Ineffability and Unexhaustification[1]

Patrick D. ELLIOTT — *ZAS*
Uli SAUERLAND — *ZAS*

Abstract. Maximize Presupposition seems to apply globally in some cases, but locally in others. Singh's (2011) account resolves this tension, but makes crucial use of dynamic semantics. We observe that an alternative static account is possible based on the principle AVOID INEFFABILITY!. The principle licenses non-local application of maximize presupposition if and only if the structure is otherwise ineffable. After presenting our analysis, we move on to discuss cases where our account and Singh's make different predictions. Focusing on inferences associated with *wh*-questions in Spanish, we argue that our static account makes the correct predictions, while Singh's dynamic account does not.

Keywords: presupposition, implicature, dynamic semantics, Spanish, projection.

1. Introduction

In this paper, we aim to provide an analysis of Maximize Presupposition! (MP) inferences (Heim 1991), that resolves the tension between the need for global and local application. We couch our analysis in terms of a grammatical operator **exh**, which we take to be responsible for MP inferences, following Magri (2009) and Marty (2017). We go on to propose a novel principle governing the distribution of **exh**: AVOID INEFFABILITY!, which, we argue, successfully accounts for the distribution of global vs. local MP inferences. In the final part of the paper, we compare our account to an existing account of local vs. global MP inferences – namely, Singh's (2011) dynamic account of *Maximize Presupposition!*. Building on data from Spanish *wh*-questions from (Maldonado, 2017), we argue that AVOID INEFFABILITY! makes superior predictions to Singh's dynamic account in cases involving more than two presuppositional alternatives.

In this paper, we point out some issues with Heim's (1991) principle of MP, when conceived of as a reflex of grammatical exhaustification (Magri 2009, Marty 2017). In the first part of the paper, we point out that the grammatical theory does not obviously capture the epistemic status of MP inferences. We propose a fix with two components: (i) Meyer's (2013) Matrix K operator, and (ii)) a novel principle governing licit Logical Forms – AVOID INEFFABILITY!. In the second part of the paper, we present independent evidence for AVOID INEFFABILITY! from constituent questions in Spanish.

2. Background

2.1. Global *Maximize Presupposition!*

We begin by considering the original formulation of MP of Heim's, in (1).[2]

(1) MAXIMIZE PRESUPPOSITION!
Make your contribution presuppose as much as possible!

[1]We'd like to especially thank Andreea Nicolae and Paul Marty for useful comments as feedback, as well as audiences at SuB 23 and ZAS. We're grateful for financial support from grant DFG SA 925/11-2 LISI.

[2]It is important to keep in mind that maximize presupposition is furthermore restricted to constrained sets of alternatives.

Originally introduced by Heim (1991) in the discussion of definiteness, work by Sauerland (2002, 2003, 2005, 2008a) showed that the principle can account for data in a number of other domains (tense, number and other ϕ-features, focus, and quantifiers). Let's briefly illustrate how MP accounts for the oddness of certain sentences. Consider the examples below (adapted from Singh 2011). In each case, the (b) example if presuppositionally stronger than the (a) example. Furthermore, the presupposition of the (b) example is entailed by the common ground. The principle in (1) therefore correctly predicts that, in each case, the (a) example is unusable – via Gricean reasoning, the (a) examples imply the speaker does not believe that the presupposition of the (b) example is satisfied, which clashes with the common ground.

(2) a. #A sun is shining

b. The sun is shining.[3]

(3) a. #All of John's eyes are open.

b. Both of John's eyes are open.[4]

(4) a. #John thinks that Paris is in France.

b. John knows that Paris is in France.[5]

(5) a. #The suns are shining.

b. The sun is shining.[6]

In this paper, we are concerned with the interaction between quantification and the application of MP. In early work on MP, MP was assumed to apply globally at the level of the speech act and therefore take scope over every quantifier in a sentence. Since global application predicts differences between inherent and implicated presuppositions, this pattern of interaction between quantifiers and MP was used as a diagnostic for the latter. Consider for example the pair of examples in (6) from Sauerland (2002): Sauerland claimed that the inherent presupposition of the past tense applies to every Tuesday interval of this month and therefore (6b) could also be used at utterance times that are in the past of all Tuesdays of this months. The present tense, however, would only carry an implicated presupposition that the evaluation time contain the speech time. Consequently, the analysis predicts that (6a) could be used at any time up to and including the last Tuesday of this month.[7]

[3]Presupposes uniqueness.
[4]Presupposes duality.
[5]Presupposes truth of the embedded proposition.
[6]Presupposes uniqueness.
[7]See Thomas (2014) for a detailed critique of Sauerland's argument.

(6) a. Every Tuesday this month, I fast.

b. Every Tuesday this month, I fasted.

The argument assumes that tenses are temporal variables that can carry a presupposition following Heim (1994), and are alternatives for the purposes of MP. Outside the scope of quantifier the presuppositions of past and present are therefore predicted to be mutually exclusive regardless of whether past is lexically specified as before-the-utterance-time and present vacuous or whether past is vacuous and present is lexically specified as non-before-the-utterance-time. But in the scope of a quantifier the predictions of these two analyses diverge if (and only if) MP applies globally. Global application of MP predicts that if the range of the quantifier contains some past and some present intervals, the vacuous tense should be used. This assumption and the observation that (6a) can be used when some Tuesdays are already past lead Sauerland to conclude that the present tense must be vacuous. The divergent behavior of implicated presuppositions that global MP predicts is observed also with number and other ϕ-features (Sauerland, 2003, 2008b) and with definiteness (Sauerland, 2003).

The epistemic status of implicated presuppositions can be viewed as a further case of global MP, in light of Meyer's (2013; 2014) grammatical analysis of ignorance. Heim (1991) observes that the inference derived from MP has a weak epistemic status in example (7). Specifically, Heim points out that the definite (8) allows us to infer that the speaker is *certain* that there is a unique 20 ft. catfish – this is what we expect based on its status as a presupposition. (7) is different: we can only infer: it's not the case that the speaker is certain that there is a unique 20 ft. catfish. It is compatible with (a) the speaker being certain that there is more than one 20 ft. catfish, or (b) the speaker is not certain whether or not there is more than one.

(7) Robert caught a 20 ft. catfish.

(8) Robert caught the 20 ft. catfish.

Heim's (1991) global account predicts that speakers should use the marked form, namely the definite (8), whenever they are certain that its presupposition is satisfied, but speakers should use the unmarked form, the indefinite (7), either if they are uncertain whether the presupposition of the marked form is satisfied, or if they are certain that the presupposition of the marked form is *not* satisfied.[8] Heim's observation reduces to global application of MP, once one adopts Meyer's (2013; 2014) *Matrix K axiom*.

(9) **Matrix K Axiom** (Meyer, 2014: p. 583)
Assertion of ϕ is parsed as $K_s\phi$ at LF.

The Matrix K Axiom states that all assertively uttered sentences are covertly modalized by an operator K_s anchored to the beliefs of the speaker s. K is taken to universally quantify over

[8] In later work, Heim's observation is related to the epistemic step with scalar implicatures Sauerland (2004) introduced, e.g., Chemla (2008).

the speaker's doxastic alternatives, much like the attitude verb *believe*. The LF we assume for Heim's (1991) example, used to motivate the epistemic status of implicated presuppositions, is given below. Note that we assume here that MP is a reflex of a covert operator **exh**, following Magri (2009) and Marty (2017).

(10) **exh** K_s [Robert caught a 20 ft. catfish]

Due to independently known facts concerning how presuppositions project through attitudes (Heim 1992),[9] the alternative to the sentence above, namely K_s *[Robert caught the 20 ft. catfish]* is predicted to presuppose that the speaker believes that there is a unique 20 ft. catfish. Applying MP within the scope of Meyer's K_s operator therefore predicts that the strengthened presupposition of the sentence should be the negation of the aforementioned presupposition. The sentence as a whole is correctly predicted to presuppose that it's not the case that the speaker believes that there is a unique 20 ft. catfish. A stronger presuppositional implicature – namely, that the speaker believes there is not a unique 20 ft. catfish, is derived if **exh** is inserted below K_s. In this way, purely global application of MP makes a number of correct predictions. But we discuss problems for global MP in the next section.

2.2. Local *Maximize Presupposition!*

Percus (2006) observed that examples like (11) pose a problem for a formulation of MP as a global maxim, applying at the level of the speech act.

(11) a. Everyone with exactly two students
assigned the same exercise to both of his students.

b. #Everyone with exactly two students
assigned the same exercise to all his students.

If we apply the principle MP to (11a), the predicted presupposition (via universal projection) is: *everyone with exactly two students has exactly two students*. (11a) therefore presupposes a tautology, and is not globally presuppositional. For this reason, (11a) and (11b) should not compete for the purposes of MP. But, intuitively, we want to conjecture that it is the presence of the presuppositionally weaker competitor *all* in (11a) which is responsible for the unusability of the sentence. It seems undesirable to posit a new principle to explain cases like (11).

The contrast between global and local application of MP is also observed with indefinites and plurals. Consider the following examples: (12a) requires local MP as in Percus's example, but (12b) seems false since the Earth and its single moon falsify the assertion and hence requires global MP.

[9]We assume here that presuppositions project through K_s in the same way as they project through attitude verbs such as *believe* – that is to say, the sentence *x believes* ϕ presupposes that *x* believes the presuppositions of ϕ.

(12) a. If a planet has a single moon, {the moon of it is|#the moons of it are|#a moon of it is} almost ice free.

b. {A moon of every planet is|Every planet's moons are} totally covered in ice.

Singh (2011) was the first to propose that MP applies *locally*, to subsentential constituents.[10] For the following discussion, we adopt Magri's (2009) formalization of local MP as a reflex of the grammatical exhaustivity operator **exh**. Magri's approach to presupposition is couched in terms of the bidimensional theory of Karttunen and Peters (1979).[11] A sentence ϕ denotes a pair, consisting of its presupposition ϕ_{prs} and its assertion ϕ_{asr}.

(13) $[\![\phi]\!] = \langle \phi_{prs}, \phi_{asr} \rangle$

The presuppositional formulation of **exh** is given in (14). It takes a sentential prejacent ϕ, and returns a pair consisting of ϕ's *strengthened* presupposition, and ϕ's *strengthened* assertion.

(14) $[\![[\textbf{exh}_{\text{MP}}\ \phi]]\!] = \langle \text{EXH}_{prs}(\phi_{prs}), \text{EXH}_{asr}(\phi_{asr}) \rangle$

Since we'll be focusing exclusively on the presuppositional dimension, we only provide the algorithm here for deriving the strengthened presupposition.

(15) **Strengthened Presupposition**

a. $\text{EXCL}_{prs}(\phi) = \left\{ \psi \in \text{ALT}(\phi) : \phi_{prs} \rightarrow \psi_{prs} \right\}$

b. $\text{EXH}_{prs}(\phi) = \phi_{prs} \wedge \forall \psi [\psi \in \text{EXCL}_{prs}(\phi) \rightarrow \neg \psi_{prs}]$

(15) says, essentially, that the strengthened presupposition of ϕ is derived by negating every alternative to ψ, such that the presupposition of ψ is logically non-weaker than the presupposition of ϕ.[12] Let's see how presuppositional **exh** accounts for Percus's problematic example:

(16) [② [Everyone with exactly two students]
λx ① **exh** [x assigned the same exercise to all his students]]

[10] We do not adopt the specifics of Singh's proposal here as it does not seem sufficiently general for our purposes. But Singh's use of Stalnakerian local contexts is relevant later.

[11] There are some well-known problems with approaches such as this which divorce the assertive and presuppositional components of meaning completely. See Marty (2017) for a complete reformulation of Magri's presuppositional **exh** in terms of a partial semantics for presupposition. As far as we can see, the bidimensional formulation of **exh** suffices for our purposes, so we adopt it for its expository simplicity.

[12] This definition elides several important implementational details, such as the algorithm for computing alternative. We address these points as they come up.

(17) a. $[\![x \text{ assigned the same exercise to all his students}]\!]$ [13]

$$= \left\langle \begin{array}{l} \emptyset, \\ x \text{ assigned the same exercise to all his students} \end{array} \right\rangle$$

b. $[\![x \text{ assigned the same exercise to both his students}]\!]$ [14]

$$= \left\langle \begin{array}{l} x \text{ has exactly two students}, \\ x \text{ assigned the same exercise to all his students} \end{array} \right\rangle$$

(18) $[\![①]\!] = \left\langle \begin{array}{l} x \text{ does not have exactly two students} \\ x \text{ assigned the same exercise to all his students} \end{array} \right\rangle$ [15]

(19) $[\![②]\!]$ [16]

$$= \left\langle \begin{array}{l} \text{everyone with ex. 2 students does not have ex. 2 students} \\ \text{everyone with ex. 2 students assigned the same exercise to all...} \end{array} \right\rangle$$

Treating MP as the reflex of **exh** has a number of advantages over other accounts of MP inferences. Aside from straightforwardly accounting for local MP inferences, it accounts for a number of parallels between scalar implicatures and MP inferences: (i) Both scalar implicatures of MP inferences involve strengthening relative to logically non-weaker alternatives; for implicatures, the alternatives are assertive, for MP inferences, they are presuppositional. (ii) MP inferences seem to be both obligatory, and blind to the common ground (see the examples at the beginning of the paper). Magri has argued that scalar implicatures exhibit this behaviour too; (20) gives rise to an obligatory scalar implicature, despite the fact that the implicature clashes with the common ground.

(20) #Some Italians are from the same country.[17]

We observe a similar effect with MP inferences:

(21) #Rome is a capital city of Italy.[18]

---

[13] The prejacent of **exh** is non presuppositional.

[14] The alternative presupposes duality.

[15] Since the presupposition of the alternative is (vacuously) logically non-weaker than that of the prejacent, **exh** returns its negation as the strengthened presupposition of its prejacent.

[16] In line with standard assumptions about presupposition projection, the strengthened presupposition of the prejacent projects universally through the universal statement. The predicted global presupposition is a contradiction!

[17] Implicates: *Not all Italians are from the same country.*

[18] Implicates: *There is no unique capital city of Italy.*

On the basis of these parallels, following Marty (2017) we refer to MP inferences as *presuppositional implicatures* in the following.

2.3. Aligning Global and Local: AVOID INEFFABILITY!

But hey, wait a minute – in order to account for Percus's data, **exh** should apply obligatorily, in a blind fashion, to every possible subsentential node. There should only be one possible LF for Heim's example, namely (22). We need a principle which blocks (22) in a context where the speaker is not sure that the presuppositions of the alternative are *not* satisfied.

(22) **exh** K_s **exh** [Robert caught a 20 ft. catfish]

Singh (2011) makes a proposal that is applicable to this and the other cases of global MP we discussed above. Specifically, Singh introduces an antipresuppositional admittance condition within a theory of presupposition based on local contexts. Singh crucially doesn't make use of a grammatical operator to generate implicated presuppositions, but instead employs two conditions: *Local* MP and *Context Admittance*.

(23) a. *Local* MP
Check that MP is satisfied for each S embedded in ϕ in Ss local context c'.

b. *Context Admittance*
A context c admits a sentence S just in case each of the constituent sentences of S is admitted by the corresponding local context.

Consider Singh's (p. 163) discussion of a relevant example. Singh points out that $+x_i$ *submitted all his papers* is blocked by Local MP when the condition of $+x_i$ *submitted both his papers* is met.

(24) a. Every x_i; x_i a candidate, x_i submitted all of his papers.

b. Every x_i; x_i a candidate, x_i submitted both of his papers.

Because the dynamic condition takes the sentential context into account, it also predicts Percus's cases of local MP: In the following example, $+x_i$ *submitted all his papers* is evaluated at a point when all local contexts contains on assignments that map x_i to a candidate that has written exactly two papers. Hence MP is violated.

(25) Every x_i; x_i a candidate, x_i has exactly two papers, x_i submitted all of his papers.

Singh's conditions successfully accounts for the contrast between the cases of apparent global and local application of MP by extending the dynamic account of presupposition satisfaction. Singh's account must take into account all available contexts when MP is computed locally. In this, it goes beyond the power required by Heim's account of presupposition projection which

is fully intersective, in the sense of Rothschild and Yalcin (2017). Our contribution is to show that instead of Singh's non-intersective account, an intersective account of MP is possible and, as we show in the final section, makes a better empirical prediction at least in one case.

We propose the following constraint AVOID INEFFABILITY!, which allows **exh** to be *deactivated*, just in case application of **exh** predicts a presupposition failure for a sentence and *all of its alternatives*.

(26) AVOID INEFFABILITY!: Deactivation of n occurrences of $\mathbf{exh}_{\mathbf{MP}}$ to $\sout{\mathbf{exh}}_{\mathbf{MP}}$ in an LF ϕ is licit in a context C iff:

a. there is no other LF ψ in ALT(ϕ), such that ϕ and ψ are Strawson-equivalent

b. C satisfies the presuppositions of ψ

c. ψ contains at most $n-1$ occurences of $\sout{\mathbf{exh}}_{\mathbf{MP}}$.

The intuition we wish to cash out is as follows: imagine we're in a scenario where the speaker is uncertain whether there exists a unique catfish; maybe there does, maybe there doesn't. In such a scenario, neither (27), nor its alternative (28) is usable. In such a case, the constraint in (26) allows *deactivation* of the embedded occurrence of **exh** in (27), resulting in (29).

(27) **exh** K_s **exh** [Robert caught a 20 ft. catfish]

(28) **exh** K_s **exh** [Robert caught the 20 ft. catfish]

(29) **exh** K_s $\sout{\textbf{exh}}$ [Robert caught a 20 ft. catfish]

Our proposal, in a nutshell is that, in order to reconcile the grammatical approach to presuppositional implicatures with their epistemic status, we need to posit an apparently ad-hoc constraint which allows **exh** to be deactivated under certain circumstances. Like Singh's, our account introduced an additional condition to account for the global MP data. We argue in the next section that further evidence from *wh*-questions in Spanish follows from our Avoid Ineffability condition, but seems problematic for Singh's proposal.

3. The presuppositions of *wh*-questions

In the case above, we were dealing with just two alternatives, ordered by presuppositional strength. Once we start dealing with more than two alternatives ordered by presuppositional strength, AVOID INEFFABILITY! makes different predictions from Singh's proposal. Our case: Interrogative pronouns in Spanish (building on Maldonado 2017, and joint work with Andreea Nicolae – Elliott et al. 2018).

The abstract structure of the case as follows: there are three alternative forms, one of which, A_{12} has two presuppositions p_1 and p_2, the other one, A_1, has only presupposition p_1, and the third one, A_0, has no relevant presupposition at all. Then A_1 when locally exhaustified as (30a)

has the presupposed implicature that $\forall x\ \neg p_2(x)$. Assume now that actually $\forall x\ \neg p_2(x)$ is false and $\forall x\ \neg p_1(x)$ is true. Then Singh's proposal predicts that the use of A_2 should be licit. AVOID INEFFABILITY!, however, is not satisfied in this scenario because A_0 as in (30a) is available.

(30) a. **exh** $\forall x$. **exh** $A_1(x)$ _ **exh** $\forall x$ ~~**exh**~~ $A_1(x)$ _ **exh** $\forall x$. **exh** $A_0(x)$

Consider briefly the possible example of English gender marking in dialects that reject the use of the masculine form as a default (i.e. where *every student enjoyed themself* is used rather than *every student enjoyed himself.*). Could this be a case with the abstract structure we are looking for. The feminine form carries the presuppositions of singular and feminine, the masculine form only singular, and the plural form carries no relevant presupposition (Sauerland, 2008b). The use of *him* with a mixed-gender group requires structure (30a), but structure (30a) avoids ineffability too, and therefore (30a) can be blocked. However, this example is further complicated by the fact that (30a) should also trigger an presuppositional implicature of number. This may be behind the different dialectal preferences, but leads us to put the example aside for the time being and focus on Spanish *wh*-expressions.

3.1. Background assumptions

In Spanish, singular simplex *wh*-expressions do not carry a uniqueness presupposition, whereas plural simplex *wh*-expressions nonetheless carry an anti-singleton inference. Anti-singleton inferences are derived as presuppositional implicatures, via competition with a competitor with a uniqueness presupposition.

(31) Qué chico se fue pronto?
Which boy.SG REFL left early?

a. John left early.

b. #John and Bill left early.[19]

(32) Qué chicos se fueron pronto?
Which boy.PL REFL left early?

a. #John left early.

b. John and Bill left early.[20]

(33) Quién se fue pronto?
Who.SG REFL left early?

a. John left early.

[19]Spanish singular *which*-Q: ✓UP
[20]Spanish plural *which*-Q: ✓ASI

b. John and Bill left early.[21]

(34) Quiénes se fueron pronto?
Who.PL REFL left early?

a. #John left early.

b. John and Bill left early.[22]

Furthermore, we assume that interrogatives obligatorily compose with Dayal's (1996) answerhood operator.

(35) $\text{ANS}_w(Q) = \iota p \in Q[p(w) \wedge \forall p' \in Q[p'(w) \rightarrow p \subseteq p']]$

We use this data to motivate two entries for the singular simplex *wh*-expression: a presuppositionally weaker entry, ranging over quantifiers, and a phantom, presuppositionally stronger entry, ranging over atoms. The phantom entry is only detectable by virtue of the MP inference. We therefore have a three-way competition between simplex *wh*-expressions in Spanish:

- *quien*$_{\langle et,t\rangle}$.SG: does not presuppose existence of any individual (hence any answer)
- *quienes*$_{\mathsf{e}}$.PL: presupposes existence of an individual (hence an answer)
- *quien*$_{\mathsf{e}}$.SG: presupposes the unique existence of an individual (hence the existence of a unique answer involving an individual)

3.2. Analysis

Maldonado (2017) observes that simplex *wh*-expressions have the following distribution in an uncertainty scenario (data from Maldonado). The acceptability of each example is judged relative to a context in which Juan is expecting at least one friend to come to the party, but two or more might also come

(36) *Juan no sabe* { *quien*$_{\langle et,t\rangle}$.SG | *#quien*$_{\mathsf{e}}$.SG | *#quienes*$_{\mathsf{e}}$.PL } *van a venir a la fiesta*
Juan not know who.SG who.SG who.PL go PREP come to the party

'Juan doesn't know who will come to the party'

[21] Spanish singular simplex *wh*-Q: ✗UP
[22] Spanish plural simplex *wh*-Q: ✓ASI

(37) *Juan no sabe* { *#qué amigo* | *qué amigos* } *van a venir a la fiesta*
Juan not know { which friend.SG | which friend.PL } go PREP come to the party

Observe that which.PL is usable in an uncertainty scenario, whereas who.PL is not. This is because which.SG presupposes uniqueness – since (strengthened) which.PL and all of its alternatives are unusable, deactivation of **exh** is licensed in this context via AVOID INEFFABILITY!.

(38) Juan does not know ~~**exh**~~ which friend.PL will come to the party.

However, who.PL *does* have a usable alternative – namely, $quien_{\langle et,t\rangle}$.SG. This means that **exh** may not be deactivated, since the conditions of AVOID INEFFABILITY! are not met, correctly predicting that who.PL should be unusable in this context.

(39) #Juan does not know {**exh**|*~~**exh**~~} who.PL will come to the party.

Here is a more detailed derivation of the anti-singleton inference for who.PL:

(40) ③ Juan not know ② EXH [① ANS who.PL will come to the party]

(41) $[\![①]\!] = \left\langle \begin{matrix} \text{one or more people will come to the party,} \\ \text{ANS(who.PL will come to the party)} \end{matrix} \right\rangle$

(42) ①′ ANS who_e.SG will come to the party $\in$ ALT(①)

(43) $[\![①']\!] = \left\langle \begin{matrix} \text{exactly one person will come to the party,} \\ \text{ANS(who}_e\text{.SG will come to the party)} \end{matrix} \right\rangle$

(44) $[\![②]\!] = \left\langle \begin{matrix} \text{more than one person will come to the party,} \\ \text{ANS(who.PL will come to the party)} \end{matrix} \right\rangle$

(45) $[\![③]\!] = \left\langle \begin{matrix} \text{Juan believes that more than one person will come to the party,} \\ \text{Juan doesn't know who will come to the party} \end{matrix} \right\rangle$

In sum, we propose that in Spanish *wh*-questions three simple *wh*-expression can stand in competition as in the following table.

expression	type	presuppositions	alternative
quien[1] (GQ)	$\langle\langle\langle\langle e,t\rangle,t\rangle,t\rangle,t\rangle$	—	—
quienes	$\langle\langle e,t\rangle,t\rangle$	existence	*quien*
quien[2]	$\langle\langle e,t\rangle,t\rangle$	existence, uniqueness	—

These three expressions allow us to test the difference between Singh's dynamic analysis of apparently non-local application of MP and our account. The data Maldonado reports support our proposal: In a scenario where the existence presupposition of *quienes* is satisfied, but the presuppositional implicature of plurality isn't locally satisfied, *quien* is preferred of *quienes*.

4. Conclusion

In this paper, we've aimed to resolve a tension between (a) apparently obligatory local application of MP, to account for data originally pointed out by Percus (2006), and (b) cases where MP must apply globally, in order to account for Heim's (1991) observations concerning the weak epistemic status of MP inferences. In order to do so, we adopted a conception of MP as the reflex of a grammatical exhaustification operator, following Magri (2009) and Marty (2017). We went on to propose a novel principle governing the distribution of this operator: AVOID INEFFABILITY!, which we show successfully mediates between cases of global vs. local MP inferences. In the final part of the paper, we argued explicitly that our principle is empirically superior to, e.g., Singh's (2011) dynamic account, based on evidence from *wh*-questions in Spanish.

References

Chemla, E. (2008). An epistemic step for anti-presuppositions. *Journal of Semantics 25*, 141–173.

Dayal, V. (1996). *Locality in WH Quantification*. Springer Netherlands.

Elliott, P. D., A. C. Nicolae, and U. Sauerland (2018). Who and what do *who* and *what* range over cross-linguistically? Unpublished manuscript.

Heim, I. (1991). Artikel und Definitheit. In A. Stechow and D. Wunderlich (Eds.), *Semantik*, pp. 487–535. De Gruyter Mouton.

Heim, I. (1992). Presupposition projection and the semantics of attitude verbs. *Journal of Semantics 9*(3), 183–221.

Heim, I. (1994). Comments on Abusch's theory of tense. In H. Kamp (Ed.), *Ellipsis, Tense and Questions*.

Karttunen, L. and S. Peters (1979). Conventional implicature. *Syntax and Semantics 11*, 1–56.

Magri, G. (2009). *A theory of individual-level predicates based on blind mandatory implicatures. Constraint promotion for optimality theory*. Ph. D. thesis, Massachussetts Institute of Technology.

Maldonado, M. (2017). Plural marking and D-linking in Spanish interrogatives. Unpublished manuscript.

Marty, P. (2017). *Implicatures in the DP domain*. Ph. D. thesis, Massachussetts Institute of Technology.

Meyer, M.-C. (2013). *Ignorance and grammar*. Ph. D. thesis, Massachussetts Institute of Technology.

Meyer, M.-C. (2014). Deriving Hurford's constraint. *Semantics and Linguistic Theory 24*, 577–596.

Percus, O. (2006). Antipresuppositions. In A. Ueyama (Ed.), *Theoretical and empirical studies of reference and anaphora*. Japan Society for the Promotion of Science Tokyo.

Rothschild, D. and S. Yalcin (2017). On the dynamics of conversation. *Noûs 51*, 24–48.

Sauerland, U. (2002). The present tense is vacuous. *Snippets 6*.

Sauerland, U. (2003). A new semantics for number. *Semantics and Linguistic Theory 13*, 258–275.

Sauerland, U. (2004). Scalar implicatures in complex sentences. *Linguistics and Philosophy 27*, 367–391.

Sauerland, U. (2005). Don't interpret focus! why a presuppositional account of focus fails, and how a presuppositional account of givenness works. In C. Bery, J. Huitink, and E. Maier (Eds.), *Proceedings of Sinn und Bedeutung 9*, Nijmegen, Netherlands, pp. 370–384. University of Nijmegen.

Sauerland, U. (2008a). Implicated presuppositions. In *The Discourse Potential of Underspecified Structures*, pp. 581–600. De Gruyter Mouton.

Sauerland, U. (2008b). The semantic markedness of ϕ-features. In D. Adger, D. Harbour, and S. Béjar (Eds.), *Phi Theory: Phi-Features Across Modules and Interfaces*, pp. 57–82. Oxford, UK: Oxford University Press.

Singh, R. (2011). Maximize Presupposition! and local contexts. *Natural Language Semantics 19*, 149–168.

Thomas, G. (2014). The present tense is not vacuous. *Journal of Semantics 32*, 685–747.