

Abstract. This article demonstrates how the Functional element *J*-unct that is introduced in Zhang (2023, 2024a,b) can be used to build negative approximative adverbials, appropriately capture their semantics, and account for the two unique interpretations of *hardly*. It posits that rather than a NegP, the syntax contains an abstract negative adverbial operator (\neg_{op}). It is therefore an extension of the research on negation syntax in Newmeyer (2006); Murakami (2007) and Bruening (2025).

Keywords. Negation Syntax; Modification; Coordination; *J*-Theory; Negative Adverbials; Approximatives

1. Introduction. The research here presents a path toward capturing the syntactic and semantic properties of the negative approximatives: *barely*, *hardly*, *scarcely*, etc. In order to do that, it's necessary to take a stance on the inherent negation of these items. One way to move forward is to treat these lexical items as though they are internally complex, and in that regard, this work then draws inspiration from other important circles of research. Most notably, these are Nano-syntax (De Clercq 2020: a.o.), Distributed Morphology (Matushansky & Marantz 2013; Meisner & Pomino 2014: a.o.), and the research on Negation (and Neg-Raising) presented in Collins & Postal (2014: a.o.). Additionally, I assume the availability of a process of post-syntactic lexical insertion, which is commensurate with the work of some of the previously mentioned authors but also figures centrally in the research conducted in Borer (2005b,a); Adger (2012: a.o.). It's important to note that I'll neither be explicitly advocating for, nor arguing against, any of aforementioned authors' positions. Rather, what I do in this small paper is raise a few questions about the syntax and semantics of a specific class of item (the negative approximatives), and along the way, advance some aspects of a larger research agenda. Let me briefly lay some of this out.

In what follows, I argue that a negative approximative like *hardly* is a syntactically complex modificational structure, and that its semantics arise from the interaction of two syntactic pieces: a proximity operator PROX and an abstract negative operator \neg_{op} . Moreover, I advocate that the abstract negative operator is the only piece of negation in the syntax, and that there is no NegP (Murakami 2007; Newmeyer 2006; Bruening 2025). The basic idea is that a great many of the negative lexical items that we are familiar with are unique syntactic configurations (complexes) which are acted upon by post-syntactic lexical insertion mechanisms. In this system, since all negation is the result of an abstract negative adverbial operator \neg_{op} , the rich distribution of negative elements is simplified: it is the reflection of commensurate scope interactions (Ernst 1992, 2001, 2004, 2007, 2020). To build these items, I posit that all the requisite syntactic material is coordinated by the *J*-unct element that Zhang (2023, 2024b,a) has argued serves as a linking element in both traditional coordinate structures, and in modificational structures. With this background in place, we can turn to some of the data.

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2. The Negative Approximatives. The negative approximatives: *barely*, *hardly*, *scarcely*, etc., are a group of quasi-negative adverbials (Atlas 1997; Horn 2002) that form a complement to the affirmative group: *almost*, *nearly*, *slightly*, etc. For the purposes of our discussion, I'm going to focus mainly on *hardly*. This item is particularly interesting because of its ability to give rise to two different, although related, interpretations. The first is a meaning of approximation. In this function, it often appears to have an interchangeable distribution with *barely*. The second meaning is where *hardly* no longer has its standard approximative meaning but instead has a force more like the canonical negators *no* or *not*. I call this variant “Contrarian”, which highlights its use in disputative discourse.¹ Part of what this study does is explain how such a shift in meaning arises. But before turning to that, or how these items are related to other negative adverbials, I'd like to introduce the three approximative “senses”.

If we turn our attention to (1), then we can see that approximative *hardly* has three basic senses that are associated with its modification of various predicates at the VP level.² In (1a), we have an interpretation such that *Dani heard the train albeit faintly*. In (1b), the interpretation is that *Dani attends colloquium infrequently*. And in the case of case of (1c), our interpretation is that *Dani was close to not finishing her book review but did ultimately finish it on time*.

Conceptually, these senses all feel related. What we have is an approach toward a particular boundary point. In the case of (1a), the approach is directed toward a point of *not hearing the train*, in (1b), toward a point of *not attending colloquium any more*, and in (1c), toward a point of *not finishing the book review*. The argument made in Pellino (2024) is that the relevant notion of the boundary points for approximatives are the point at which the preadjacent predicate can be evaluated as either True or False. That research is an extension of the work of Nouwen (2006), and so constitutes an Intensional semantic approach to these adverbs. Thus, if we factor in the appropriate Context and World Knowledge, then *hardly VP* selects a point in the overall conceptual structure³ where the propositional content expressed by the preadjacent is close to the point at which it could be evaluated as False. What we are specifically concerned about in this paper is deriving the Proximal semantics that form that Asserted (At-issue) contribution.

(1) Approximative *hardly*

- a. Dani could *hardly* hear the train's whistle in the distance. \rightsquigarrow Minimal degree/amount
- b. Dani *hardly* attends colloquium any more. \rightsquigarrow Infrequency
- c. Dani *hardly* finished the book review in the given time. \rightsquigarrow Close to Not VP but VP

¹ I'll use italics *hardly* for the approximative variant and small caps HARDLY for Contrarian.

² It is well documented that approximatives and different types of predicates (or properties of predicates) interact to give rise to these senses. However, generalizations have been elusive, and furthermore, do not necessarily hold cross-linguistically, i.e. approximatives have language specific idiosyncrasies. There is an extremely rich literature on Approximatives and so I can not list all studies but some recent research is Kagan & Wolf (2015); Ziegeler (2016); Kilbourn-Ceron (2016); Johnson & Schwenter (2019); Mingya (2019); Orenstein & Greenberg (2021); Baron (2022); Lee (2023); Pellino (2024).

³ Conceptual structure can be thought of as a hierarchical and combinatorial collection of attributes associated with some propositional material. Basically, what we need to know about a Situation in order to understand whether it is eventive or processual—the time frames under which the propositional material developed and the Properties of the objects involved. These are things that are tied to World knowledge, the Semantics, and other Cognitive Systems. See Jackendoff (2004); Culicover & Jackendoff (2005); Glanzberg (2020); Buccola et al. (2022).

Next, I'd like to introduce the meaning that I call Contrarian. Now, while this Contrarian meaning has been documented sporadically in the literature, the only dedicated treatments that I know of prior to Pellino (2024) are Chp 7 section 7.3 of Amaral (2007) and Amaral & Schwenker (2009). In the latter works, this particular meaning is referred to as the “inverted” reading of *hardly*. Those two studies have novel observations that I can't discuss here, however, I do want to acknowledge that they deserve credit for inventing the *Far from it!* linguistic test which I will put to use below. The exclamation *Far from it!* reinforces the At-issue contribution of utterances that contain items that can give rise to a Contrarian HARDLY-like semantics. The felicity of this exclamation thus serves as a diagnostic for Contrarian HARDLY-type meaning.

When Contrarian HARDLY is employed as a modifier, it seems to negate the propositional content altogether. As (2a) illustrates, the interpretation of the utterance is that the subject *Emma* did not say that *Reiss was the best editor*. If the modification had been approximative *hardly*, then the interpretation would have been something like: *while Emma came close to not saying that Reiss is the best editor, she did end up saying that she was*. This is not the meaning that we get. In fact, addressees report a very strong additional inference in the case of Contrarian HARDLY: that the propositional content is *nowhere close* to being True. Again, it is this “not close-to” inference that we are focused upon in this study. To verify this meaning, we can use the *Far from it!* test which is illustrated in (2b). In fact, as (2c) shows, the *Far from it!* exclamation is also licit when we negate an affirmative approximative like *nearly*. This provides us with important evidence: the “not close-to” or *Far from it!* inference is the result of negating whatever is responsible for the inference of proximity.⁴

(2) Contrarian Hardly

- a. Emma HARDLY said that Reiss was the best editor. \rightsquigarrow Emma was nowhere close to saying Reiss was the best editor.
- b. Sophie is HARDLY a suitable candidate for department chair. *Far from it!*
- c. Reiss didn't nearly eat enough pies to win the contest. *Far from it!* She ate 1, and everybody else ate 20 or more!

To visually illustrate the difference between the approximative, and the Contrarian meaning, I have provided a descriptive semantics for the two modifiers. I have depicted this as a conjunction of two meaningful pieces but this should not be taken as an endorsement of the “Conjunctive Analysis”.⁵ In this case, it's just a picture to aid the discussion. So, looking at (3a), we see that approximative *hardly* gives rise to the inferences that we are “close-to” a point where *p* might be False but that *p* is True. This contrasts with (3b), where Contrarian HARDLY gives rise to the inferences that we are “not close-to” a point where *p* could be True, and *p* is False. As we are putting the Polar inference aside for the purposes of this paper, I will show how we get from (3a) to (3b); focused on the proximal conjunct on the left-side of &.

⁴ Scholars interested in Intonational meaning will have immediately noticed that there is some kind of prosodic contour placed on HARDLY and *nearly* in these cases. The nature of this contour needs further investigation.

⁵ The Conjunctive Analysis refers to the fact that Approximatives seem to have both a Proximal component and a Polar component to their meaning. I don't dispute this, just analyses that semantically specify this Polar meaning component. See, Horn (2016, 2017) for a discussion, and Pellino (2024) for a treatment that preserves the insights Horn presents but instead derives the Polar component via Presuppositional Exhaustification (Bassi et al. 2021).

- (3) Descriptive Semantics
- a. Approximative *hardly* \rightsquigarrow close-to $\neg p$ & p
 - b. Contrarian HARDLY \rightsquigarrow \neg close-to p & $\neg p$

3. Dispensing with NegP. Having introduced the semantic nuances that we need to capture, I will now present the assumptions that have been made about negation for the current proposal. Taking some kind of position on the negation system as a whole is unavoidable since part of my solution to explaining negative adverbial behavior involves positing an abstract negative adverbial operator \neg_{op} in the syntax. Such a maneuver requires positing some constraints that dictate the ability for \neg_{op} to build syntactic structures. I will limit the discussion to the most crucial elements here but the references will lead interested readers to more rich proposals on other matters. To begin, the idea that an abstract operator like \neg_{op} is available is not new. It has figured in a variety of proposals over the years, and has so recently, for example, in the work of den Dikken (2019); Thoms et al. (2023); Pellino (2024). Contrary to those studies, what is unique here is that \neg_{op} is adverbial in nature, and therefore, neither projects, nor is hosted inside a NegP. Assuredly, the debate regarding the status of the NegP has been spirited, and the proposals multifarious. As Murakami (2007) has meticulously documented, nearly every conceivable relationship that could exist between a NegP projection, and sentential *not*, *Neg*-words, and negative adverbials, has been entertained. Although there isn't appropriate space to discuss the research presented in Murakami (2007), I summarize the findings below in (4). My study here will be following the research work in (4c).

- (4) a. *not* is the head of NegP: (Pollock 1989; Johnson 1990; Ouhalla 1990; Iatridou 1990; Laka 1994; Zanuttini 1991; Chomsky 1995; Beukema 1999; Pollock 1997; Cinque 1999)
- b. *not* and related negative items are in SpecNegP: (Belletti et al. 1990; Rizzi 1990, 1996; Ernst 1992, 2001; Roberts 1993; Haegeman 1995; Nomura 2003; Radford 2004; Zeijlstra 2004)
- c. *not* and related items are adverbs: (Radford 1988; Baker 1991; Kim 2000; Murakami 1992, 1998, 2002, 2007; Newmeyer 2006; Bruening 2025)

Now, what I would like to do is briefly review a few of the observations made in the studies that I am most building from: Murakami (2007); Newmeyer (2006); Bruening (2025). Each rejects the existence of NegP, and posits that “sentential negation” or *not* is adverbial in nature (it's an adjunct). Additionally, Bruening (2025) argues that there is only a single source of negation in the syntax, and presents a detailed proposal regarding *not* and *n't*. There, Bruening outlines an account of their distribution, *do*-support, Sub Aux Inversion, and a variety of other matters. As Bruening (2025) observes, having just the single \neg_{op} is consonant with a good deal of the semantics literature, e.g., Krifka (2015); Goodhue (2022). I will assume such a framework here, and so I'll now review a few arguments for treating negation as an adverbial operator free of reliance upon the NegP.

One of the thornier matters related to the NegP structure is how to account for the behavior of its Neg-Head. It's well-known that if negation is hypothesized to project a phrase, then the

idiosyncratic properties of its Neg-Head would have to be explained. As pointed out by Lasnik (2000); Newmeyer (2006); Murakami (2007); Bruening (2025), when a Neg-Head is assumed, and something like the *Head Movement Constraint* (HMC) is applied to account for its behavior in a case like (5a), then perfectly good English structures like those in (5b-c) are ruled out.⁶

(5) HMC and Neg-Head interaction data

- a. *John not leave/left.
- b. Will John not leave.
- c. John has not left.

Furthermore, *not* appears to lack the selectional properties that are the hallmark of Heads. Instead, what we find is modification of every type of category. The examples of this wide ranging distribution provided in (6) are more representative of what we would expect if *not* were in fact an adjunct.⁷

- (6)
- a. Emma wrote *not* a novel but a novella. (NP)
 - b. The pen was *not* in the drawer. (PP)
 - c. Reiss discovered the wall was *not* red. (AP)
 - d. Sophie could *not* completely see through the glass. (AdvP)
 - e. They can't simply [*not* [do their homework]] (VoiceP)
 - f. They couldn't have [*not* [been doing that]]. (AuxVP)
 - g. *not* that she would do that even if I told her to (CP)

Turning more now to the idea that *not* has adverbial status, Newmeyer (2006) shows that *not*, and other adverbial items pattern together even in some unexpected environments. Below in (7), for example, we can see that *not*, *never*, *rarely* and *just* all participate in Ellipsis licensing. Undoubtedly, there will be some dialectical variation in regard to the acceptability of such constructions. However, the sample contained in Newmeyer (2006)—from which those in (7) are adapted—were gathered from internet discourses, and so do naturally occur for many speakers, pace Kim (2000).

(7) Adverbial Ellipsis Licensing

- a. Sophie does not enjoy chess and has *never*.
- b. Reiss will play the French but Dani will *rarely*.
- c. Dani has beaten Emma but Reiss has *not*.
- d. Emma doesn't think the strategy will work but Dani thinks it might *just*.

⁶ The data presented in this section are adapted from the data in Newmeyer (2006); Murakami (2007); Bruening (2025), and altered to test some of the adverbials of interest in this study.

⁷ See, Newmeyer (2006); Bruening (2025) for proposals on a constraint to handle environments where *not* is barred.

Obviously, what's most important to establish is that there is some shared distribution between *not*, and the negative adverbs that interest us. As the data in (8) demonstrates, *never*, *barely* and Contrarian HARDLY pattern to a considerable degree with *not*. These distributions are important because I ultimately build these negative adverbs from the same \neg_{op} that I claim gives rise to *not*. And although I don't have space to explore it currently, I believe that it can be demonstrated that where the pattern doesn't hold, it is not because the negation present in the negative adverbials is of a different species, but rather, that a conflict exists with the semantics of one of the other operators involved.

(8) Adverbial Distribution Data

- a. Dani has *not* / *never* / *barely* / HARDLY begun the assignment.
- b. **Not* / **Never* / **Barely* / *HARDLY, Dani has begun the assignment.
- c. Dani left **not* / **never* / **barely* / *HARDLY.
- d. Emma has begun the assignment **not* / **never* / **barely* / *HARDLY.

Having established that a behavioral pattern exists between *not*, *never*, *barely* and Contrarian HARDLY, and that these items are all adverbial in their nature, I'd like to steer the discussion toward the processes by which we might derive those negative adverbials from \neg_{op} . This requires a mechanism for building complex modificational structures, and I will show that this is possible by using the categoryless functional element, *J*-unct, proposed in Zhang (2023, 2024a,b).

4. The *J*-unct Functional Element. Zhang (2023, 2024a,b) develops a proposal to both unify how Coordination and Modification structures are built, and remove the complications that arise in alternative approaches.⁸ Her observation is that these two types of structures are so similar that it is reasonable to assume that they can be built from the same functional element. For example, a set of stacked adjectives, and the internal conjunct of a coordinate structure both have in common a certain optionality. In the case of Coordinate structures, there is a well-known asymmetry that exists between the conjuncts such that any C-selection restrictions must be satisfied by the external conjunct. Similarly, in the case of a Modification structure, it is the modified element's set of syntactic properties that determine the syntactic category for the entire structural complex. In short, no independent processes apply to either the internal conjunct or the modifier complex, they are not syntactically required, and can (in principle) both be stacked unboundedly. Therefore, their syntactic status is very similar, and a unifying mechanism should be sought.

Zhang (2023, 2024a,b) develops this unifying mechanism through the introduction of the categoryless *J*-unct functional element. The *J* is a syntactic object whose status is defined by having both some root-type properties as well as some properties of a functional element. The *J* element is root-like insofar as it has semantic features but no syntactic category features. And, it is functional insofar as it participates in complementation. The *J* element can be realized by a variety of familiar coordinators such as *or*, *but*, *and*, etc.; or a modificational marker like Mandarin *de*. Any one of these may bear their own unique semantic features.

⁸ What I present in this section is just what is required to understand how to build the structures of interest. The reader who is curious about the argumentation regarding why the *J*-unct approach may be less problematic than some others should engage with that work.

The implementation of the J element will involve two Merge operations, which are illustrated in (9a-b). In Merge 1 in (9a), J fulfills its role as a functional element by taking a Complementizer Phrase (CP), and forming a J -set. This is depicted on the right-hand side of the arrow. In this example, this happens to form an internal conjunct. I have subscripted J with *and* to make it easier to read, and because *and* will realize J in this particular instance. The J -set that has been formed lacks a syntactic category, and therefore must Merge with another syntactic object in order to be categorized. This is shown in (9b) as Merge 2. The Determiner Phrase (DP) *my assistant* Merges with the J -set and the whole object then receives a syntactic categorization of DP.

(9) You can depend on $[_{DP}$ my assistant] and $[_{CP}$ that he will be on time].

a. Merge 1

$$[J_{and}] + [_{CP} \text{ that he will be on time }] \rightarrow [J_{set} [J_{and}] [_{CP} \text{ that he will be on time }]]_{\xi}$$

b. Merge 2

$$[_{DP} \text{ my assistant}] + [J_{set} [J_{and}] [_{CP} \text{ CP }]]_{\xi} \rightarrow [[_{DP} \text{ my assistant}] [J_{set} [J_{and}] [_{CP} \text{ CP }]]]$$

As aforementioned, the J element can be realized by a coordinator, or a modificational marker, but may also be Phonetic Form (PF) null. The example provided in (10) demonstrates a very common type of English coordinate structure involving Proper nouns. To achieve such structures, there is simply a second cycle where another J is Merged, and a second J -set created from that J and the pre-existing DP. Afterward, another Proper noun is Merged to categorize this second J -set. Ultimately, one J is realized as *and*, while the other is PF null.

(10) Sophie, Reiss, and Emma went to Skyline Chili.

$$[_{DP} \text{ Sophie } [J_{-set} J [_{DP} \text{ Reiss } [J_{-set} J \text{ Emma }]]]] \text{ went to Skyline Chili.}$$

In (11), I provide an example of Modification structures built using the J element. Here, we have two Adnominal Phrases (AP) as modifiers of a single Nominal Phrase (NP). In the case of (11a), the J element first Merges with the AP *orange* to form the J -set which gets subsequently categorized via its second Merger with the AP *bright*. This makes the whole *bright orange* complex an AP. This complex then has a second J element Merged with it to form a second J -set. This second J -set is then Merged with the NP *light*. The entire structure is then categorized as NP. The structure given in (11a) is what might be needed for a language that obligatorily requires an overt linker between the modifying element and the object being modified. Alternatively, there is nothing that precludes a parameterization that allows Adjunction of the modificational complex directly to the NP. This scenario is depicted by Structure 2 in (11b).

(11) bright orange light

a. Structure 1: Modificational Linker is Obligatory

$$[_{NP} [J_{-set2} [_{AP} \text{ bright } [J_{-set1} J_1 \text{ orange }]] J_2] \text{ light }]$$

b. Structure 2: Modificational complex Adjoined to NP

$$[_{NP} [_{AP} \text{bright} [_{J\text{-set}} J \text{ orange}]] \text{light}]$$

Now with some ideas about the structure building capability of the *J*-element in place, we can focus on building our negative approximative adverbs and achieving the proper syntax required to capture the Contrarian HARDLY semantics.

5. The Syntax of the Negative Approximatives. While the negative approximatives are our primary focus, we must begin by considering the affirmative approximative *almost*. While it is true that there are some environments which can host *almost* but not *hardly*,⁹ I believe that a large part of their semantics is held in common. Therefore, we can essentially build an item like *hardly* from *almost*. First, what I'd like to suggest is that *almost* is the realization of an adverbial PROX operator. I've provided the semantics of this item in (12). This denotation is to be understood as follows: *almost* combines with a predicate, provides a world argument w , asserts that there exists a close world w^2 , and modally projects that P is True in w^2 . It's important to note again that the semantics provided here are for the Proximal and At-issue meaning component only, i.e., the "close-to" contribution.¹⁰

(12) $\text{PROX}_{Op} \rightarrow \text{almost}$

$$[[\text{almost}]] = \lambda P. \lambda w. \forall w^1 \in \text{Dox}_s(w) [\exists w^2 [\text{PROX}(w^1)(w^2)] \& P(w^2)]$$

In order to derive approximative *hardly*, we must find a way of introducing some internal negation. As the sentences in (13a-b) show, utterances containing approximative *hardly* are often directly paraphrasable with an *almost not* or *almost no* utterance. In the case of (13a), the same set is picked-out, namely, a very small group of students. In the case of (13b), our interpretation is the same: Ramona was close-to not making any acknowledgment of her lab partner's help.

- (13) a. Hardly any students came to the talk. \cong Almost no students came to the talk.
 b. Ramona hardly acknowledged her lab partner's help. \cong Ramona almost didn't acknowledge her lab partner's help.

One way to capture this parallel is to posit that *hardly* is actually the realization of a modification complex that contains both PROX and \neg_{op} . This is what is depicted in (14). Since we have walked through several previous examples regarding how complex structures are built with the *J*-element, (14) should be straightforward. First, the *J*-element Merges with \neg_{op} to form the categoryless *J*-set. Second, the PROX operator is Merged to categorize the structure as an AP. The presence of this negation is what is responsible for flipping the polarity in the second conjunct of the truth conditional specifications. Now, when this AP complex combines with a predicate, it

⁹ See, Baron (2022) for a lengthy discussion of the most famous instance: the differing restrictions on *almost* and *barely* in regard to modifying Quantified NPs.

¹⁰ The Exhaustification procedure (Bassi et al. 2021) by which to derive the Polar inference that P is False in w^1 is discussed in Pellino (2024).

provides a world argument w , asserts that there exists a close world w^2 but modally projects that P is False in w^2 .¹¹

(14) $[_{AP} \text{PROX}_{Op} [_{J\text{-set}} \mathbf{J} \neg]] \rightarrow \text{hardly}$

$$\llbracket \text{hardly} \rrbracket = \lambda P. \lambda w. \forall w^1 \in \text{Dox}_s(w) [\exists w^2 [\text{PROX}(w^1)(w^2)] \ \& \ \neg P(w^2)]$$

The next question to address is whether or not we have enough of the proper syntactic machinery to easily derive Contrarian HARDLY from the approximative variant. In fact, we do, since our syntax allows for \neg_{op} . This is a place where we can draw some further inspiration from den Dikken (2019). There he employs an abstract negative operator adjoined at TP in order to explain a challenging set of hypo- and hyper-negations discussed in Horn (2015). Here, we can employ our \neg_{op} in a similar fashion, and also posit that \neg_{op} may be attached high in the left periphery in order to scope over TP. Let's examine the data provided in (15) to see how such a \neg_{op} placement will achieve the results that we want.

The example in (15) is of a Contrarian HARDLY utterance, and as the squiggle arrow indicates, the interpretation is that: whatever it was that Emma might have done, it was *not close* to an act of inviting Ramona to the party. Remember, there is the additional Polar inference that *Emma did not invite Ramona to the party*, but we're not concerning ourselves with that here. Our major interest is in getting the correct semantics for the Proximal and At-issue contribution.

Now, examine the syntax in (15a). The first thing to make note of is the position of the negative adverbial complex that we previously constructed for *hardly* (depicted in (14)). We can see that in (15a), this structure is adjoined at νP . The next thing to notice is that another \neg_{op} has been Merged into the SpecFocP position in the left periphery. From SpecFocP, the \neg_{op} scopes over the negative adverbial complex and alters the polarity of this object. This interaction is depicted in (15b) where the non-relevant syntax has been removed for illustrative clarity. Looking at the right-hand side of the arrow, we can see that the PROX operator has been negated, and the negation internal to the J-set is cancelled. This gives rise to the semantics that are provided in (15c) for Contrarian HARDLY. The semantics should be understood to state that there exists no close world w^2 and (modally projects) P is True in w^2 .

(15) Emma HARDLY invited Ramona to the picnic. \rightsquigarrow Emma was not close to inviting Ramona.

a.

$$[_{XP} \dots [_{\text{FocP}} \neg [_{\text{Foc}} [_{\text{TP}} \text{Emma} [_{\text{T}'} \text{T} [_{\nu P} [_{AP} \text{PROX} [_{J\text{-set}} \mathbf{J} \neg]]] [_{\nu P} \langle \text{Emma} \rangle [_{\nu'} \nu [_{\nu P} \text{XP} \dots]]]]]]]]]]]]]]]]]]$$

b.

$$\neg [_{XP} \dots [_{AP} \text{PROX} [_{J\text{-set}} \mathbf{J} \neg]] \dots] \rightarrow [_{AP} \neg \text{PROX} [_{J\text{-set}} \mathbf{J} \neg(\neg)]] \dots]$$

c.

$$\text{Contrarian HARDLY} = \lambda P. \lambda w. \forall w^1 \in \text{Dox}_s(w) [\neg \exists w^2 [\text{PROX}(w^1)(w^2)] \ \& \ P(w^2)]$$

¹¹ This analysis then assumes that *almost* \neg_{op} constructions result when these items are independently Merged into the clausal spine.

The semantics here capture something very important about Contrarian HARDLY utterances, which is that they are used by speakers to assert that the propositional content in question (prejacent) is True in a world that is extremely far removed from any in their Doxastic set. This is why the *Far from it!* exclamative is felicitous following such an utterance. The speaker has asserted that there are no “close” worlds where P is True, and can reinforce their assertion with the additional and clarificational exclamative *Far from it!*

Having shown how both the negative approximative *hardly* and Contrarian HARDLY can be built with a couple simple operations in the syntax, I’d like to say something very brief about some other adverbials.

Another observation made in Newmeyer (2006) is that there are a variety of other negative lexical items that have an equivalency that is formed from either *not* or *no*, and an affirmative lexical item. Essentially, there are more lexical items that have the pattern that I demonstrated to exist between *almost* and *hardly*. Below in (16), I give two other familiar adverbs, and potential structures for them built with the exact procedure used earlier in the case of approximative *hardly*.

(16) Negative adverbs have equivalencies involving *not* (Newmeyer 2006)

- a. *seldom* → [AP \neg_{op} [J-set J OFTEN]]
- b. *never* → [AP \neg_{op} [J-set J EVER]]
- c. *hardly* → [AP PROX [J-set J \neg_{op}]]

An interesting thing about the analysis that I provide in (16) is that it helps explain some long vexing puzzles regarding the “negative force” that certain items appear to have. For example, it has not been known exactly why *seldom* licenses a variety of NPIs or triggers affirmative tag questions. I give this data below in (17) where it can be seen that *seldom* has a negative force similar to *not*.¹² If in fact, *seldom* is a complex modificational structure with a \neg_{op} in the categorizing external conjunct position, then the negative force of the lexical item is explained.

- (17) a. Sophie *doesn’t* share/*seldom* shares her snacks, does she/**doesn’t* she?
- b. Reiss *doesn’t* visit/*seldom* visits any_{NPI} of her relatives.

A final puzzle that I think can be addressed through the structure building strategy that I’ve introduced is the now well-known *not only* inference puzzle discussed in Horn (2009). What we have is a case where there appears to be two different inferences generated by *not only* depending upon whether it is clause medial or high in the left periphery (participating in a negation induced Subject Auxiliary Inversion (SAI)). To begin, we must look at data like that given in (18a-b) where there appears to be no change in meaning regardless of whether our *not only* is clause medial or left peripheral. Both of these seem to convey the same information, perhaps, something like: *You may have believed that Dani was just an historian but she’s also a philosopher*. Importantly, it doesn’t appear that the SAI affected the meaning in any way.

¹² See, den Dikken (2019) for his proposed solution to this issue.

- (18) a. Dani is *not only* an historian, she's a philosopher.
 b. *Not only* is Dani an historian, she's a philosopher.

However, if we create an overt contrastive *but*-clause instead, and change the noun phrase within it to match the one in the matrix clause, then suddenly, only one of these constructions is felicitous. The utterance that contains a clause medial *not only* is good, and the one with the left peripheral *not only* and SAI is bad. This data is provided in (19). For each example, I provide on the right-hand side of the arrow, what I perceive the inferences to be. In the case of (19a), the utterance feels clarificational but in the case of (19b), the utterance is redundant.

- (19) not...only \neq not only
- a. Dani is *not only* an historian, but she's an historian. \Rightarrow It is not the case that Dani is nothing other than an historian, but she is an historian. (Clarificational)
- b. *Not only* is Dani an historian, but she's #an historian. \Rightarrow Something else is the case in addition to the fact that Dani is a historian, she is #an historian. (Redundant)

One way to explain this data is to suppose that *not* and *only* compose differently in the two cases. What I'd like to suggest is that in the case of (19a), *not* and *only* are adjoined independently, and that their compositional semantics reflects this particular syntax. I have provided what this looks like in (20a) where *only*, and then *not*, separately adjoin to the vP. This results in the semantics on the right-hand side of the arrow in (19a) where *only* and the predicate compose first, and then *not* negates the exclusive assertion formed by them.

Alternatively, I suggest that in the case of (19b), *not only* is actually an adverbial complex that has been constructed independently before being Merged as a single structure in the left periphery. Again, this is a Modification structure build with the *J*-element, and then Merged into SpecFocP. This syntax is provided in (20b). In this case, because the two adverbial items are build first into an independent structure, *not* flips the polarity in the semantics of *only*. Thus, we instead get the meaning on the right-hand side of the arrow in (19b): there is something else that is the case in addition to X.

- (20) a.

$$[_{TP} \text{Dani} [_{T'} [T [_{vP} \neg_{op} [_{vP} \text{only} [_{vP} \dots [_{VP} V [_{DP} \text{an historian}]]]]]]]]]]$$

- b.

$$[_{XP} \dots [_{FocP} [_{AP} \neg_{op} [_{J-set} J + \text{only}]]] [_{Foc'} \text{Foc} + \text{is} [_{TP} \text{Dani} [_{T'} [\langle T \rangle [_{vP} \dots [_{VP} \text{an historian}]]]]]]]]]]$$

I think that it's a reasonable hypothesis that these two different derivational histories and their affect on semantic composition are what's responsible for the different meanings in the *not only* puzzle case. However, only additional future research will help to determine this.

6. Conclusion. This article has shown that it is plausible that the negative approximative adverbs (*barely, hardly, scarcely*) and other negative adverbials (*seldom*) are actually internally complex modificational structures. I have demonstrated how these can be built using the categoryless *J* functional element introduced in Zhang (2023, 2024a,b), and assume that the negation syntax is adverbial in nature and does not require a NegP (Murakami 2007; Newmeyer 2006; Bruening 2025). Most importantly, the analysis I provided accounts for the Proximal semantics of the negative approximative adverbial class including the two unique interpretations of *hardly*. Finally, speculation was provided on a possible solution to another negation puzzle concerning the two unique inferences in the case of *not only* discussed in Horn (2009).

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