Deriving scalar implicatures from a non-triviality constraint

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Note: *work in progress, may and probably does contain errors.*

1 Empirical overview

1.1 Positive scalar implicatures

Classic example of a scalar implicature:

(1) Donald Duck likes some of his nephews.
$\rightsquigarrow$ He does not like all of his nephews.

Established account: the inference in (1) is due to competition with (2), which is more informative. If (2) was true, the speaker should have said it. We can schematize this as in (3).

(2) Donald Duck likes all of his nephews.

(3) $\varphi \rightsquigarrow \neg\varphi^+$

The basic form of the modern account is in Sauerland 2004. Ingredients:

- *Alternatives:* when a scalar term like 'some' is used, it evokes certain alternatives like 'all'.
  - Based on lexical entailment scales like ⟨some, all⟩.
  - Based on a general notion of deletion and replacement (Fox and Katzir 2011).
- *Competition principle:*
  - (Neo-)Gricean account: speakers obey the maxims of Quality (they know that what they say is true) and Quantity (what they say is maximally informative).
  - Exhaustification (van Rooij and Schulz 2004, Fox 2007, Spector 2007a a.o.): formalization of an algorithm (possibly as a grammatical operator, cf. Chierchia et al. 2011) that implements the Gricean intuition without being bound by the Maxims.

A problem for the Gricean approach is the need for an *epistemic step*. By Quantity, the speaker should say φ^+ unless it violates Quality:

- Violating Quality means that the speaker does not know φ^+ to be true: $\neg K\varphi^+$.

- We actually infer that the speaker knows φ^+ to be false: $K\neg\varphi^+$.

Solutions:

- Stipulate the epistemic step (Sauerland 2004): inferences of the form $\neg K\psi$ (primary implicature) are strengthened into $K\neg\psi$ (secondary implicature) if no contradiction arises.

- Competence assumption (e.g. Spector 2007b): the default assumption is that the speaker is as informed as is compatible with their utterance (this could be framed as a "signal your ignorance" maxim).

A problem for some exhaustification approaches is that since they try to derive secondary implicatures directly, exactly in thoses cases where the epistemic step leads to a contradiction, they can predict contradictions or fail to derive primary implicatures. For instance, in (4), the two-step procedure of Sauerland (2004) leads to the desirable result that competition between (4) and (5a) and (5b) only leads to primary implicatures.

(4) Donald Duck likes Huey or Dewey.
⇝ The speaker is not certain that Donald Duck likes Huey.
⇝ The speaker is not certain that Donald Duck likes Dewey.

(5) a. Donald Duck likes Huey.
b. Donald Duck likes Dewey.

Another problem specific to the view of exhaustification as a grammatical operator is to explain why embedded implicatures in decreasing environments are (almost?) impossible, even when it would rescue a contradictory sentence. If (6) can be parsed as (7), it should be perfectly coherent.

(6) #I doubt that Donald Duck likes some/any of his nephews, because he likes all of them.

(7) *I doubt that EXH [Donald Duck likes some/any of his nephews], because he likes all of them.

Solution: constraints on the distribution of EXH (Fox and Spector 2018, Enguehard and Chemla 2021).

1.2 Indirect implicatures

In decreasing environments, it is the strong item that leads to a scalar implicature. This is expected, since the entailement relation between the scalemates is reversed in the decreasing environment: for instance ⟨some, all⟩ becomes ⟨not all, not some/any⟩.

(8) Donald Duck does not like all of his nephews.
⇝ He likes some of them.

(9) Everyone who meets all of Donald Duck's nephews likes them.
$\overset{?}{⇝}$ Not everyone who meets some of Donald Duck's nephews likes them.

These implicatures are known as "indirect implicatures" (Chierchia 2004). We can schematize the indirect pattern for negation as in (10).

(10) $\neg\varphi^{+} \rightarrow \varphi$

Indirect implicatures are problematic for the structural theory of alternatives offered by Fox and Katzir (2011). This is because the negation / decreasing operator should be eligible for delation or replacement with an increasing operator to form alternatives. This makes for too many alternatives, so that no implicature is predicted. This is known as the symmetry problem (see Breheny et al. 2018 for discussion).

1.3 Projective behaviour of scalar implicatures

The analytical options presented above allow for two things to happen when a scalar item is used in an embedded position:

- Implicatures are derived at the global level, by reasoning on whole sentences. (11) can implicate (11a). (12a) can entail (12b) without implicating anything notable.
- Implicatures are derived at the local level, contributing to the truth conditions of embedded clauses. (11) can implicate (11b). (12a) can fail to entail (12b), perhaps even implicate it to be false.

(11) Everyone who visits Donald Duck's house will meet some of his nephews.
  a. $\rightsquigarrow$ Not everyone who visits Donald's house will meet all of his nephews.
  b. $\overset{?}{\rightsquigarrow}$ Nobody who visits Donald's house will meet all of his nephews.

(12) a. Everyone who meets some of Donald Duck's nephews will like them.
  b. Everyone who meets all of Donald Duck's nephews will like them.

A number of cases do not fit either analysis:

- **Presupposed implicatures** (Gajewski and Sharvit 2012, Spector and Sudo 2017 a.o.): when the scalar item is in a factive environment, the implicature appears to be presupposed, consistent with a local derivation; see for instance (13).

  (13) Donald Duck knows that some of his nephews are in town.
  $\rightsquigarrow$ Not all of Donald's nephews are in town (and he knows that).

  However, if the environment is also decreasing, then while the implicature is still presupposed, it does not appear to contribute to truth conditions. The sentence in (14) presupposes the implicature-like inference in (14a), but also entails (14b).

  (14) Donald Duck is unaware that some of his nephews are in town.
    a. $\rightsquigarrow$ Not all of the nephews are in town.
    b. $\rightsquigarrow$ Donald thinks it's possible none of the nephews are in town.

  While I do not believe this has been noted, indirect implicatures project from anti-factive environments in a similar way. In (15), there is no position where inserting an exhaustification operator would lead to the observed inference.

  (15) Donald Duck wishes that all of his nephews were in town.
  $\rightsquigarrow$ Some of the nephews are in town.

- ***Some*-under-*some*** (Bassi et al. 2021): the sentence in (16) allegedly has a reading with the implicatures in (16a) and (16b), but not necessarily (16c) (which asymmetrically entails (16b) together with the assertion). However, depending on where the exhaustification operator is inserted, only a stronger reading where (a), (b) and (c) hold, or a reading where (16b) holds but not (16a) can be derived.

  (16) Some Duckburg residents like some of Donald Duck's nephews.
    a. ⇝ Not all residents like some or all of the nephews.
    b. ⇝ Some residents who like some of the nephews do not like them all.
    c. ⇝ No resident likes all of the nephews.

- **Distributivity:** use of a disjunction in the scope of a quantifier or modal leads to the inference that both disjuncts are verified by some elements of the domain of quantification.[1]

  (17) a. Every Duckburg resident likes Huey or Dewey.
    b. Some Duckburg residents like Huey or Dewey.
    c. Many Duckburg residents like Huey or Dewey.
    ⇝ Some residents like Huey and some residents like Dewey.

  (18) **Free Choice Inference** (FC):
    Donald can ask Huey or Dewey for help.
    ⇝ He can ask Huey and he can ask Dewey.

  (19) **Simplification of Disjunctive Antecedents** (SDA):
    If Donald gets help from Huey or Dewey, he will make it.
    ⇝ If Donald gets help from Huey, and also if Donald gets help from Dewey, he will make it.

  (20) Donald Duck hopes that Huey or Dewey will come help him.
    ⇝ Donald thinks Huey might come help him and he thinks Dewey might come help him.

  While distributive inferences under universal operators, as in (17a) can straightforwardly be analyzed as scalar implicatures, those under weaker operators or in restrictors (as for SDA) are more problematic.

  Some solutions for some cases include recursive exhaustification (Fox 2007) and inclusive exhaustification (Bar-Lev and Fox 2020). Blumberg and Goldstein (2021) propose to see the modal cases as deriving from local non-triviality constraints.

A commonality of all the cases above is that scalar implicatures appear to "project" in a way not dissimilar to presuppositions, rather than enter semantic derivation. Another way in which scalar implicatures seem similar to presuppositions is that, while they are usually new information, they do not appear to be fully at-issue, and expressive interjections cannot target them (Bassi et al. 2021, citing Russell 2012):

[1] A complication is that when it comes to quantifiers, Crnič et al. (2015) argue that the distributive inference takes the form "for each disjunct, some individuals verify that disjunct", while much of the literature assumes and derives the stronger "for each disjunct, some individuals verify that disjunct and not the other(s)".

(21) a. Crap! Only some of our students passed!
b. #Crap! Some of our students passed!

Bassi et al. (2021) take this last fact as well as *some*-under-*some* and presupposed implicatures to motivate a view where implicatures are always derived locally, but project like presuppositions. The main problem with this view — known as P-EXH — is that it predicts excessively strong inferences from various environments such as questions, conditional antecedents, restrictors, and the scope of various quantifiers.

1.4 Pre-primary implicatures (Magri cases)

Before we can proceed, we need to note that Donald Duck's three nephews, Huey, Dewey, and Louie, are triplets.

In cases where the implicature, taken together with the utterance, would contradict world knowledge, scalar terms are infelicitous. This extends to embedded uses of the offending clause.

(22) #Some of Donald Duck's nephews are orphans.

(23) #If some/any of Donald Duck's nephews are orphans, I hope he takes good care of them.

(24) #I doubt that some/any of Donald Duck's nephews are orphans.

(25) #Do you think that some/any of Donald Duck's nephews are orphans?

Interestingly, the same is true of the strong alternative:[2]

(26) #All of Donald Duck's nephews are orphans.

(27) #If all of Donald Duck's nephews are orphans, I hope he takes good care of them.

(28) #I doubt that all of Donald Duck's nephews are orphans.

(29) #Do you think that all of Donald Duck's nephews are orphans?

Magri (2009) discusses the "some" cases — especially some variant of (22) — and these have been known as "Magri cases" in the literature. Magri's theory goes as follows:

- The problem with (22) through (25) is an obligatory implicature, which leads to a contradiction with world knowledge. In embedded examples, that implicature is calculated over the embedded clause.
- The reason the implicature is obligatory is a conspiracy of factors:
  - (i) Implicature derivation (insertion of EXH) is always obligatory for every clausal constituent.

[2]These examples are carefully selected to allow for robust judgements. Magri (2011) lists some similar cases of "all" in a restrictor as felicitous; while I am not sure to share the judgement for his particular examples, it is certainly true that "all" is often better than "some" in the offending contexts. It seems that the size and determinacy of the quantification domain matter: the smaller and more determinate the domain, the less acceptable these cases are. For our purposes here it is sufficient to acknowledge that the strong item can sometimes be degraded in the same cases as the weak one.

(ii) Alternative selection is pragmatically determined: we only consider *relevant* alternatives. Non-selection of the strong alternative leads to no implicature, giving the illusion that EXH is absent (hence why implicatures are perceived to be optional).

(iii) Alternatives that are contextually equivalent to the utterance are necessarily relevant (closure condition on relevance).

Thus the problem with (22)-(25) is the contextually contradictory nature of the enriched sentence $\varphi \wedge \neg\varphi^+$. We will call the condition Magri's theory places on contexts the "pre-primary implicature", leading us to the following typology of scalar implicatures:[3]

(30) a. Primary implicature: $\Diamond_S \neg\varphi^+$
b. Secondary implicature: $\Box_S \neg\varphi^+$
c. Pre-primary implicature: $\Diamond_{CG}(\varphi \wedge \neg\varphi^+)$

One issue with Magri's theory is its reliance on relevance as the only way toward non-derivation of embedded implicatures: we are assuming that (6) does in fact have an EXH where indicated in (7), but the "all" alternative is "not relevant" (even though it is part of the greater utterance!).

- This seems far removed from any intuitive understanding of "relevance" — and if that is so, the closure condition is *ad hoc*.
- We can construct examples where this arguably places contradictory conditions on the context. Consider (31): since "know" is factive, it can only be used in a context where the embedded conditional is granted. But in such a context, by Magri's closure condition, the embedded implicature in the antecedent should be obligatory, which would make the embedded conditional contradictory. However, (31) is fine.

(31) Scrooge knows that if Donald likes some of his nephews, he likes all of them.

Magri's theory also does not explain the strong item deviance cases, which need to be accounted for some other way. This last problem is shared by the P-EXH version of Magri's theory, even though, as argued by Bassi et al. (2021), it does away with the need to assume some intuitively relevant propositions are not relevant.

2 A proposal

2.1 Weak implicatures as a non-triviality constraint

Magri's theory makes the prediction that weak scalar items should have a certain anti-presupposition, which we can state as follows (this is in a sense the contrapositive of Magri's prediction):

(32) **Scalar non-triviality**: use of a scalar item is only licensed if the resulting sentence is not contextually equivalent to those obtained from any scalemates in the same position.

[3] Here $\Diamond_D$ and $\Box_D$ are existential and universal quantifiers over the set of worlds D, S is the set of worlds compatible with the speaker's beliefs, and CG is the Common Ground. $\Box_S$ is what we have been writing as K earlier. $\Diamond_{CG}$ has essentially the truth conditions of "might" in Veltman's (1996) update semantics.

The scalar non-triviality constraint is conceptually related to various non-triviality constraints that have been discussed in the literature (see in particular Mayr and Romoli 2016 and references), with the added scalar comparative element. It predicts the ubiquity of what we have termed pre-primary implicatures.

Following Anvari and Chatain (2020), I propose to derive (secondary) implicatures from scalar non-triviality, rather than the other way round.

Notice that while the pre-primary implicature is very weak, it is sufficient (by design) to explain Magri cases, including those involving strong elements.

2.2 The strengthening mechanism: speaker intentionality

Unlike Anvari and Chatain (2020), I propose to derive the strengthening from pre-primary to secondary implicatures globally.

Ingredients:

- We assume a set of relevant propositions Φ.

  Information states can be ranked based on the degree to which they settle the relevant propositions:

  (33) $C_1 \geq_\Phi C_2$ iff $\{\theta \in \Phi : C_1 \vDash \theta \vee C_1 \vDash \neg\theta\} \subseteq \{\theta \in \Phi : C_2 \vDash \theta \vee C_2 \vDash \neg\theta\}$

- *Speaker authority:* the speaker is assumed to be presupposing some of their beliefs. They are speaking as if the CG was R, where $S \subseteq R \subseteq CG$. R is such that $R[\varphi]$ is defined and non-empty (where φ is the assertion).

- *Speaker intentionality:* the speaker is presupposing as much of their relevant beliefs as they can, in order to settle the propositions in Φ:

  (34) $\neg\exists R'. R'[\varphi] \neq \# \wedge R'[\varphi] \neq \varnothing \wedge R' \succ_\Phi R$

Based on the above, we can define a set of admissible restrictions $\mathcal{R}$. The addressee is licensed to conclude that the speaker believes the grand union of this set updated with the assertion:

(35) $\varphi \rightsquigarrow K\left(\bigcup\{R[\varphi] : R \in \mathcal{R}\}\right)$

Consider the basic ⟨some, all⟩ case. We abbreviate the "some" and "all" sentences as **some** and **all** respectively, and we define **sbna** $:=$ **some** $\wedge\, \neg$**all**. Suppose $\Phi = \{$**some**, **all**$\}$.

- Suppose the utterance is **some** and $R \subseteq CG$ is a restriction.
  - If $R \vDash \neg$**sbna**, then $R[$**some**$]$ is not defined and R is not suitable (by the pre-primary implicature).
  - If $R \nvDash \neg$**sbna** and $R \nvDash \neg$**all**, take $R' = R - [\![$**all**$]\!]$. $R'[$**some**$]$ is defined and non-empty, and R' settles Φ better than R. Thus R is not admissible.
  - In conclusion, $R \vDash \neg$**all** and therefore $R[$**some**$] \vDash$ **sbna**.

- If the utterance is **all**, by a similar reasoning, we can any choice of R must be compatible with **all** and with **sbna**. We can conclude that R entails **some**, but since this is entailed by the assertion, no inference is derived.

To deel with the indirect case, we have to address how to deal with cases where multiple potential sources of implicatures are present. Indeed, one might expect that negation is in competition with its absence.

- With *single replacement*, the utterance should be non-equivalent to any sentence obtained by replacing *one* scalar item.
  - Since the pre-primary implicature from the (non-entailment) scale $\langle \text{not}, \varnothing \rangle$ is satisfied in any non-empty context, the pre-primary implicature of $\neg$**all** and $\neg$**some** is just $\Diamond_{CG}$**sbna**.
  - From this point on, the reasoning is exactly as above, and we derive the implicature **sbna** for the assertion $\neg$**all**, and nothing special for $\neg$**some**.
- With *multiple replacement*, we require all sentences obtained by replacing any number of scalar items to be non-equivalent to the utterance.
  - The pre-primary implicature of $\neg$**all** and $\neg$**some** is $\Diamond_{CG}\mathbf{sbna} \wedge \Diamond_{CG}\neg\mathbf{sbna}$ (the second conjunct from the non-equivalence of **some** and $\neg$**all**).
  - A restriction R that is compatible with $\neg$**some** and **sbna** but not **all** can be verified to be admissible. This means that no implicature will be derived.
- A third option not available to exhaustification theories other than P-EXH is that the pre-primary implicature of the more embedded items should project to its local context (Schlenker 2009). If the higher operator is negation, this is equivalent to single replacement (the local context below negation is the global context).

Thus,the indirect implicature **sbna** from $\neg$**all** is derived as desired as long as multiple replacement is not assumed. This is an instance of the symmetry problem, which also holds for exhaustification approaches (see discussion in Breheny et al. 2018.

We can also consider the case of a simple disjunctive sentence, abbreviated as $\mathbf{A} \vee \mathbf{B}$. We assume that $\Phi = \{\mathbf{A}, \mathbf{B}, \mathbf{A} \wedge \mathbf{B}\}$.

- From the scales $\langle \mathbf{A} \vee \mathbf{B}, \mathbf{A} \rangle$ and $\langle \mathbf{A} \vee \mathbf{B}, \mathbf{B} \rangle$, we derive the following pre-primary implicature:

(36) $\mathbf{A} \vee \mathbf{B} \rightsquigarrow \Diamond_{CG}(\mathbf{A} \wedge \neg\mathbf{B}) \wedge \Diamond_{CG}(\mathbf{B} \wedge \neg\mathbf{A})$

- Take R a suitable restriction. By the pre-primary implicature R is compatible with $\mathbf{A} \wedge \neg\mathbf{B}$ and $\mathbf{B} \wedge \neg\mathbf{A}$. The intersection R' of R with $[\![\neg(\mathbf{A} \wedge \mathbf{B})]\!]$, is such that $R'[\mathbf{A} \vee \mathbf{B}]$ is defined and non-empty, and settles $\mathbf{A} \wedge \mathbf{B}$ (which is in Φ). One can verify that for R to not be worse than R', R must also settle $\mathbf{A} \wedge \mathbf{B}$, which can only happen if $R \vDash \neg(\mathbf{A} \wedge \mathbf{B})$.

Thus we derive the desired implicature $\neg(\mathbf{A} \wedge \mathbf{B})$. [4] We do not derive the primary implicature directly: we need to add the assumption that the update settles the question to the exact degree the speaker's beliefs do.

[4] We could also in principle derive it from the assumption that the only active scale is $\langle \vee, \wedge \rangle$, from which the pre-primary implicature $\Diamond_{CG}(\mathbf{A} \oplus \mathbf{B})$ follows. This would lead to weaker distributive inferences in embedded cases (see below). Notice however than unstressed 'and' does not trigger a pre-primary implicature; (i) is completely acceptable.

(i) Huey and Dewey and Louie are orphans.

2.3 Extension to embedded cases using local contexts

As noted above, when multiple implicature triggers are present, it is natural to assume that the pre-primary implicatures of more deeply embedded items project to the local context (Schlenker 2009). For quantifiers, this results in a systematic "existential projection" of the embedded implicature: there is *some* element in the restrictor that satisfies the strengthened scope.

Here are the meanings derived through this projection approach, compared to those obtained from a global application of the theory with single or with multiple replacement, for the following sentences:

(37) a. Some Duckburg residents like some of Donald's nephews. (**some some**)
b. Some Duckburg residents like all of Donald's nephews. (**some all**)
c. All Duckburg residents like some of Donald's nephews. (**some all**)
d. Many Duckburg residents like some of Donald's nephews. (**many some**)
e. Many Duckburg residents like all of Donald's nephews. (**many all**)
f. No Duckburg residents like all of Donald's nephews. (**none all**)
g. Few Duckburg residents like ??some/any of Donald's nephews. (**few some**)
h. Few Duckburg residents like all of Donald's nephews. (**few all**)

Assumptions:

- The set of residents is constant in the CG.
- $\Phi = \{x \text{ likes } y : x, y\}$
- 'None' is underlyingly 'not some/any' and 'few' is underlyingly 'not many'.
- 'many' competes with 'some' and 'all', but not the other way round.

Assertion	Global (MR)	Global (SR)	Local
some some	**sbna some** ∧ ¬**some all**	**sbna some** ∧ ¬**some all**	**sbna some** ∧ **some sbna**
some all	ψ_0 (see below)	**some all** ∧ **some sbna**	**some all** ∧ **some sbna**
all some	**all some** ∧ ¬**some all**	**all some** ∧ **some sbna**	**all some** ∧ **some sbna**
many some	**mbna some** ∧ ¬**some all**	**mbna some** ∧ ¬**many all**	**mbna some** ∧ **some sbna**
many all	**many all** ∧ ¬**all some**	**mbna all**	**mbna all** ∧ **some sbna**
none all	**none all** ∧ **sbna some**	**none all** ∧ **some some**	**none all** ∧ **some some**
few some	**sbnm some**	**sbnm some**	**sbnm some** ∧ **some sbna**
few all	**few all** ∧ ¬**all some**	**sbnm all** ∧ **many some**	**sbnm all** ∧ **some sbna**

Note: ψ_0 = **some all** ∧ **some sbna** ∧ ¬**all some**.

While the global MR approach arguably goes off the rails, the local approach predicts some desirable "weak" readings like Bassi et al.'s (2021) "some-under-some" or a lack of strengthening from 'many φ' to 'not many φ'. The global SR approach meanwhile gives similar results as an exhaustification theory would.

The local theory also predicts the ubiquity of purely existential distributive inferences:

(38) a. Some Duckburg residents like Huey or Dewey.
b. All Duckburg residents like Huey or Dewey.
c. Many Duckburg residents like Huey or Dewey.

d. Few Duckburg residents like Huey or Dewey.
⇝ Some like Huey and not Dewey, and some like Dewey and not Huey.

3 Further developments

3.1 Distributive inferences in (some) modal environments

When a disjunction is embedded under a modal, a distributive inference obtains. In the case of possibility modals (where exhaustification does not derive them straightforwardly), and sometimes in the other case too, this inference is known as Free Choice (FC).

(39) **Free Choice:**

a. Donald can ask Huey or Dewey for help. ($\Diamond^*(A \vee B)$)
b. Donald must ask Huey or Dewey for help. ($\Box^*(A \vee B)$)
⇝ He can ask Huey and he can ask Dewey. ($\Diamond^* A \wedge \Diamond^* B$)

(The star superscript indicates that the modal quantifies over best worlds, in a way that depends on the world of evaluation.)

The local context theory predicts a pre-primary implicature bearing on the set of conceivable best worlds:

(40) $\Box^* / \Diamond^*(A \vee B) \rightsquigarrow \Diamond_{CG} \Diamond^*(A \wedge \neg B) \wedge \Diamond_{CG} \Diamond^*(B \wedge \neg A)$

- It is sufficient for $\Diamond^* A$ and $\Diamond^* B$ to be in Φ to derive the Free Choice inference in both cases.
- However, there is no clear way to derive $\neg\Diamond^*(A \wedge B)$ (which has also been argued to be present).

3.2 Some challenges

- The non-scalarity constraint clearly predicts that 'some or all' should be impossible.
- While we derive with the local approach some "weak" readings that seem desirable, some "strong" readings that have been argued to justify multiple replacement or embedded exhaustification are missing, e.g. universal strengthening under universals. It appears that we would like a pathway to some kind of universal projection below quantifiers.

  Open question (to me): is there another theory of how anti-presuppositions might project than local contexts?
- The pre-primary implicature is arguably sufficient to predict distributive inferences under attitudes (cf. Blumberg and Goldstein 2021). However, we do not explain why implicatures triggered in the scope of factive attitudes appear to project to both the global context and the attitude holder's beliefs (see Section 1.3).

  Note that there is some discussion around what the local context created by attitudes is; see for instance Blumberg and Goldstein 2023.

- All this does not explain why scalar items can in some cases have probabilistic inferences: not just "it is *a priori* conceivable that such and such" but "it is *a priori* likely that such and such"; see Enguehard and Spector 2021 for the 'some'/'not all' alternation, Enguehard 2025 for number marking on indefinites.

  (Note: while I didn't discuss number marking here, the "conceivability presupposition" discussed in Enguehard 2025 is exactly scalar non-triviality applied to number marking; its existence is consistent with the view that number inferences are implicature given the data on Magri cases discussed here.)

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