

The semantics of high negation*

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Abstract Two kinds of negation have been characterized as expletive; the goal of this paper is to address instances of so-called high expletive negation. I aggregate a wide variety of constructions that have all been characterized as involving high expletive negation (i.e. negation that is relatively high on the spine, doesn't contribute to the truth-conditions of the utterance, and instead contributes some sort of ineffable expressive meaning): high negation questions; negated interrobangs; *so* AUXn't NP/DP (SAND) constructions; *if*-exclamations; negation exclamations; surprise negation sentences; and negated rhetorical questions. I argue that, in each construction, high negation is discourse-anaphoric to some salient proposition outside of (and prior to) the utterance it occurs in, just like response particles. In addition to explaining why high negation doesn't impact the truth conditions of the utterance it occurs in, I argue that it also explains the inability of high negation to license NPIs (and its compatibility with PPIs); its expressive contribution; and its tight correlation with discourse markers. It also accounts for why high negation is string-identical to standard negation across a wide variety of constructions and languages.

Keywords: expletive negation, expressive negation, high negation questions, biased questions, rhetorical questions, interrobangs, discourse anaphora

1 Introduction

There are dozens of instances of licensed negation that have been characterized as semantically inert, spurious, or expletive. This putative phenomenon flies in the face of what we know about compositionality, or at least of what we expect natural language to do. There are two distinct subclasses of expletive negation (Greco 2018): low expletive negation occurs low in the sentence (relative to standard negation), and is optional; high expletive negation occurs high in the sentence—at or near the left periphery—and is generally characterized as obligatory.

In what follows, I review a variety of constructions that have (independently) been characterized as involving high expletive negation, and I argue that the negation

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in all of them is doing the exact same thing: it is discourse-anaphoric to a salient proposition that was already in the context. This not only derives the contribution of negation in these individual constructions, it also accounts for the very universal cross-linguistic tendency of languages to co-opt their ‘standard’ negation markers for these functions and in these constructions.

The phenomena examined here are as follows (with high negation underlined):

- (1) Isn’t he diabetic? **high negation question (HNQ)**
- (2) Isn’t HE lucky?! **negated interrobang¹**
- (3) Andrés is smart, but so isn’t Ramiro. **so AUXn’t NP/DP (SAND) form**
- (4) If it isn’t my favorite philosopher! **if-exclamation**
- (5) Don’t you look nice! **negation exclamation**
- (6) No ga-lo magnà tuto!
NEG has-3SG.CL eaten everything
‘He’s eaten everything!’ **negation exclamation (Paduan)**
- (7) E non mi è scesca dal treno Maria?!
and NEG CL.to.me is got off-the train M
‘Mary got off the train?!’ **surprise negation sentence (Italian)**
- (8) Ney-ka aisukhulim-ul ta mekess-cyanh-a?
you-NOM ice.cream-ACC all ate-C.NEG-DECL
‘You ate up all the ice cream?’ **negative rhetorical question (Korean)**

The SAND construction in 3 was first documented in Wood (2014), and is exclusively spoken in (some dialects of) New England English. It is interpreted roughly as ‘Andrés is smart, and so is Ramiro, contrary to what you’d think.’

The Italian ‘surprise negation sentence’ in 7 (from Greco 2019), and the Korean ‘negative rhetorical question’ in 8 (from Yoon 2022) have both been argued to be distinct from negated interrobangs like 2 or negation exclamations like 5 and 6 (from Portner & Zanuttini 2000), so I have labeled them accordingly.

¹ There has been an unwieldy and unfortunate proliferation of labels for these things (see the talk hand-out for relevant citations): *surprise redundancy contour*; *negative rhetorical questions*; *exclamation rhetorical questions*; *question-based exclamations*; *emphatic questions*; *positive-rejecting declarative questions*; and *counterexpectational wh-questions*. Because these constructions all have in common that they are transcribed with ‘?!’ – a punctuation mark dubbed the ‘interrobang’ in 1962 – this is the only obviously theory-neutral term for them, and the most empirically general.

But the goal of this paper is to argue that negation is doing the same thing in all of these constructions, and that any perceived differences between the constructions can and should be attributed to actual perceived differences between them (like additional morphemes like *if*, or of distinct intonational patterns). So I will not be motivating any substantive distinctions between these constructions. This account will also, thankfully, not require us to draw a strong empirical line between negated interrobangs like 2 and HNQs like 1, which are string-identical and have only subtly different semantic contributions plausibly attributable to prosodic differences.

2 Properties of high negation

High negation, as I characterize it, exhibits five interconnected properties: 1) it is relatively high in the string; 2) it is non-truth-conditional; 3) it is unlike standard negation in other ways; 4) it is expressive; and 5) it is obligatory in a narrow sense. In this section, I will motivate and exemplify these properties.

I won't have much to say about the only syntactic property, that **high negation is syntactically high**, which is consistently defended in the syntax literature better than I can defend it here. The exact height of high negation is construction-variable but generally calculated with respect to the position of standard negation (Greco 2018). In e.g. negated interrobangs, high negation and standard negation can co-occur; when it does, high negation precedes standard negation (Halm & Huszár 2021).

- (9) Hát Mari nem nem olvasott el semmit?! *Hungarian*
 well M NEG_{high} NEG_{std} read.PST.3SG PRT nothing.ACC
 'Mary did not read anything (surprisingly).' (Halm & Huszár 2021)

For the purposes of this paper, the exact syntactic location of high negation is immaterial; this account predicts that negation behaves like high negation whenever it has access to a prior salient proposition, which typically if not always tracks its position in the left periphery.

High negation is **non-truth-conditional**, which is why it has been characterized as expletive negation in many of these constructions. This means that, in an assertion, high negation doesn't contribute to the assertion; the *if*-exclamation in 4 can only be felicitously uttered in a situation in which the salient individual is in fact the speaker's favorite philosopher. It also means that, in a question, high negation contributes to neither the question's presupposition or speaker bias. The two high negation questions above, repeated in 10, do not commit the speaker to the belief that he is not diabetic or not lucky.

- (10) a. Isn't he diabetic? *high negation question*
 b. Isn't HE lucky?! *negated interrobang*

To the contrary, high negation questions are associated with the speaker's positive epistemic bias that p (for the negation stringmate p , here that he is diabetic) and of course the negated interrobang in 10b is used to express surprise or incredulity at the negation stringmate (e.g. that he is lucky).

High negation is **non-standard** in other ways, too; it does not license NPIs or n -words (Greco 2018, 2019); is compatible with PPIs (Ladd 1981; Han & Romero 2004); and doesn't force a conjunction reading of disjunction (Wood 2014). The first point is illustrated in 11, from Greco (2019), contrasting standard negation in Italian with high negation, and 12, from Wood (2014); the third point is illustrated in 13, from Wood (2014), with a SAND construction.

- (11) a. Gianni non ha affatto capito.
G NEG has.3SG at all understood
'Gianni did not understand at all.' *Italian standard negation*
b. *E non mi è affatto scesa dal treno Maria?!
and NEG ED.to-me is at all got off-the train M
'Did Maria not get off the train at all?!' *Italian 'surprise negation'*
- (12) a. *Well aren't you going anywhere special!
b. Well aren't you going somewhere special! *negation exclamation*
- (13) John held his breath underwater for 30s, but so didn't Mike or Joanne.

If the high negation in SAND constructions behaved like standard negation, we would expect the disjunction to be interpreted like a conjunction. Instead, it is interpreted like a disjunction; 13 is true even when one of the two disjuncts holds.

The final two properties of high negation are related. High negation is **expressive** in that the constructions it occurs have some ineffable, expressive meaning as the consequence of the high negation; it is **obligatory** in that these constructions are defined in terms of this expressive meaning. In some cases, like *if*-exclamations, the high negation is literally obligatory: the sentence **If it is my favorite philosopher!* isn't a legitimate matrix utterance. But in other cases, omitting the high negation just amounts to changing the construction from an expressive one to a non-expressive one. In both HNQs and negated interrobangs, omitting the high negation just amounts to losing the ineffable contribution (to be discussed in detail below).

The expressive component of high negation, in part due to the intrinsic ineffability of expressive content, has been characterized differently across constructions. In some cases, especially HNQs and SAND constructions, high negation is associated with disagreement. In other cases (e.g. negated interrobangs, surprise negation sentences), it is associated with mirativity, or speaker surprise; in still others (e.g. *if*-exclamations, negation exclamations, interrobangs, and negative RQs), with an expression that the negation stringmate is unlikely in some more objective sense.

3 Previous accounts

There are roughly two types of accounts of high negation. The first type focuses on negation exclamations, surprise negation sentences, and negative rhetorical questions (5–8), and treats high negation as ‘expressive negation (EN)’ (or ‘evaluative negation’). In these accounts, EN is analyzed as semantically distinct from standard negation.² Yoon (2011) argues that EN conveys a presupposition of the speaker’s negative attitude towards the content of the negation stringmate. Delfitto (2020) claims that EN operates on a presupposition or implicature associated with the negation stringmate, instead of its at-issue content. Halm & Huszár (2021) claim that EN denies “the presupposition that the event...is a member of the set of events likely to be true” (p568). Tahar & Mari (2023) argue that EN negates the Krifkaesque speech act (much like the analysis of negative response particles in Krifka 2017), and Nagata & Honda (2025) follow Cohen & Krifka (2011) in characterizing high negation as ‘denegation’: the speaker’s refusal of a prior assertion.

It’s not clear how to extend these proposals to other instances of high negation. We’ve already seen that HNQs and negated interrobangs actually bias the speaker toward the proposition denoted by the negation stringmate, so we can’t analyze high negation in terms of its stringmate. And I genuinely don’t see how it is possible to negate speech acts, given any intuitive notion of a speech act: I would either be negating my own speech act, which results in some illocutionary version of the Liar’s Paradox, or I’d be negating someone else’s prior speech act, which I don’t believe I have the authority or ability to do. But these accounts share an even more worrying problem, which is their inability to account for the construction- and language-based variability of high negation. All sorts of unrelated languages co-opt standard negation to do the same sort of thing in a wide variety of constructions. Any account that builds in one particular expressive relation (here, unlikelihood) into a unique lexical entry is unable to explain these very compelling universals.

A second family of accounts of high negation focus exclusively on HNQs like 1 (Romero & Han 2004; Repp 2013; Romero 2015; Frana & Rawlins 2019). They, too, have in common that they imbue high negation with a meaning distinct from standard negation, and defined only in terms of its stringmate. They characterize high negation as an incarnation of *FALSUM*, the opposite of *VERUM*. In discussing these accounts, I’ll focus on the proposal in Frana & Rawlins (2019).

According to Frana & Rawlins (2019), HNQs do two things: 1) they require

2 I’m glossing over a subtle difference; the two speech-act-negation theories (Tahar & Mari 2023; Nagata & Honda 2025) analyze high negation as a version of negation that targets speech acts. Depending on the compositional details, this could in principle be defined as semantically identical to standard negation, although they all involve null ‘speech act operators’ to mitigate between the negation and propositional stringmate in these but not standard negation constructions.

that the hearer belief that p is not in the Common Ground; and 2) they contribute an “implied bias” on behalf of the speaker that p . The first property aims to account for the intuition that HNQs are used to express disagreement that p despite disagreement not strictly speaking being a requirement for HNQs. The second accounts for the observation, discussed in §2, that HNQs carry a speaker epistemic bias that p . They generate these properties by defining high negation as follows:

$$(14) \quad \llbracket \text{FALSUM} \rrbracket^{c,w} = \lambda p_{\langle s,t \rangle} . p \text{ defined for } p, c, w \text{ only if} \\ \forall w' \in \text{Epi}_{\text{Origo}_c}(w) : (\forall w'' \in \text{Convo}_{\text{Origo}_c}(w') : (p \notin \text{CG}_{w''}))^3$$

These accounts are subject to the same major flaw as expressive negation accounts: they analyze high negation as semantically distinct from standard negation, which makes them incapable of accounting for some very compelling universal tendencies. But it’s also very hard to generalize this entry for high negation outside of HNQs. Because it builds in expressive orientation, it predicts that the expressive component (here, a weak expression of non-agreement) of high negation is always hearer-oriented in questions and speaker-oriented in assertions. This makes it hard to generalize to interrobangs, which are infamously a mixture of both constructions. And because it hard-wires in this non-agreement condition, it can’t account for the mirative or unlikely contributions of other instances of high negation.

I’d like to focus for a second on a specific problem these two types of accounts run into: they characterize high negation exclusively in terms of the negation stringmate, which really ties their descriptive hands. While our static semantics is set up in such a way that operators naturally combine with their local arguments via function application, that intuitively is not what’s happening in high negation constructions.

Consider a context in which I know Dylan is diabetic (and of course Dylan knows that he is diabetic, and even that Dylan knows that I know...). If I see Dylan reaching for a doughnut, it’s quite natural for me to utter the high negation question in 15 (with or without an interrobang).

$$(15) \quad (\text{Dylan reaches for a doughnut}) \text{ Aren't you diabetic?}$$

There is no way in which this negation relates to the stringmate proposition, that Dylan is diabetic. I am not disagreeing with Dylan about whether he is diabetic, I am not surprised that he is diabetic, I am not expressing that I think it’s unlikely that he is diabetic. Rather, intuitively, the negation component of the high negation question is tied to the act of Dylan reaching for a donut. A natural way of characterizing the role of 15 in the doughnut-reaching situation is as protesting the doughnut-grabbing while also asking a biased positive question about his being diabetic. In this way, the high negation question in 15 is doing the same sort of thing as in 16.

3 “Origo_c is sure that, in all worlds satisfying their conversational goals, p is not [in –JR] CG” (p16).

(16) (*Dylan reaches for a doughnut*) No! You're diabetic(, right?)!

The negative response particle in 16 isn't disagreeing with the act of Dylan reaching for a doughnut, it's protesting it, or (in other words) opposing a proposition made salient by the reach, namely that Dylan is able to (safely) eat a doughnut. If this is right, we should analyze high negation like we do response particles, and allow them to negate salient propositions introduced linguistically or non-. That is the analysis I pursue in §5.

There's one other account of high negation worth mentioning: the treatment in Wood (2014) of SAND constructions as well as HNQs, negation exclamations, and *if*-exclamations. In addition to Nagata & Honda (2025), it is the only other treatment of more than one of the constructions listed in §1. But it is largely a syntactic account, postulating a(n occasionally null) propositional anaphor *so* that head-moves to the left periphery and a null *too* to derive the head movement.

(17) [CP *so* [C' [C° [T° are+NEG] C°] [TP you [T° *t*_{are} [*t*_{so} pretty]]]

Ultimately, it predicts that these high negation constructions amount to an assertion of the disjunction $\neg p \wedge \neg(\neg p)$, with *so* resolving the disjunction in favor of $\neg(\neg p)$. For Wood, then, the expressive contribution of high negation constructions results from the pragmatic properties of denying a negative proposition. While there is a lot to appreciate in this account, I attempt below to achieve the same sort of result without relying on null morphemes or null syntactic machinery, and without treating high negation as involving double negation.

4 An introduction to exophora

If endophora refers to anaphora within a sentence, we can use the term **exophora** to characterize anaphora outside of a sentence (Diessel 1999). Cross-sentential anaphora (18) is a familiar form of exophora, but I'll also use the term for goat anaphora (19; Stalnaker 1978), which shows we can license anaphora contextually.

(18) [A semanticist]^x walked in. She_x pontificated.

(19) [*A goat walks in the room.*] What's he doing here?!

In Rett (2024) I characterize illocutionary content as speech-event anaphora, accounting for terms like *briefly* that can have either illocutionary or descriptive readings. The account is inspired by Bittner's (2007) formal implementation of Stalnaker (1978)'s continued discussion of goat anaphora, in which he says "when I speak, I presuppose that others know I am speaking" (p86). Bittner (2007) argues that the start of an utterance triggers—in a goat-anaphoric sense—the introduction of a speech event *e*₀, via a formal move called the 'start-up update'.

The account in Rett (2024) is that *briefly* is an event modifier, but takes its semantic argument discourse-anaphorically rather than by function application. In 20a, where *briefly* is interpreted illocutionarily, the most salient event is the speech event, made salient contextually by the act of speaking. In contrast *briefly* is interpreted descriptively in 20b, as the most salient event is the VP event.

- (20) a. Briefly, she was president. *illocutionary*
 b. She was president briefly. *descriptive*

This account is relevant to high negation because it provides independent evidence that exophora—and the reconceptualization of operators and modifiers as associating with their arguments discourse-anaphorically, rather than via function application—is an easy and effective way to account for terms that behave differently based on where they occur in the sentence (and, in particular, behave less truth-conditionally in the left periphery).

From the perspective of exophora, high negation would behave much like a version of negation we’re already familiar with as a discourse anaphor: negative response particles, as in 21.

- (21) Q: Does Donka like Malbec? $p: \text{like}(d, m)$
 A: No. $\neg p: \neg \text{like}(d, m)$

Beginning with Krifka (2017), response particles like *no* have been analyzed as propositional discourse anaphors, rather than involving ellipsis (Roelofsen & Farkas 2015). In 21, the positive-polar question makes salient the speaker bias p (that Donka likes Malbec), and it’s this proposition that *no* in the answer takes as its argument, just by virtue of its salience or discourse prominence. We already have reason to think *no* can be discourse-anaphoric, so the following proposal is an investigation of what happens when we extend that meaning to high negation, where an opposing proposal involving ellipsis is even less plausible.

5 Exophoric negation

In addition to the notion of exophora, this account needs three ingredients. The first is a conversational record to model salience dynamically, i.e. a Stack and a top function $\top$. I believe salience should be modulated by attention (Stojnić, Stone & Lepore 2017), so this model is just a placeholder for an ancillary cognitive one. To do this, I’ll loosely adopt the dynamic account in CDRT (Muskens 1996).

Second, I need propositional anaphors: I need the conversational record to model not just salient entities, but salient propositions. There is of course a lot of independent evidence for this; 22 is an illuminating example from Snider (2017).

- (22) A: Tamatoa, voiced by Ricky Gervais, is a very shiny lobster.
 B: No, that's not true, he's a very shiny crab.

In 22, the propositional anaphor *that* is anaphoric to A's prior assertion, that Tamatoa is a very shiny lobster. But this example is interesting for another reason: it includes a response particle *no*, and in this example, *no* is intuitively associating with the same proposition as its adjacent anaphor, which is what we'd expect.

Finally, we need a discourse-anaphoric characterization of propositional negation, in which its argument is a salient proposition, not (necessarily) a clausemate.

- (23) $\llbracket \text{NEG} \rrbracket = \neg(p_{\top})$, for some salient proposition $p_{\top}$

If we think of standard propositional negation as (necessarily) combining with a clausemate, standard negation can be characterized discourse-anaphorically, while (as discussed) high negation cannot be characterized in terms of function application. So while 23 is strictly-speaking my definition for high negation, it can also work as a definition for all instances of negation, with the right model of salience.

A priori, three kinds of propositions p could be salient at an utterance time. 1) p could be a commitment of an interlocutor, either presumed or explicit (linguistically introduced into the discourse record); 2) p could be an expectation of the speaker's, presumed or explicit; or 3) p could be an expectation of the conversational group as a whole (presumed or explicit). There's really not much differentiating these propositions; an expectation is a sort of commitment, and the speaker is a member of the conversational group. So while this first type amounts to what feels like disagreement, the second to mirativity, and the third to an expression of unlikelihood, there's a clear connection between all three when we consider their negation. And because many of these constructions are associated with more than one of these expressive contributions, it's nice to not worry about distinguishing them.

5.1 Modeling mirativity/unlikelihood in interrobangs

I'll start by modeling mirative and unlikelihood readings of *if*-exclamations, negation exclamations, surprise negation sentences, and negative rhetorical questions. These constructions are more naturally discourse-initial, and intuitively pick up on an expectation in the CG. In what follows, I will reserve the propositional variable p_2 for the negation stringmate, and the variable p_1 for the propositional discourse antecedent of high negation, i.e. a proposition that is salient in the discourse when the high negation construction is uttered. I focus on the Italian 24 (repeated from 7).

- (24) E non mi è scesa dal treno Maria?!
 and NEG CL.to.me is got off-the train M
 'Mary got off the train?!' **surprise negation sentence** (*Italian*)

To interpret 24, we need only model the context in a way that p_1 , the expectation that Mary will not get off the train, is salient in the context. (For mirative uses, this expectation is by definition the speaker’s, but need not be.)

	update	stack	top
[CONTEXT OF UTTERANCE]		$\langle p_1 \rangle$	$p_{\top} = p_1$
<i>E non mi</i>	$\neg p_1$	$\langle \neg p_1, p_1 \rangle$	$p_{\top} = \neg p_1$
<i>è scesa dal treno Maria</i>	p_2	$\langle p_2, \neg p_1, p_1 \rangle$	$p_{\top} = p_2$

Table 1 *modeling negated interrobangs and rhetorical questions like 24*

When high negation is pronounced and interpreted, it picks up on p_1 discourse anaphorically, and negates it, as represented in the second line in Table 1. (This act of negating p_1 makes salient an additional proposition, namely the proposition that the expectation that Mary will not get off the train is false.) Finally, the rest of the sentence adds p_2 (‘Mary got off the train’) to the Stack.

5.2 Modeling disagreement in SAND constructions

Before I model the contribution of high negation in SAND constructions, I must pause to talk about *but*. In 25, B can respond to A’s assertion with an *and* clause.

- (25) A: Wemby is tall.
 B: And agile! $p_1 \wedge p_2: \top(w) \wedge A(w)$
 B’: But agile! $p_1 \wedge p_2 (\wedge p_2 \text{ is in opposition to } p_3):$
 $\top(w) \wedge A(w) (\wedge A(w) \text{ is in opposition to } \text{GEN}(x)[\top(x) \rightarrow A(x)])$

This tells us that we need a cross-sentential and discourse-anaphoric semantics for *and* that relates its conjunction stringmate p_2 , the (ellided) proposition that Wemby is agile, to p_1 , A’s assertion that Wemby is tall.

Similarly, the response in B’ shows that we need a discourse-anaphoric characterization of *but*, with the same at-issue content ($p_1 \wedge p_2$). But *but* also encodes opposition in not-at-issue content, and there it relates its stringmate p_2 not directly to p_1 (the at-issue content of the previous assertion) but to p_3 , an implicature associated with the previous assertion.⁴ So when we’re modeling salient propositions for discourse anaphora, we need to keep track of both at-issue and not-at-issue content associated with a given utterance.

⁴ This is one of three possible readings for *but*, the (direct) counterexpectational use (Toorsarvandani 2014). *But* can also encode opposition to p_1 itself, as in *Terry does not walk, but she crawls*. These uses are lexically distinguished in German, by *sondern* and *aber* (Abraham 1979). For an excellent, compositional, discourse-anaphoric implementation of this, see Webber, Stone, Joshi & Knott 2003.

The proposition negated in SAND constructions is also an exhaustive implicature associated with the previous clause. SAND constructions are never discourse-initial; they either follow an assertion by the same speaker, or are uttered in relation to a previous utterance. (26 is repeated from 3; 27 is also from Wood 2014.)

(26) Andrés is smart, but so isn't Ramiro.

(27) A: This orientation is going to be so boring, I'm glad I don't have to go.

B: Why don't you have to?

A: Because I've been to London before.

B: (But) So haven't I!

Intuitively, what's happening in these constructions is that the obligatory *so* establishes a parallel between the predicates in each conjunct; in 26 its antecedent seems to be *is smart*. But SAND negation isn't anaphoric to this property, or to the proposition denoted by the first conjunct (the discourse antecedent; cf. Wood 2014). It is instead anaphoric to an exhaustive interpretation of the discourse antecedent: for 26 the proposition that Only Andrés is smart, as modeled in Table 2.

	update	stack	top
<i>Andrés is smart</i>	p_1 : 'A is smart'	$\langle \{p_1, p_2\} \rangle$	$p_{\top} = \{p_1, p_2\}$
<i>but</i> NEG	p_2 : 'Only A is smart'		
	$\neg p_2$	$\langle \neg p_2, \{p_1, p_2\} \rangle$	$p_{\top} = \neg p_2$
<i>so is Ramiro</i>	p_3 : 'R is smart'	$\langle p_3, \neg p_2, \{p_1, p_2\} \rangle$	$p_{\top} = p_3$

Table 2 modeling SAND constructions like 26

This comes for free in a model in which all propositional content associated with an utterance—not just at-issue content—is modeled as available for discourse anaphora.

5.3 Modeling disagreement in high negation questions

The high negation in HNQs can negate prior at-issue content, as in 28.⁵

(28) A: Dylan is in Argentina.

B: Isn't he in Austin?

But this is a relatively straightforward case; it can also associate with a presupposition associated with the previous utterance, as in 29.

⁵ In this section, I single out HNQs, but the same discussion applies to negated interrobangs, which receive the same interpretation but whose prosody adds an additional layer of incredulity.

- (29) A: Dylan just ate a doughnut.
B: Isn't he diabetic?

In 29, intuitively, the high negation targets a presupposition of A's utterance: that Dylan is able to (safely) eat doughnuts. To model this, we need the Stack to also track presuppositions associated with prior utterances. This is illustrated in Table 3.

		update	stack	top
A	<i>assertion presup.</i>	CG proposal: p_1 : 'D ate a doughnut' CG update: p_2 : 'D can eat doughnuts'	$x : \langle d \rangle$ $p : \langle \{p_1, p_2\} \rangle$	$x_{\top} = d$ $p_{\top} = \{p_1, p_2\}$
B	<i>is he not diabetic?</i>	$\neg p_2$ partition CG into $p_3 / \neg p_3$ worlds for p_3 : 'D is diabetic'	$\langle \neg p_2, \{p_1, p_2\} \rangle$ $\langle \{p_3, \neg p_3\}, \neg p_2, \dots \rangle$	$x_{\top} = d$ $p_{\top} = \neg p_2$ $p_{\top} = \{p_3, \neg p_3\}$

Table 3 modeling high negation questions like 29

Note that our original doughnut HNQ in 16 was triggered not a statement of A's, but by the act of Dylan reaching for a doughnut. It seems as though Dylan's act of reaching for a doughnut, just like A's utterance in 29, makes salient the presupposition that he can safely eat doughnuts. In 29, the presupposition is linguistically introduced into the discourse record; in the original case, the presupposition is introduced situationally, like Stalnaker's goat.

The discourse-anaphoric nature of high negation in this account makes a specific and intuitive prediction about what can go wrong, i.e. what happens in a context in which HNQs are not licensed, like out-of-the-blue contexts. Imagine a scenario in which A approaches B in a semantics conference, and in which A has reason to believe that most female semanticists are named Judith. 30a is fine as a biased question, but 30b is not felicitous, despite it also being biased towards the same p_2 (namely, that the addressee's name is Judith).

- (30) a. Is your name Judith?
b. #Isn't your name Judith?

Because the connection between high negation and the expectation is discourse-anaphoric, we expect the infelicity in a context that doesn't support the expectation to feel like reference failure: the hearer of 30, in a context that doesn't support it, should find themselves mentally flailing around for some salient proposition in the context that is being objected to. In contrast, the account in Frana & Rawlins (2019) analyzes the infelicity of 30b as presupposition failure, without any explanation for

why it can't be accommodated.⁶

A central puzzle for treatments of HNQs has been how to explain their positive speaker epistemic bias, especially given the typical assumption that non-negated polar questions are neutral with respect to bias (Ladd 1981).⁷

- (31) a. Is there a vegetarian restaurant around here? *neutral*
 b. Isn't there a vegetarian restaurant around here? *biased towards p*

As a result, this positive bias is often hard-wired into high negation questions.

But, as Büring & Gunlogson (2000) observe, positive-polar questions aren't always neutral: they're *p*-biased whenever there's a clear *p*/ $\neg p$ binary.

- (32) Isn't she left-handed?

It's easy to imagine that, whenever high negation is employed, there is always a clear *p*/ $\neg p$ binary. And, sure enough, if we tweak the doughnut scenario accordingly, we can get a positive speaker bias for positive-polar version of the question, too:

- (33) (*World's best doughnuts are delivered, Dylan starts to reach for one but clearly changes his mind*) Are you diabetic?

This suggests that—assuming it's a semantic and not pragmatic phenomenon—we should encode bias in the polar-question illocutionary mood marker, not in high negation. Specifically, this suggests that PQ(*p*) biases towards *p* and away from $\neg p$ whenever there are clear alternatives to *p* in the context, even when the string includes high negation. This perspective has the added benefit of bringing us closer to an explanation of the unacceptability of high negation in *wh*-questions, which (generally) offer no clear binary.

6 Additional empirical support

This section briefly reviews additional empirical support for the current proposal: the NPI/PPI facts; the observed proliferation of discourse markers in high negation constructions; and independent evidence for the variability of propositional anaphora. I'll discuss these in turn.

Recall that high negation doesn't license NPIs, is in fact compatible with PPIs, and does not do any of the other things standard negation does to its complement,

⁶ Another case of infelicitous HNQs involves a lack of relevance between the negated proposition and the negation stringmate, e.g. A: *Dylan is in Argentina*. B: *#Isn't he diabetic?*. This, instead, seems like an issue of relevance: there is a discourse antecedent for the high negation, but it's not related to the speaker's assertion. If we expect two adjacent utterances to be relevant to one another, it stands to reason that we also expect two distinct moves in the same utterances to be relevant to one another.

⁷ Special thanks to Magda Kaufmann and Donka Farkas for their help with this issue.

like convert disjunctions into conjunctions. In the present proposal, there is a clear and straightforward explanation for this: the negation stringmate isn't an argument of high negation. This is the same reason we don't expect negative response particles to license NPIs in the sentences they occur in, e.g. 34.

- (34) A: Does Sam like cake?
B: No, he likes (*any) pie.

This is a natural consequence of exophora: we expect to find operators working outside of their clause, and we expect it more often for those in the left periphery.

Regarding discourse markers: It's easy and unmarked to negate assertions ("Dylan is diabetic." "No he's not! He's celiac.") So it stands to reason that natural language users would need to find sneakier, more marked ways to negate not-at-issue content, and high negation seems to be one of these ways. We find it very commonly negating implicit content like background assumptions, presuppositions, and exhaustivity implicatures. And, where constructions are underspecified with respect to the associate of their negation, we seem to signal the exophoric interpretation by highlighting the discourse connection with the exophoric associate.

- (35) A: Dylan is diabetic.
B: I'm not. B': And I'm not?! B'' #I'm not?!

The negation in the B response in 35 negates A's assertion; it's felicitous but narcissistic. In contrast, the negation in the B' response is negating the exhaustivity implicature associated with A's response: B' is objecting to the suggestion that Dylan is uniquely diabetic. But notice this reading is (largely) unavailable in B'', which lacks the discourse-connective *and*. This suggests, quite intuitively, that exophora to not-at-issue content is greatly aided by overt signals of the discourse connection.

And this is what we see, overwhelmingly, in high negation constructions cross-linguistically. Halm & Huszár (2021) observe that Hungarian surprise negation constructions are more natural with sentence-initial *well* (see also 12); Wood (2014) observes that SAND constructions require *so* and strongly prefer *but* (which are typically incompatible with one another); and Greco (2019) notes that Italian surprise negation sentences are more natural with a sentence-initial conjunction as well as the ethical dative, a clitic picking out an 'emotional participant' of the event (either the first or second person). And if we buy into the very compelling treatment in Starr (2014) of *if* as a propositional topicalizer, we can also use this perspective to explain *if*-exclamations.

Finally, the account of high negation proposed here takes for granted that, at any given point in time, there are multiple propositions on the Stack that are available for discourse anaphora, i.e. that seem to be equally salient. Infamously, HNQs are hard to clearly answer in English (Ladd 1981).

- (36) A: Isn't Danny going?
 B: Yes (Danny is not going). B': No (Danny is not going).

But there's evidence that response particles—which I predict behave quite similarly to high negation—also have options with respect to their discourse antecedents.

- (37) A₁: Do you want us to nominate you? B₁: No thanks.
 A₂: Are you sure? B₂: {Yeah, / No,} I don't like attention.

We can account for the variability in 36 with the right theory of salience: in the *no* response, $p_{\top}$ is the stringmate of the high negation in A's question ($p_2 =$ 'Danny is going'). But in the *yes* response, $p_{\top}$ is the discourse antecedent of the high negation in A's question, some previous commitment that seems incompatible with the presumption that Danny is going.

7 Conclusion

To briefly summarize: I argue that high so-called expletive negation looks and acts unlike standard negation not because of its meaning, but because of its semantic associate, which is outside of the sentence. We independently know that anaphora isn't sentence-bound, or even language-bound. And the flexibility of modifiers like *briefly* have show us that exophora is a useful way of explaining the illocutionary-coded behavior of left-periphery operators.

Specifically, the account here claims that high negation is just doing what we'd expect left-peripheral anaphors to do: it is anaphoric to something salient but prior to the utterance it occurs in. In addition to explaining why standard negation is co-opted across languages and constructions to perform effectively the same function, this theory correctly predicts that: i) instances of high negation don't license NPIs; ii) these instances of negation often co-occur with other discourse markers; iii) the various uses of high negation (disagreement, mirativity, unlikelihood) aren't conventionally fixed, but are contextually conditioned; and iv) the negation antecedent need not be truth-conditional, i.e., can be a salient presupposition or implicature.

There are some tempting empirical extensions of this account which I do not have time to address in full. Principally, if this is the right characterization of *FALSUM*, we're in a good position to define *VERUM* as its dual, i.e. as an affirmation of an exophoric proposition. This would explain its height in the tree, as well as its discourse restrictions. With the right theory of markedness, we might not even need to hardwire this meaning into a null operator.

There is an obvious extension of this treatment of high negation to negative tag questions, especially those from British English (e.g. 38) that display unmarked singular agreement.

(38) They have catering, isn't it?

Such an approach would be aided by a compositional treatment of comma intonation and its role in structuring access to anaphoric antecedents (e.g. Rett & Rudin 2026).

Finally, there are a variety of sentence-initial operators that have been observed to behave in unexpected ways, and which (like high negation) have been analyzed as encoding more presuppositional content than their lower counterparts: *but*, as already discussed, and *only* (Ippolito 2008). They are prime candidates for a discourse-anaphoric treatment, in part because they can occur in isolation, and in part because of their apparently-non-truth-conditional associations.

I'll end by acknowledging that any account that prioritizes an explanation of universality is automatically ill-equipped to account for language-specific variation. I feel strongly that the most important theoretical desiderata for an account of high negation is that it universally co-opts standard negation, and that it's used in a wide variety of constructions. But the consequence is that I do not have a built-in explanation for any construction-specific restrictions. While many of the constructions I unify in this approach are plausibly readily available cross-linguistically, there is at least one notable exception—the SAND construction—which is not just unacceptable outside of New England dialects, but virtually uninterpretable. I will have to rely on an ancillary explanation for why constructions like these are possible in only certain languages, or why they are blocked in many of them.

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