP inference. Further tentative support for this proposal comes from non-perfectible premise conditionals such as (6), where aNPIs are acceptable even in ICs.

B: If the readers liked the book all that much, they will buy the sequel.

For CCs, we argue that CP inferences might still occur (while their extent remains to be investigated), but they can license aNPIs because they trigger a counterfactuality implicature about the antecedent (Anderson 1951; Iatridou 2000). This implicature, which cannot be cancelled easily (Arregui & Biezma 2016), creates a licensing environment (for (1b): The readers didn’t like the book all that much), such that aNPIs are better in CCs than ICs.

4. Conclusion. To summarize, we introduced the novel observation with cross-linguistic experimental evidence that aNPIs are sensitive to differences between indicative and counterfactual conditionals, a contrast that was unaccounted for by existing proposals. We presented an analysis that captures the data by assuming a scalar licensing mechanism that attributes the differences to pragmatic implicatures in conditionals. The validity of our proposal to other aNPIs and other languages is the subject of future work.


Figure 1: German Experiment

![German Experiment Graph]

Figure 2: English Experiment

![English Experiment Graph]