

Not very easy: towards the unification of scalar implicature and understatement

1. The issue. Sentences containing modified and unmodified gradable adjectives give rise to two distinct types of pragmatic inference. The first and better studied are **scalar implicatures**, which involve the negation of some stronger alternative. These are exemplified in (1) for positive sentences and (2) in negative sentences (here sometimes called “indirect scalar implicature”; Chierchia 2004):

- (1) a. The test was a bit difficult. \leadsto ... not extremely difficult
- b. The film was good. \leadsto ... not excellent
- (2) a. Anna wasn't very late. \leadsto ... late [=NOT not late]
- b. Success isn't certain. \leadsto ... possible [=NOT not possible]

The second type are **understating inferences**, involving strengthening to some stronger or more specific meaning. The clearest case of these is negative strengthening (Horn 1989), or “inference toward the antonym” (Ruytenbeek et al. 2017); see (3); but parallel inferences are also observed in positive sentences; see (4).

- (3) a. Anna isn't very tall. \leadsto ... not tall / rather short
- b. The film wasn't great. \leadsto ... not good / rather bad
- (4) The test was a bit difficult. \leadsto ... really difficult

In earlier work in pragmatics, these two interpretive patterns are viewed as complementary inferences arising from opposing conversational principles, a clear expression of this view being Horn's (1984) taxonomy of Q- vs. R-based implicatures, derived respectively from the Q-Principle (‘say as much as you can’), which gives rise to scalar implicatures, and R-principle (‘say no more than you must’), which gives rise to pragmatic strengthening (see also Levinson 1983). More recent work (e.g. Katzir 2007, Chierchia 2014) has however placed the focus squarely on scalar implicature and related phenomena, with little attempt to also capture strengthening (understating) inferences. Yet there is reason to believe that the treatment these two inferences should be unified. Understatement is closely linked to polarity sensitivity, the analysis of which has been aligned to that of scalar implicature (e.g. Chierchia 2014): many modifiers that invite a strengthened interpretation are polarity items (*much*, *pretty*) or semi-polarity items (*particularly*). Furthermore, Gotzner et al. 2018 find that in the adjectival domain, indirect scalar implicature and negative strengthening are negatively correlated – some strong/weak adjective pairs favor the former (*not certain* \leadsto *possible*) while others favor the latter (*not delighted* \leadsto *not happy*) – suggesting the two inference type compete with one another. In this work, I propose a unified system which is able to derive both.

2. Understatement as socially motivated. A well-established observation is that understatement, like other instances of R-based implicature, is to some extent socially motivated. Lakoff (1973) proposes a politeness principle of “Give Options”, i.e. give the addressee interpretive flexibility, which a speaker may follow by using a weaker expression to avoid the social awkwardness that would accompany the use of a stronger form. Likewise, Brown and Levinson (1987) list understatement as an ‘off the record’ politeness strategy which may be invoked for face management. And Horn (1989) describes negative strengthening in particular as “motivated by the goal of avoiding the direct assertion of some negative proposition in a context in which it would tend to offend the addressee, overcommit the speaker, or otherwise count as inappropriate.” The interpersonal nature of strengthening inferences is supported by recent experimental

work: In particular, Gotzner & Mazzarella (2021) find the frequency of negative strengthening to depend on the relative status of speaker and addressee, while Yoon et al. (2016) find an influence of perceived speaker interpersonal goals on the state of affairs inferred from the use of evaluative adjectives such as *good* or *terrible*. I take this social or interpersonal component of strengthening inferences to be central to their analysis.

3. Proposal. The starting point for the proposal is the observation that when speakers make assertions, they take on commitments or liabilities (Krifka 2014 a.o.). While these are typically proposed to be commitments to the truth of the asserted proposition p – perhaps involving belief that p is true, but minimally a commitment to being able to provide evidence in support of p – I propose that they also include liability for the social consequences of asserting p in context c (e.g. relating to speaker/hearer face; Brown & Levinson 1978). For concreteness, I assume commitments are represented semantically via an assertion operator ASSERT (Krifka 2014, as presented in Greenberg & Wolf 2018), which introduces the speaker’s commitments to the asserted proposition p into the common ground via the function *assert*.

(5) $\llbracket \text{ASSERT} \rrbracket = \lambda p. \lambda c. \lambda c'. c' = \langle c_{\text{sp}(\text{eaker})}, c_{\text{h}(\text{earer})}, c_t, C_w \cap \{w: \text{assert}(p)(c)\} \rangle$

(6) $\text{assert}(p)(c)$: the speaker sp takes on liability:

i. for the truth of p

a) sp believes p is true; b) sp is prepared to provide evidence supporting p to h

ii. for the social consequences of uttering p in context c to hearer h

This treatment of assertion is accompanied by a pragmatic principle that specifies that a proposition should not be asserted if there is a more informative alternative that could have been asserted (cf. Katzir 2007; alternately, the content of (7) could be incorporated into the definition of ASSERT in (5)).

(7) **Pragmatic Principle:** Do not assert p if there is a more informative alternative p' ($p' \succ_{\text{INF}} p$) that is assertable in the sense of (6)

The two varieties of pragmatic inference are derived via this principle. When a speaker asserts a relatively weak form (e.g. *a bit difficult*, *not great*), the hearer must reason why she did not instead assert a corresponding stronger form (e.g. *really difficult*, *bad*). If the reason is inferred to be that the speaker doesn’t believe that the stronger alternative is true, a scalar implicature obtains. Strengthening (understating) inferences in turn may arise via two routes: i) through reasoning that the speaker may believe the stronger alternative but not be prepared to provide evidence for it; ii) through reasoning that the speaker believes the stronger alternative but does not want the social consequences associated with asserting it in the given context (e.g. does not want to say something offensive to the hearer; does not want to appear overly confident or judgmental).

4. Summary. The present account derives both scalar implicatures and strengthening (understating) implicatures from the interpretive flexibility inherent to semantically weak forms, which allows the hearer to draw distinct types of inferences about why a stronger form was not used. In the talk, I discuss how this approach also accounts for other findings from the experimental literature, including the influence of politeness considerations on scalar implicature rates (Bonneton et al. 2009) and the connection between vagueness and the tendency towards negative strengthening vs. scalar implicature (Gotzner et al. 2018, Leffel et al. 2019); I further compare the present proposal to an alternative approach based on recursive exhaustification (cf. Meyer 2016 on the strengthening of disjunction).

References

- Bonnefon, J.-F, Feeney, A. & Villejoubert, G. When some is actually all: scalar inferences in face-threatening contexts. *Cognition* 112: 249-258.
- Brown, P. & Levinson, C. Politeness: Some universals in language use. Cambridge University Press.
- Chierchia, G. 2013. Logic in grammar. Oxford Univ. Press.
- Gotzner, N. & Mazzarella, D.. 2021. Face management and negative strengthening. *Frontiers in Psychology* 12:602997.
- Gotzner, N., Solt, S. & Benz, A. 2018a. Adjectival scales and three types of implicature. *Proceedings of SALT* 28.
- Greenberg, Y. & Wolf, L. 2018. Gradable assertion speech acts. *Proceedings of NELS* 48.
- Horn, L.R. 1984. Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature. In *Meaning, form and use in context* (pp. 11-42). Georgetown Univ. Press.
- Horn, L.R. A natural history of negation. University of Chicago Press.
- Katzir, R. 2007. Structurally-defined alternatives. *Linguistics and Philosophy* 30: 669-690.
- Krifka, M. 2014. Embedding illocutionary acts. In *Recursion: Complexity in cognition* (pp. 59-87). Springer.
- Lakoff, R. 1973. The logic of politeness, or minding your Ps and Qs. *CLS* 9.
- Leffel, T., Cremers, A., Gotzner, N., and Romoli, J. 2019. Vagueness in implicature. *Journal of Semantics*, 36:317–348.
- Levinson, S. 1983. Pragmatics. Cambridge University Press.
- Meyer, M.C. 2016. Generalized free choice and missing alternatives. *Journal of Semantics* 33:703-754.
- Ruytenbeek, N., Verheyen, S., and Spector, B. 2017. Asymmetric inference towards the antonym. *Glossa* 2:1–27.
- Yoon, E., Tessler, M.H., Goodman, N.C. & Frank, M.C. 2016. Talking with tact. *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.