

Exclamatory *As Ifs*¹

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Abstract. In this paper, we investigate the meaning of exclamatory *as if* utterances. One of the main interpretive challenges raised by these constructions is to explain how they function to express incredulous denial of the *as if* complement despite the absence of any overt negating element. After rejecting a negation ellipsis account that assimilates exclamatory *as ifs* to plain negative assertions, we develop an exclamation-based analysis that integrates Grosz’s (2011) “EX-Op” account of optatives and polar exclamationives with our earlier hypothetical comparative semantics for descriptive uses of *as if* in Bledin and Srinivas (2019).

Keywords: Hypothetical comparatives, exclamations, expressives, denial, topic situations

1. Introduction

This is the second installment of a larger project that aims to develop a cross-categorical account of *as if* constructions in English. In last year’s proceedings of *Sinn und Bedeutung* (Bledin and Srinivas 2019), we focused on multiclausal “manner uses” such as (1) and on “perceptual resemblance reports” such as (2):

- (1) Pedro danced as if he was possessed by demons.
- (2) It smells as if there’s peach cobbler in the oven.

In this year’s SuB proceedings, we turn to root independent *as if*-phrases used by speakers to incredulously deny a salient expectation in the discourse context, which we call “exclamatory *as ifs*” (Camp and Hawthorne’s 2008 “sarcastic *as if*”).² For example, the speaker in (3) rejects the implicit expectation of the senders that she has time to reply:

- (3) (Opening inbox) As if I have time to answer these emails!
↪ I don’t have time to answer these emails.

At the limits of truncation are “*Clueless* uses”, a subspecies of exclamatory *as if* named after the 1995 romcom featuring this famous Valley Girl exclamation of disgust:

- (4) (Gross guy makes an advance) Cher: Ugh, as if!
↪ I would never kiss you.

While in (3) the finite embedded clause *I have time to answer these emails* (the “prejacent”) expresses the targeted expectation, the *Clueless as if* in (4) lacks an overt complement but likewise serves to reject a contextually salient expectation (i.e., that Cher will kiss her would-

¹For detailed comments on our work, we are grateful to Sebastian Bücking, Simon Charlow, Alex Kocurek, and Sarah Zobel. Thanks also to Ana Arregui, Maria Biezma, Lucas Champollion, Alexander Göbel, Simon Goldstein, Michael Johnson, Friederike Moltmann, Kyle Rawlins, Jessica Rett, Matthew Ritchie, Rachel Rudolph, Paolo Santorio, Simon Wimmer, and audiences at SuB 23, SuB 24, Hong Kong University, the New York Philosophy of Language Workshop, the 2019 Central APA, the 2019 Ontario Meaning Workshop, PhLiP 6, and the 2019 Workshop on Clausal Complements and Sentence-Embedding Predicates at NYU for helpful discussion.

²Terminological aside: we use “exclamatory *as if*” as a cover term for occurrences of *as if* in root clauses, for the full root *as if*-clauses themselves, and for utterances made with these clauses (we motivate our use of “exclamatory” later in this paper).

be seducer).³ One of our main challenges in this paper is to explain how this denial comes about. As we discuss in §2, exclamatory *as ifs* also differ both from their multiclausal brethren and from plain negative assertions in a number of important respects, and their idiosyncratic features call out for explanation.

We present our first pass at a semantics for exclamatory *as if* in §3. This analysis builds on our earlier semantics for non-root *as if*-phrases in Bledin and Srinivas (2019) reformulated in an event-situation semantic framework including Austinian *topic situations* (after Austin 1950; see Barwise and Etchemendy 1987; Kratzer 2019). Previously, we argued that *as if*-phrases denote “hypothetical comparative” properties of eventualities—for instance, the *as if*-adjunct in the manner use (1) expresses a modal property, instantiated by the matrix dancing event, of resembling its counterparts in typical worlds where Pedro was possessed by demons. With exclamatory *as ifs*, it is the topic situation being compared with respect to how it settles the expectation to which the *as if* utterance responds. The initial proposal is that this hypothetical comparison is fed into an elided sentential negation operator to generate denial of the *as if* prejacent.

There are difficulties, however, with this negation ellipsis account, so we consider more exotic approaches in §4 that view exclamatory *as ifs* as meta-conversational rejections, rhetorical questions, or bona fide exclamations. We develop the latter exclamation-based approach in §5 building heavily on Grosz’s (2011) Exclamation-Operator (“EX-Op”) account of optative and polar exclamative constructions. Replacing the sentential negation in our initial analysis with an exclamatory operator that contributes the force of denial allows us to meet the desiderata from §2. We conclude in §6 by showing how our account extends to *Clueless* uses.

2. Characteristic features of exclamatory *as if*

In addition to same-speaker examples like (3) and (4), root exclamatory *as ifs* can also occur cross-speaker, where they are commonly used to reject assertions, commands, questions, and other speech acts:

- (5) A: Zelda and I are just friends.
B: (Yeah right.) As if I’m going to believe that!
 ↪ I’m not going to believe that.
- (6) A: Fetch my slippers!
B: (Yeah right.) As if I’d ever help you!
 ↪ I would never help you.
- (7) A: Who is the Prime Minister of Canada?
B: As if I {know/care}!
 ↪ I don’t {know/care}.

³There are parallel exclamatory uses with *as though* and *like*, though exclamatory *as though* is rarer in present-day English and there are no *Clueless as thoughts* or *likes*:

- (i) Like I have time to answer all these emails!
(ii) Are these petty games fun for you? Canceling my credit cards to what? Show me who’s boss? As though I need them. As though I don’t have my own money. (Corpus of American Soap Operas via Brinton 2014)
(iii) *{As though! / Like!}

In each of these examples, B rejects a prior expectation of A (or what B takes A to expect), which is expressed by the prejacent of the *as if* response. Note that exclamatory *as ifs* require an expectation to react to (henceforth the “antecedent expectation”), differing from negative assertions, which can be felicitous out-of-the-blue:

- (8) (Waking up first thing in the morning)
A: I’m not feeling well today.
A’: #As if I’m feeling well today!

Exclamatory *as ifs* also differ from non-exclamatory non-root *as ifs*, which do not share their denying function:⁴

- (9) Pedro is dancing as if he’s been taking salsa lessons.
↗ Pedro hasn’t been taking salsa lessons.
- (10) It smells as if there’s peach cobbler in the oven.
↗ There isn’t peach cobbler in the oven.

There are a number of other distinctive features to be explained. First, exclamatory *as ifs* are associated with a negative evaluative affect. A speaker using an exclamatory *as if* does not convey simply that the antecedent expectation is false, but additionally expresses contempt or “sneering” incredulity towards this expectation (i.e., that the holder of the expectation should have known better). Once again, this affect is generally absent in plain negative assertions, as shown in (11):

- (11) A: Will you go to the party?
B: As if I’d ever go to a party like that!—??though it isn’t unreasonable for you to expect me to go.
B’: I’d never go to a party like that!—though it isn’t unreasonable for you to expect me to go.

Exclamatory *as ifs* also differ from their non-root counterparts with respect to licensing of negative polarity items (NPIs). Unlike ordinary *if*, non-root *as if* doesn’t license NPIs (or at least is a far less hospitable environment for NPIs):

- (12) She took a bow as if {someone/*anyone} was in the theater watching her perform.
- (13) *John smells as if he ever got sprayed by a skunk!

On the other hand, as Camp and Hawthorne (2008) and Camp (2012) observe, sarcastic *as ifs* pattern with regular *if* in licensing both weak NPIs like *any* and *ever* and strong NPIs like *lift a finger* and *last long*:

- (14) A: Who won Eurovision?
B: As if {anybody cares/I’ll ever tell you}!
- (15) As if John lifted a finger to help when I asked!
- (16) As if that relationship is going to last long!

⁴That said, (9) and (10) seem to convey that the speaker doesn’t know that Pedro has taken salsa lessons and she doesn’t know that there is peach cobbler in the oven. We suspect that this extra information can be calculated as a scalar implicature, though we do not have space to explore this proposal further.

Thus, despite our goal of accounting for the various uses of *as if* with as uniform an account as possible, our final analysis must be sensitive to this difference in NPI licensing between root and non-root cases.

Unlike non-root *as ifs*, exclamatory *as if* is also highly inflexible, occurring only at the start of a sentence and never in sentence-medial or final position:

(17) {As if} Jack fell down {*as if} and {*as if} Jill came tumbling after {*as if}!

While Camp and Hawthorne (2008) persuasively argue that this is a purely syntactic constraint, exclamatory *as if* must take scope over the entire sentence that follows, unlike regular sentential negation, which can take scope under other operators:

(18) As if Messi scored and Barcelona lost! (only AS IF ≫ CONJ reading available)

(19) As if anybody must know about our plan! (only AS IF ≫ MUST reading available)

The table below collects the above observations (minus the left-fronting syntactic requirement), which constitute desiderata to explain for any satisfactory semantic analysis. We include one further desideratum corresponding to our goal of providing a unified cross-categorical account of *as if* by incorporating conditionality and comparativity into the analysis of root *as if*-phrases, just as Bledin and Srinivas (2019) do for adjunct and complement *as if*-phrases.

Desideratum	Description
Prejacent Denial	Exclamatory <i>as if</i> conveys the denial of the prejacent.
Limited Distribution	Exclamatory <i>as if</i> utterances must occur in the wake of an implicit or explicit contextual expectation; they cannot occur out-of-the-blue.
Negative Affect	Exclamatory <i>as ifs</i> are associated with a negative evaluative affect directed at the antecedent expectation (or its holder).
NPI Licensing	Exclamatory <i>as if</i> licenses both weak and strong NPIs.
Wide Scope	Exclamatory <i>as ifs</i> take the widest possible scope.
Iffiness & Comparativity	The semantics of root <i>as if</i> -clauses has conditional (<i>iffy</i>) and comparative (<i>asy</i>) dimensions.

In the next section, we develop a preliminary analysis of exclamatory *as if* that posits an elided sentential negation operator. We've already seen examples such as (8), (11), (18), and (19) showing that exclamatory *as if* constructions have properties different from ordinary negative assertions, so the analysis in §3 is unlikely to be the full story. Nevertheless, consideration of this proposal is useful for introducing many of the semantic details necessary in analyzing these utterances as hypothetical comparative constructions.

3. First pass: elided negation account

Our first stab at a semantic analysis stems from the observation that in many contexts where an exclamatory *as if* construction is used, an *It's not as if...* construction with overt negation can be used (almost) interchangeably to deny the antecedent expectation:

(20) A: Walter called in sick again. Poor guy!
 B: C'mon, {it's not as if/as if} he's actually sick!

- (21) A: What is the capital of Azerbaijan?
 B: Why are you asking me? {It's not as if/As if} I know the answer!
- (22) {It's not as if/As if} I'm an alcoholic! I had only two beers.

Motivated by such examples, one might take exclamatory *as ifs* to involve an elided sentential negation operator, such that (23a) is equivalent to (23b):

- (23) a. As if Walter is sick!
 b. It's not as if Walter is sick!

In the subsections below we develop this proposal in detail, employing an upgraded version of the hypothetical comparative (HC) semantics for *as if*-phrases proposed in Bledin and Srinivas (2019). An overview of this account is first provided in §3.1.

3.1. Hypothetical comparative semantics for *as if*

We motivate our HC semantics by interpreting the manner use (1), repeated below as (24):

- (24) Pedro danced as if he was possessed by demons.

Intuitively, we take (24) to convey that Pedro's actual dancing resembles his dancing in possible situations where he was possessed by demons (cf. Kasper 1987; Bücking 2017). To formally implement this proposal we adopt a Kratzer-style possibilistic situation semantics, which is a conservative extension of possible worlds semantics (Kratzer 1989, 2019). Let \mathcal{S} be a set of possible situations standing in part-whole relations to each other: $s \leq s'$ iff s is part of s' . Each situation s is related to a unique maximal element $w_s \in \mathcal{W} \subset \mathcal{S}$, the world of s (the situations in a world form a join semi-lattice). Davidsonian event semantics (Davidson 1967; Parsons 1990; Landman 2000) can be embedded in this framework by identifying the set of eventualities with a subset of "exemplifying" situations $\mathcal{E} \subset \mathcal{S}$ (see Kratzer 2019), which are linked to their participants via thematic relations. Because eventualities and other situations are world-bound, we help ourselves to the machinery of Lewis's (1968; 1986) *counterpart theory* to identify "similar" situations across possible worlds (following Kratzer 2019; Schaffer 2005; Schwarz 2009; Arregui et al. 2014; among others):

- (25) **Counterpart relation between situations:** $C(s)(s')$ iff s' is a counterpart of s .

Stated in terms of counterparts, a better though still rough formulation of our analysis is that (24) reports the existence of a past event e of Pedro's dancing that resembles its counterparts in worlds in which he was possessed.

However, not just any counterparts should be taken into consideration. Presumably, there are worlds in which Pedro was possessed yet danced in a calm and sedate manner, and we want to screen these off. To achieve this, Bledin and Srinivas (2019) propose that *as if*-phrases select for *stereotypicality orderings* over logical space (perhaps induced by Kratzerian "ordering sources" (Kratzer 1981, 1991, 2012); see also Asher and Morreau 1991; Veltman 1996):⁵

- (26) **Stereotypicality relation between worlds:** $v \leq_w u$ iff v is at least as typical as u from the perspective of what counts as normal in w .

⁵While one might look instead to Lewis's *similarity relations* to restrict the selection of counterparts, Bledin and Srinivas (2019) argue that there are significant problems with a similarity-based approach.

Bledin and Srinivas (2019) take stereotypicality to sufficiently restrict the set of counterpart situations that need to be considered; however, in many cases we are interested not in the most typical worlds *simpliciter* but rather in the most typical worlds where certain relevant circumstances in the world of evaluation continue to hold.⁶ So in the updated version of our theory, we more closely follow Kratzer’s (1977; 1981; 1991; 2012) influential contextualist semantics for modals in assuming that context will supply not only normalcy relations but also a “circumstantial modal base” as defined in (27) that maps each world to a set of worlds in which relevant circumstances of the input world hold.⁷

(27) **Kratzerian background system**

$\langle D, \leq \rangle$ consists of a circumstantial base D where $D(w)$ is the set of worlds in which certain relevant circumstances of w hold, and \leq maps each world w to a normalcy relation \leq_w (as defined in (26)).

Using the contextual parameters in (25) and (27), we define a *selection function* F_c that takes a situation s and proposition p (the characteristic function of a set of situations) as arguments and returns the counterparts of s in all the most normal p -worlds where relevant circumstances of w_s hold and a counterpart of s exists:⁸

(28) **Selection function:** A situation $s' \in F_c(s)(p)$ iff the following all hold:

- a. $C_c(s)(s')$ (s' is a counterpart of s)
- b. $\exists s''(p(s'') \wedge s'' \leq w_{s'})$ (s' inhabits a world with a p -situation)
- c. $D_c(w_s)(w_{s'})$ (s' is in a world where relevant circumstances of w_s hold)
- d. $\forall w((\exists s''(p(s'') \wedge s'' \leq w) \wedge D_c(w_s)(w) \wedge \exists s''(C_c(s)(s'') \wedge s'' \leq w)) \rightarrow w_{s'} \leq_{c, w_s} w)$ ($w_{s'}$ is at least as typical with respect to w_s as any relevant circumstantial world with a p -situation and a counterpart of s)

Once these relevant counterparts are obtained via (28), the anchor situation s can be compared to its counterparts along a parameterized dimension of resemblance, as defined in (29). While our target example (24) clearly involves a manner comparison, we don’t lexically associate *as if* with manner because of examples like (30) where the *as if*-adjunct is used to convey a non-manner (or at least non-obviously-manner) feature of the matrix event, namely its location:

(29) **Resemblance relation between situations:** $R(s)(s')$ iff s' resembles s . The relation R encodes the respect(s) of comparison and how ‘close’ s and s' need to be in the relevant respect(s) to count as resembling.⁹

(30) Context: The king’s policy is to meet nobles in his throne room and commoners in the hall. Occasionally he makes exceptions.

Though Annie was a commoner, the king met with her as if she were a noblewoman.
 \rightsquigarrow The king met with Annie in the throne room.

⁶We are grateful to Alex Kocurek (p.c.) for helpful discussion of this point.

⁷This formalism departs slightly from that used by Kratzer, whose conversational backgrounds are functions from worlds to sets of propositions.

⁸This definition is a modified version of the selection function defined in Bledin and Srinivas (2019).

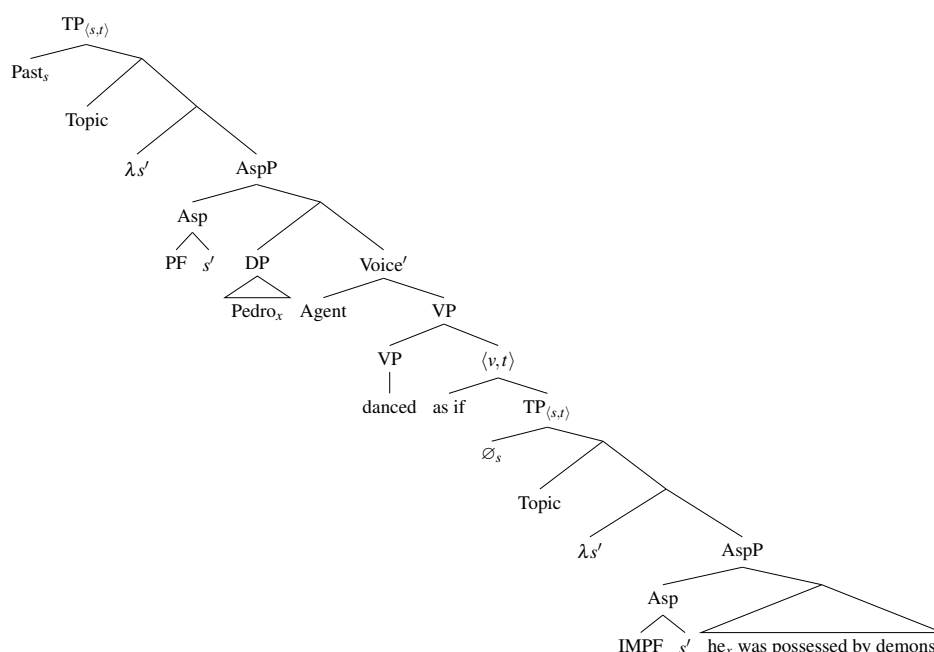
⁹While we treat R as a contextually supplied primitive, one could derive it from a more basic relation of similarity between points in one of Umbach and Gust’s (2014) multi-dimensional “attribute spaces” (or Gärdenfors’s 2000 “conceptual spaces”). This would introduce gradability and so allow for a treatment of degree modification of *as if*-phrases (*almost as if*, *quite as if*, and so on).

Putting together all these pieces, we propose the following semantic entry for *as if*:

$$(31) \quad \textbf{Entry for } as\ if: \llbracket as\ if \rrbracket^{c:g} = \lambda p_{\langle s,t \rangle} . \lambda s_s . \forall s' (s' \in F_c(s)(p) \rightarrow R_c(s)(s'))$$

In words: *as if* takes a propositional argument p and returns a property of situations, which holds of s when it R_c -resembles all counterparts selected by $F_c(s)(p)$.¹⁰

To fully analyze our example (24), we import our *as if* entry (31) into an LF clausal architecture involving Austinian *topic situations* (Austin 1950; Barwise and Etchemendy 1987; Kratzer 2019), which generalize Klein’s (1994) *topic times*. Topic situations encode what statements are *about* and will be crucial to our analysis of exclamatory *as ifs*. The implementation below draws heavily on Schwarz (2009).



To interpret this LF, we help ourselves to several off-the-shelf ingredients:

- Standard treatment of determiner phrases:

$$(32) \quad \begin{array}{ll} \text{a.} & \llbracket Pedro \rrbracket^{c:g} = Pedro \\ \text{b.} & \llbracket he_x \rrbracket^{c:g} = g(x) \end{array}$$

- Neo-Davidsonian lexical semantics (Carlson 1984; Parsons 1990; Krifka 1992):

$$(33) \quad \begin{array}{ll} \text{a.} & \llbracket dance \rrbracket^{c:g} = \lambda e_v . dance(e) \\ \text{b.} & \llbracket possess-by-demons \rrbracket^{c:g} = \lambda e_v . possess-by-demons(e) \end{array}$$

- Thematic roles and type shifting from Champollion (2017):

$$(34) \quad \begin{array}{ll} \text{a.} & \llbracket Agent \rrbracket^{c:g} = \lambda e_v . Ag(e) \\ \text{b.} & \llbracket Theme \rrbracket^{c:g} = \lambda e_v . Th(e) \\ \text{c.} & \textbf{Type shifter: } \lambda \theta_{\langle v,e \rangle} . \lambda V_{\langle v,t \rangle} . \lambda x_e . \lambda e_v . V(e) \wedge \theta(e) = x \end{array}$$

¹⁰Note that we treat *as if* as a lexicalized idiomatic expression whose meaning isn’t derived from the standard meaning of *if*-clauses composed with the standard meaning of *as*. See Bledin and Srinivas (2019) for a battery of syntactic and semantic arguments for an idiomatic treatment of both root and non-root *as ifs*.

- Perfective and imperfective aspectual operators:

$$(35) \quad \begin{array}{l} \text{a. } \llbracket \text{PF} \rrbracket^{c,g} = \lambda s_s. \lambda V_{\langle v,t \rangle}. \exists e (e \leq s \wedge V(e)) \\ \text{b. } \llbracket \text{IMPF} \rrbracket^{c,g} = \lambda s_s. \lambda V_{\langle v,t \rangle}. \forall s' (\mathcal{R}(s)(s') \rightarrow \exists e (e \leq s' \wedge V(e))) \end{array}$$

where $\mathcal{R}_{\langle s, \langle s,t \rangle \rangle}$ in the clause for the imperfective operator is a contextually/linguistically determined accessibility relation whose range of interpretations correspond to temporal, generic, and modal flavors of imperfectivity (Arregui et al. 2014, building on Cipria and Roberts 2000). In the case of (24), \mathcal{R} returns time-slices of the topic situation.

- Referential approach to tense (Partee 1973; Kratzer 1998; Hacquard 2006) combined with Kratzer’s (1998) analysis of “sequence of tense” using zero tense, but implemented in a situation semantics where tenses are situational pronouns (s_{topic} is a contextually supplied topic situation, $\tau(s)$ is the “runtime” of situation s (Krifka 1989), UT is the utterance time):

$$(36) \quad \begin{array}{l} \text{a. } \llbracket \text{Present} \rrbracket^{c,g} = s_{topic}. \text{ Defined only if } UT \subseteq \tau(s_{topic}). \\ \text{b. } \llbracket \text{Past} \rrbracket^{c,g} = s_{topic}. \text{ Defined only if } \tau(s_{topic}) < UT. \\ \text{c. } \llbracket \emptyset_s \rrbracket^{c,g} = g(s) \end{array}$$

- Schwarz’s (2009) Topic operator (the integration of Topic with the situational treatment of tenses builds on an earlier version of Kratzer 2012; see also Ramchand 2014):

$$(37) \quad \llbracket \text{Topic} \rrbracket^{c,g} = \lambda p_{\langle s,t \rangle}. \lambda s'_s. \lambda s_s. C_c(s)(s') \wedge p(s)$$

Assuming that binding is achieved by raising the matrix tense *Past* and subject *Pedro*, (24) is interpreted as follows:

$$(38) \quad \llbracket \llbracket_{\text{TP}_{\langle s,t \rangle}} \text{Past} [\lambda s [s [\text{Topic} [\lambda s' [\text{AspP} [\text{PF } s'] [\llbracket_{\text{DP}} \text{Pedro} \rrbracket] [\lambda x [x [\text{Agent} [\text{VP} [\text{VP} \text{dance}]]]]]]]]]]] \llbracket_{\langle v,t \rangle} \text{as if} \llbracket_{\text{TP}_{\langle s,t \rangle}} \emptyset_s [\text{Topic} [\lambda s' [\text{AspP} [\text{IMPF } s'] [\llbracket_{\langle s,t \rangle} \text{he}_x \text{ was possessed} \rrbracket]]]]]]]]]] \rrbracket^{c,g} = \lambda s_s. C_c(s)(s_{topic}) \wedge \exists e (e \leq s \wedge \text{dance}(e) \wedge \text{Ag}(e) = \text{Pedro} \wedge \forall e' (e' \in F_c(e)(p) \rightarrow R_c(e)(e'))) \text{ where } p = \lambda s_s. C_c(s)(s_{topic}) \wedge \forall s' (\mathcal{R}(s)(s') \rightarrow \exists e (e \leq s' \wedge \text{possess}(e) \wedge \text{Th}(e) = \text{Pedro})) \text{ Defined only if } \tau(s_{topic}) < UT.$$

In words: The topic situation, which is located in the past, contains a dancing event e by Pedro that R_c -resembles its counterparts in all the most stereotypical circumstantial worlds in which Pedro was possessed by demons during (counterparts of) the topic situation. Raised on horror films like *The Exorcist*, a hearer can infer that a speaker who utters (24) is conveying that Pedro danced wildly.

3.2. Extending the HC semantics to exclamatory *as ifs*

We suggested at the beginning of this section that (39a) are (39b) are equivalent:

$$(39) \quad \begin{array}{l} \text{a. } \text{As if Walter is sick!} \\ \text{b. } \text{It's not as if Walter is sick!} \\ \quad \rightsquigarrow \text{Walter isn't sick.} \end{array}$$

Assuming that our core HC semantics carries over, we can interpret these sentences by applying our situation-semantic *as if* entry (31) and letting a standard *Neg* operator (of type $\langle t, t \rangle$) scope over the *as if*-phrase but below *Topic*:

Discussion (QUD; Roberts 1996, 2012; Ginzburg 1996; van Kuppevelt 1996; Büring 2003). Framed in terms of QUDs, our proposal is that exclamatory *as ifs* respond to the QUD of whether the antecedent expectation is true. This might be considered to conflict with cases where there is a different explicit QUD already in place:

- (44) A: Who won Eurovision?
B: As if I care!

However, we propose that in such cases an *as if* response can change the topic. While A's initial question introduces the QUD *Who won Eurovision*, which determines a topic situation consisting of a particular individual winning the contest, A also signals that she thinks B might care enough about Eurovision to be informed about the winner. B's response addresses this expectation, pushing the new QUD *Whether B cares who won Eurovision* onto the topic stack. This new QUD isn't unrelated to the original—and is therefore easily accommodated—because B's negative answer reveals that A's initial question is practically unanswerable in the current discourse context.

3.3. Taking stock: what works and what doesn't in the elided negation account

To its credit, the sentential negation account augmented with our trio of interwoven meaning postulates predicts preadjacent denial while maintaining the core HC semantics from Bledin and Srinivas (2019) with its *iffiness* and *asiness*—a positive step towards our goal of offering a unified analysis of *as if* across its various uses. The Reactivity condition also accounts for the limited distribution of exclamatory *as ifs* to contexts with a salient (explicit or implicit) expectation in place. Furthermore, the fact that exclamatory *as if* constructions license NPIs under this account is a direct consequence of the elided negation operator, and can therefore be explained by downward entailment (Fauconnier 1975; Ladusaw 1979; see von Stechow 1999 for refinement), non-veridicality (Giannakidou 1998), scope-licensing (Barker 2018), or some other licensing condition met by ordinary negative contexts.

However, there are significant difficulties with this proposal, many of which have to do with the properties of the denial being not quite what is predicated under a simple sentential negation analysis. First, as discussed in §2, exclamatory *as ifs* are accompanied by a negative evaluative affect, which is left unaccounted for on the current proposal. One might try to explain this negative affect as an extra semantic effect contributed by the distinctive “dripping” tone that accompanies many exclamatory *as if* utterances. However, this special sarcastic intonation isn't required, and even without it exclamatory *as ifs* have mocking sardonic overtones.

The elided negation account also leaves mysterious why exclamatory *as if* must take widest scope, as previously shown in examples (18) and (19). After all, the most natural reading of (45) has conjunction scoping over the negation:

- (45) It's not as if I have time to play tennis but I want to.

Furthermore, exclamatory *as if* and *It's not as if* constructions pattern differently in other important respects that point to the former being expressives. Unlike *It's not as if* constructions, which can be straightforwardly affirmed or denied, exclamatory *as ifs* fail what Kaufmann (2012) calls the “*That's {true/false}*”-test”, which suggests that they have expressive rather than run-of-the-mill descriptive content:

- (46) A: It's not as if Walter is sick.
 B: That's true. I just saw him at the pub.
 B': That's false. He's been lying in bed all day with a fever.
- (47) A: As if Walter is sick!
 B: ??That's true. I just saw him at the pub.
 B': ??That's false. He's been lying in bed all day with a fever.

Another hallmark of expressive language is unembeddability, which is exhibited by exclamatory *as if* but not by *It's not as if* constructions. Despite having the morphosyntax of embedded clauses, exclamatory *as ifs* are generally unembeddable. This is unlike *It's not as if* clauses, which can be embedded in at least some environments:

- (48) *Mary {knows/believes/thinks} that as if Santa Claus exists.
- (49) *If a thief broke in then as if he would find the silver.
- (50) I also think we have to remember that it's not as if it's the same audience that's watching all of these debates in succession. (COCA)¹¹

However, it's not clear that we should put much weight on this data as the unembeddability of exclamatory *as if* is already predicted by the left-peripheral syntactic constraint that renders embedded occurrences ungrammatical.

Camp and Hawthorne (2008) offer a related argument for the expressivity of exclamatory *as if* that appeals to Davidsonian belief attribution constructions (after Davidson 1968) such as (51) and (52). They observe the following contrast:

- (51) ??As if anyone even listens to what he has to say! Donald believes that.
- (52) It's not as if anyone even listens to what he has to say. Donald believes that.

Assuming that *that* in (52) anaphorically retrieves the content of the preceding sentence, the contrast between (51) and (52) provides additional support for exclamatory *as if* constructions not having ordinary descriptive meaning that can serve as the content of belief.

4. Into exotic waters

Summing up: exclamatory *as if* is funky in many ways that the elided negation account fails to predict. Turning to more exotic proposals, another approach that we seriously considered in a previous iteration of this work is to treat exclamatory *as ifs* as meta-conversational claims involving Repp's (2006; 2013) "common-ground managing" operator FALSUM. Informally, FALSUM(φ) conveys the speaker's belief that meeting her discourse goals requires keeping the proposition $[\varphi]^{c:g}$ out of the common ground, or equivalently, that the speaker objects to the truth of $[\varphi]^{c:g}$. FALSUM is associated with a number of desirable properties for our current purposes: FALSUM-utterances are infelicitous out-of-the-blue (Repp 2013), contribute expressive content (Gutzmann 2013), and have wide-scope interpretations of denial. However, the existing literature takes for granted that FALSUM doesn't license NPIs (see for instance Frana and Rawlins 2015). Moreover, it isn't clear how to account for the negative evaluative

¹¹Corpus of Contemporary American English: available online at <http://corpus.byu.edu/coca/>

dimension of exclamatory *as ifs* on the FALSUM analysis.¹²

Another option suggested by Jessica Rett (p.c.) is to analyze exclamatory *as ifs* as rhetorical questions (RQs), which are similarly polarity-reversing. This option is intriguing as (positive) RQs license both weak and strong NPIs, however it is difficult to see how exclamatory *as ifs* can be interpreted as RQs given that many semantic accounts of RQs in the literature rely on properties specific to interrogative constructions. Han (2002), for instance, argues that the polarity reversal in RQs is contributed by a *wh*-item (covert *whether* in the case of polar RQs), which is interpreted as negative polarity or a negative quantifier for pragmatic reasons.¹³ More troublingly, Caponigro and Sprouse (2007) argue that RQs resemble ordinary questions in a number of important respects, such as in allowing for answers, and these inquisitive features aren't shared by exclamatory *as ifs*:

- (53) a. A: Is research ever easy? B: {Sometimes. / Never.}
b. A: As if research is ever easy! B: #{Sometimes. / Never.}

To our mind, a more promising approach is to treat exclamatory *as if* utterances as bona fide exclamations, members of a general class of expressive utterances whose canonical speech act function is to *exclaim*. This class also includes *optative* constructions, used by speakers to express a hope, wish, or desire that something obtains or had obtained without any overt lexical marker for desirability (Rifkin 2000; Grosz 2011; Biezma 2011; among others):

- (54) If I had only listened to my parents! (Quirk et al. 1985)

It also includes *polar exclamatives* used to express shock, awe, or dismay without containing a lexical item that directly encodes these emotions (Grosz 2011; see also Rett 2011 on the closely related class of *degree exclamatives*):

- (55) That you could ever want to marry such a man! (Quirk et al. 1985)

Exclamatory *as ifs*, optatives, and polar exclamatives share a number of common properties. First, these constructions have a similar grammatical shape involving *insubordination* (Evans 2007)—while they take the form of unembedded clauses, they retain the morphosyntax of embedded clauses. Second, optatives and polar exclamatives are intuitively exclamations where a speaker directly expresses an emotive or evaluative attitude towards a proposition, rather than straightforwardly describing reality. Third, optatives and polar exclamatives also exhibit characteristic marks of expressive content (see Grosz 2011). Given these similarities, we pursue an exclamation-based approach in the remainder of this paper.

5. Conventionalized EX-clamation

In this section, we develop a formal analysis of exclamatory *as if* utterances as exclamations, building on Grosz's (2011) Exclamation-Operator account of optative and polar exclamative constructions (see also the related conventionalized speech act accounts in Zaefferer 2006,

¹²Camp and Hawthorne (2008) argue for an “illocutionary-force theoretic” treatment of sarcastic *as ifs/likes* on which they involve a denial operator, though they do not develop this proposal in detail. The FALSUM analysis might be regarded as a precisification of Camp & Hawthorne's denial approach. We regard our exclamation-based account in §5 as another precisification of their view.

¹³Aside from the fact that exclamatory *as ifs* do not include *wh*-elements, another problem with a Han-style account is that RQs are re-interpreted as negative assertions via post-LF processing, so treating exclamatory *as ifs* in this way would just reintroduce the worries with the elided negation account from §3.3.

Kyriakaki 2008, and Rett 2011). According to Grosz, both optatives and polar exclamatives involve a general expressive operator EX that associates with a contextually provided scale, and these constructions are felicitously uttered only when the proposition on which EX operates is above a contextually determined threshold on this scale. By modulating the scale dimension, utterances involving EX can express a range of emotive and evaluative attitudes towards the modified proposition, given its threshold-exceeding status on the scale.

Within our event-situation semantic framework, this can be implemented as follows:

- (56) **Scales:** A scale $S \subseteq \mathcal{P}(\mathcal{S}) \times \mathcal{P}(\mathcal{S})$ is a set of ordered pairs of propositions, where we write $p \geq_S q$ (' p is at least as high as q on S ') iff $\langle p, q \rangle \in S$. ($p >_S q$ abbreviates $p \geq_S q$ but $q \not\geq_S p$)
- (57) **Entry for EX:** $\llbracket [\text{ForceP}[\text{EX } S] \llbracket \langle s, t \rangle \text{TP} \rrbracket] \rrbracket^c$ is felicitous iff $\llbracket \text{TP} \rrbracket^c >_{S_c} \text{THRESHOLD}(c)$, where THRESHOLD is a function from a context to a proposition that is high on the contextually relevant scale.¹⁴

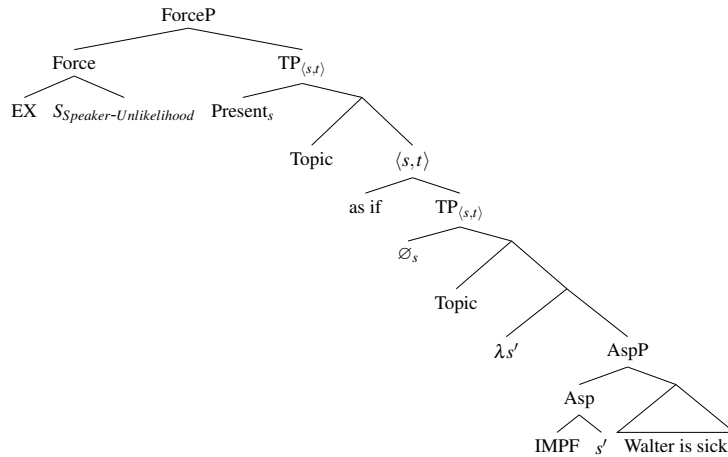
Feed in a bouletic scale S_c keyed to the speaker's preferences and we get an optative reading, feed in an inverse-likelihood scale S_c that reflects what the speaker considers unlikely and we get a polar exclamative reading, and so forth. However, while Grosz discusses examples that have multiple exclamatory readings (which is why he wants to keep EX general), exclamatory *as ifs* can be used *only* to express the speaker's incredulous denial of the antecedent expectation:

- (58) A: Want to play a game of tennis?
 B: As if I have time for tennis!
 \rightsquigarrow *Incredulous rejection:* [It's preposterous to expect that] I have time for tennis!
 $\not\rightsquigarrow$ *Optative:* [I want it to be that] I have time for tennis!
 $\not\rightsquigarrow$ *Exclamative:* [I'm surprised that] I have time for tennis!

We propose that this "preposterousness" associated with exclamatory *as ifs* can be captured using an expressive operator much like Grosz's EX, which maps a propositional argument onto expressive content to produce a felicity-conditional utterance. Unlike Grosz's EX, however, which can take on a variety of expressive flavors depending on context—the same exclamation that is interpreted as a polar exclamative in one context can be interpreted as an optative in another—the specialized expressive operator in exclamatory *as if* constructions (which we also denote using 'EX') is tailor-made for incredulous denial. More specifically, we assume that this 'rejection' operator EX mandatorily selects for a speaker unlikelyhood scale—the same kind of scale that occurs in polar exclamative interpretations—and a threshold (call this 'BS_c') above which propositions are deemed so preposterous as to defy belief. This is why speakers who make *as if* exclamations are conventionally understood to express incredulous rejection of the antecedent expectation, whether or not they talk with a snarky dripping tone.

We assume that the propositional argument to the rejection operator EX is still derived using our HC semantics for *as if* supplemented with the three meaning postulates in §3.2. For example, we interpret (23a) as follows:

¹⁴We assume that EX is located in Rizzi's (1997) Force. Grosz (2011) himself suggests that the EX operator occupies the spec-CP position, but we follow Grosz's predecessor Gutiérrez Rexach (1996) whose EXC operator is an illocutionary force operator.



$$(59) \quad \llbracket [\text{ForceP} [\text{EX } S_{Sp-Unlikelihood}] [\text{TP}_{\langle s,t \rangle} \text{Present} [\lambda s [s [\text{Topic} [\langle s,t \rangle] \text{as if} \\ [\text{TP}_{\langle s,t \rangle} \emptyset_s [\text{Topic} [\lambda s' [\text{AspP} [\text{IMPF } s'] [\langle s,t \rangle \text{Walter is sick}]]]]]]]]]]]]]]]]^c \text{ is felicitous iff} \\ \lambda s_s . C_c(s)(s_{topic}) \wedge \forall s'(s' \in F_c(s)(p) \rightarrow R_c(s)(s')) >_S \text{BS}_c$$

In words: the *as if* exclamation (23a) is felicitous in c iff the proposition that Walter’s current health situation resembles its counterparts in the most stereotypical worlds wherein he is sick—in respect of how these situations settle the question of whether Walter is sick—exceeds the BS threshold on B’s uncertainty scale.

This specialized EX-Op analysis fares much better than the earlier negation ellipsis account from §3 with respect to meeting the various desiderata listed at the end of §2. Interpreting exclamatory *as ifs* as EX-utterances involving the incredulous rejection operator EX accounts for both their denying function and negative affect. The Reactivity condition from §3.2 accounts for their limited distribution to contexts with a salient expectation in place. The wide-scoping behavior of exclamatory *as ifs* can be explained by restrictions on coordinating exclamations with assertions and other speech acts. As for the NPI data, the EX-Op approach opens up the possibility of explaining this in terms of the structure of the scale that the rejection operator EX associates with. Grosz (2011) observes that polar exclamationives license NPIs while optatives do not, and he explains this in terms of the fact that the unlikelihood scales against which polar exclamationives are evaluated are *anti-additive* (Zwarts 1998) while the bouletic scales against which optatives are evaluated are not. On our proposal, exclamatory *as ifs* are evaluated against the same unlikelihood scales as polar exclamationives, so their licensing of NPIs might be explained in the same way.

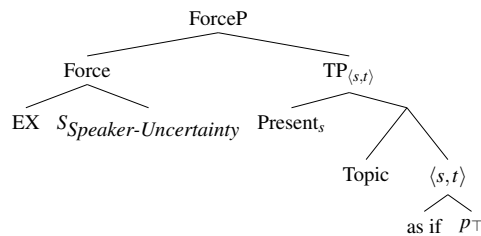
6. Conclusion: *Clueless* uses

We conclude by briefly discussing how our analysis of exclamatory *as ifs* extends to *Clueless* uses. Like “exclamatory monoclauses” featuring overt prejacent, *Clueless as ifs* are limited to contexts where there is a salient expectation to deny:

$$(60) \quad (\text{Out-of-the-blue}) \# \text{As if!}$$

Moreover, *Clueless* uses invariably express sarcasm, in that their denial function has a negative evaluative overlay on which the speaker mocks or dismisses the participant holding the rejected assumption. To carry over the EX-Op analysis to *Clueless* uses whereby a speaker denies an antecedent expectation that isn’t explicitly expressed, we assume that discourse contexts come

equipped with a (possibly empty) ordered set of propositional *discourse referents* that can be referred to in subsequent discussion (Bittner 2011; Murray 2014). Where p_{\top} denotes the most prominent top-ranked propositional discourse referent in a context (assuming there is one), we postulate the following LF for *Clueless as if*:



The anaphoric component of *Clueless as if*s is connected to some of their interpretive and distributional differences with exclamatory monoclauses. First, while the exclamatory monoclauses can be used to contest presuppositions or implicatures associated with a previous utterance, *Clueless* uses can target only at-issue content:

- (61) A: John has stopped smoking
 B: As if he ever used to smoke. \rightsquigarrow John never uses to smoke.
 B': As if! \rightsquigarrow John hasn't stopped smoking.

This can be explained by the fact that at-issue content is always more salient than “projective” presuppositional or implicated content.

Second, while *Clueless as if* can be uttered in response to assertions and polar questions but not constituent questions, exclamatory monoclauses can respond to all of these speech acts:

- (62) A: Is Beyonce coming to the party?
 B: {As if!/As if she's coming!}
 (63) A: I hope to see Beyonce tonight. Who's coming to the party?
 B: {#As if!/As if Beyonce is coming!}

Assuming that A's question in (62) “highlights” or suggests the answer that Beyonce is coming (as argued by Roelofsen and van Gool 2010; Starr 2014; Roelofsen and Farkas 2015), B can use a *Clueless as if* to deny this and so negatively answer A's question. In contrast, A's constituent question in (63) doesn't highlight any of its answers and so a *Clueless as if* cannot be used in response (though B can still use an exclamatory monoclause to deny A's expectation that Beyonce is coming, which was previously expressed but isn't under immediate discussion).

References

- Arregui, A., M. L. Rivero, and A. Salanova (2014). Cross-linguistic variation in imperfectivity. *Natural Language & Linguistic Theory* 32(2), 307–362.
 Asher, N. and M. Morreau (1991). Commonsense entailment: A modal theory of nonmonotonic reasoning. In J. Mylopoulos and R. Reiter (Eds.), *Proceedings of the 12th International Joint Conference on Artificial Intelligence*, pp. 387–392.
 Austin, J. L. (1950). Truth. *Proceedings of the Aristotelian Society, Supplemental Volume XXIV*, 111–129.
 Barker, C. (2018). Negative polarity as scope marking. *Linguistics and Philosophy* 41(5), 483–510.

- Barwise, J. and J. Etchemendy (1987). *The Liar*. Oxford: Oxford University Press.
- Biezma, M. (2011). Optatives: Deriving desirability from scalar alternatives. In I. Reich, E. Horch, and D. Pauly (Eds.), *Proceedings of Sinn und Bedeutung 15*, pp. 117–132.
- Bittner, M. (2011). Time and modality without tenses or modals. In R. Musan and M. Rathert (Eds.), *Tense across Languages*, pp. 147–188. Niemeyer.
- Bledin, J. and S. Srinivas (2019). *As Ifs*. In M. Teresa Espinal, E. Castroviejo, M. Leonetti, and L. McNally (Eds.), *Proceedings of Sinn und Bedeutung 23*, pp. 167–184.
- Brinton, L. J. (2014). The extremes of insubordination: Exclamatory *as if!* *Journal of English Linguistics* 42(2), 93–113.
- Bücking, S. (2017). Composing *Wie Wenn*—the semantics of hypothetical comparison clauses in German. *Natural Language & Linguistic Theory* 35(4), 979–1025.
- Büring, D. (2003). On D-trees, beans, and B-accents. *Linguistics and Philosophy* 26(5), 511–545.
- Camp, E. (2012). Sarcastic, pretense, and the semantics/pragmatics distinction. *Noûs* 46(4), 587–634.
- Camp, E. and J. Hawthorne (2008). Sarcastic ‘like’: A case study in the interface of syntax and semantics. *Philosophical Perspectives* 22(1), 1–21.
- Caponigro, I. and J. Sprouse (2007). Rhetorical questions as questions. In E. Puig-Waldmüller (Ed.), *Proceedings of Sinn und Bedeutung 11*, pp. 121–133.
- Carlson, G. N. (1984). Thematic roles and their role in semantic interpretation. *Linguistics* 22(3), 259–279.
- Champollion, L. (2017). *Parts of a Whole: Distributivity as a Bridge Between Aspect and Measurement*. Oxford: Oxford University Press.
- Cinque, G. (1976). ‘mica’. *Annali della Facoltà di Lettere e Filosofia dell’Università di Padova* 1, 101–112.
- Cipria, A. and C. Roberts (2000). Spanish imperfecto and pretérito: Truth conditions and aktionsart effects in a situation semantics. *Natural Language Semantics* 8(4), 297–347.
- Davidson, D. (1967). The logical form of action sentences. In N. Rescher (Ed.), *The Logic of Decision and Action*, pp. 81–95. University of Pittsburgh Press.
- Davidson, D. (1968). On saying that. *Synthese* 19(1/2), 130–146.
- Davies, M. (2008-). Corpus of American English: 360 million words, 1990-present. Available online at <http://www.americancorpus.org>.
- Evans, N. (2007). Insubordination and its uses. In I. Nikolaeva (Ed.), *Finiteness: Theoretical and Empirical Foundations*, pp. 366–431. Oxford University Press.
- Fauconnier, G. (1975). Polarity and the scale principle. *Chicago Linguistics Society* 11, 188–199.
- Frana, I. and K. Rawlins (2015). Italian ‘mica’ in assertions and questions. In N. Bade, P. Berezovskaya, and A. Schöller (Eds.), *Proceedings of Sinn und Bedeutung 20*, pp. 234–251.
- Gärdenfors, P. (2000). *Conceptual Spaces: The Geometry of Thought*. Cambridge: MIT Press.
- Giannakidou, A. (1998). *Polarity Sensitivity as (Non)veridical Dependency*. Amsterdam: John Benjamins.
- Ginzburg, J. (1996). Dynamics and the semantics of dialogue. In J. Seligman and D. Westerstahl (Eds.), *Logic, Language, and Computation, Vol. 1 (CSLI Lecture Notes 58)*, pp. 221–237. CSLI Publications.
- Grosz, P. (2011). *On the Grammar of Optative Constructions*. Ph.D. dissertation, Mas-

- sachusetts Institute of Technology.
- Gutiérrez Rexach, J. (1996). The semantics of exclamatives. In E. Garret and F. Lee (Eds.), *Syntax at Sunset. UCLA Working Papers in Linguistics*, pp. 146–162. UCLA.
- Gutzmann, D. (2013). Expressives and beyond: An introduction to varieties of use-conditional meaning. In D. Gutzmann and H.-M. Gärtner (Eds.), *Beyond Expressives: Explorations in Use-Conditional Meaning*, pp. 1–58. Brill.
- Hacquard, V. (2006). *Aspects of Modality*. Ph.D. dissertation, MIT.
- Han, C. (2002). Interpreting interrogatives as rhetorical questions. *Lingua* 112(3), 201–229.
- Kasper, W. (1987). *Semantik des Konjunktivs II in Deklarativsätzen des Deutschen*. Tübingen: Niemeyer.
- Kaufmann, M. (2012). *Interpreting Imperatives*. Dordrecht: Springer.
- Klein, W. (1994). *Time in Language*. London: Routledge.
- Kratzer, A. (1977). What ‘must’ and ‘can’ must and can mean. *Linguistics and Philosophy* 1(3), 337–355.
- Kratzer, A. (1981). The notional category of modality. In H.-J. Eikmeyer and H. Rieser (Eds.), *Words, Worlds, and Contexts*, pp. 38–74. de Gruyter.
- Kratzer, A. (1989). An investigation of the lumps of thought. *Linguistics and Philosophy* 12(5), 607–653.
- Kratzer, A. (1991). Modality. In A. von Stechow and D. Wunderlich (Eds.), *Semantics: An International Handbook of Contemporary Research*, pp. 639–650. de Gruyter.
- Kratzer, A. (1998). More structural analogies between pronouns and tense. In D. Strolovitch and A. Lawson (Eds.), *Proceedings of SALT 8*, pp. 92–110.
- Kratzer, A. (2012). *Modals and Conditionals: New and Revised Perspectives*. Oxford: Oxford University Press.
- Kratzer, A. (2019). Situations in natural language semantics. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition). <http://plato.stanford.edu/archives/sum2019/entries/situations-semantics/>.
- Krifka, M. (1989). Nominal reference, temporal constitution and quantification in event semantics. In R. Bartsch, J. van Benthem, and P. van Emde Boas (Eds.), *Semantics and Contextual Expressions*, pp. 75–115. Foris Publications.
- Krifka, M. (1992). Thematic relations as links between nominal reference and temporal constitution. In I. A. Sag and A. Szabolcsi (Eds.), *Lexical Matters*, pp. 29–53. CSLI Publications.
- Kyriakaki, M. (2008). The meaning of *Na* and conditional wishes. In S. Jones (Ed.), *Proceedings of the 2008 Annual Conference of the Canadian Linguistics Association*, pp. 1–15.
- Ladusaw, W. (1979). *Polarity Sensitivity as Inherent Scope Relations*. Ph.D. dissertation, University of Texas, Austin.
- Landman, F. (2000). *Events and Plurality: The Jerusalem Lectures*. Dordrecht: Kluwer.
- Lewis, D. (1968). Counterpart theory and quantified modal logic. *Journal of Philosophy* 65(5), 113–126.
- Lewis, D. (1986). *On the Plurality of Worlds*. Oxford: Blackwell.
- Murray, S. (2014). Varieties of update. *Semantics & Pragmatics* 7(2), 1–53.
- Parsons, T. (1990). *Events in the Semantics of English: A Study in Subatomic Semantics*. Cambridge: MIT Press.
- Partee, B. (1973). Some structural analogies between tenses and pronouns. *Journal of Philos-*

- ophy 70(18), 601–609.
- Quirk, R., S. Greenbaum, G. Leech, and J. Svartvik (1985). *A Comprehensive Grammar of the English Language*. London: Longman.
- Ramchand, G. (2014). Stativity and present tense epistemics. In T. Snider, S. D’Antonio, and M. Weigand (Eds.), *Proceedings of SALT 24*, pp. 102–121.
- Repp, S. (2006). $\neg(A\&B)$. Gapping, negation, and speech act operators. *Research on Language and Computation* 4(4), 397–423.
- Repp, S. (2013). Common ground management: Modal particles, illocutionary negation, and VERUM. In D. Gutzmann and H.-M. Gärtner (Eds.), *Beyond Expressives: Explorations in Use-Conditional Meaning*, pp. 231–274. Brill.
- Rett, J. (2011). Exclamatives, degrees and speech acts. *Linguistics and Philosophy* 34(5), 411–442.
- Rifkin, J. (2000). If only *If Only* were *If* plus *Only*. In A. Okrent and J. P. Boyle (Eds.), *Proceedings of CLS 36*, pp. 369–384.
- Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegeman (Ed.), *Elements of Grammar: A Handbook of Generative Syntax*, pp. 281–337. Kluwer.
- Roberts, C. (1996). Information structure in discourse: Towards an integrated formal theory of pragmatics. In J. H. Yoon and A. Kathol (Eds.), *Papers in Semantics (Working Papers in Linguistics)*, Volume 49. Ohio State University.
- Roberts, C. (2012). Information structure in discourse: Towards an integrated formal theory of pragmatics. *Semantics & Pragmatics* 5(6), 1–69.
- Roelofsen, F. and D. Farkas (2015). Polarity particle responses as a window onto the interpretation of questions and assertions. *Language* 91(2), 359–414.
- Roelofsen, F. and S. van Gool (2010). Disjunctive questions, intonation, and highlighting. In M. Aloni, H. Bastiaanse, T. de Jager, and K. Schulz (Eds.), *Logic, Language and Meaning: 17th Amsterdam Colloquium, Amsterdam, The Netherlands, December 16-18, 2009: revised selected papers*, pp. 384–394. Springer.
- Schaffer, J. (2005). Contrastive causation. *Philosophical Review* 114(3), 327–358.
- Schwarz, F. (2009). *Two Types of Definites in Natural Language*. Ph.D. dissertation, University of Massachusetts at Amherst.
- Starr, W. (2014). What ‘If’? *Philosophers’ Imprint* 14(10), 1–27.
- Umbach, C. and H. Gust (2014). Similarity demonstratives. *Lingua* 149, 74–93.
- van Kuppevelt, J. (1996). Inferring from topics: Scalar implicatures as topic-dependent inferences. *Linguistics and Philosophy* 19(4), 393–443.
- Veltman, F. (1996). Defaults in update semantics. *Journal of Philosophical Logic* 25(3), 221–261.
- von Stechow, K. (1999). NPI licensing, Strawson entailment, and context dependency. *Journal of Semantics* 16(2), 97–148.
- Zaefferer, D. (2006). Types, moods, and force potentials: Towards a comprehensive account of German sentence mood meaning. *Theoretical Linguistics* 32(3), 335–351.
- Zwarts, F. (1998). Three types of polarity. In F. Hamm and E. Hinrichs (Eds.), *Plurality and Quantification*, pp. 177–238. Dordrecht.