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Focusing on unlikely accented nominals: context, alternatives and implied expectations *

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Abstract In English, accenting a pronoun occasionally switches its reference relative to an unaccented pronoun:
(1) John pushed Bill and... a. he$_{b/\#j}$ fell.
b. HE$_{j/\#b}$ fell.
However, accent does not always have this effect; it is not licit in (2) below:
(2) John bought Bill a drink and then...
a. he$_{j/?b}$ went home.
b. # HE went home.
This paper argues that the felicity of the accent in (1b) is dependent on a presupposition of relative unlikelihood, which is unfulfilled in (2b). The presence of this accent is due to a focus-sensitive operator, $Op_{unlikely}$, which presupposes the existence of a more likely alternative to the asserted one. The reference and the distribution of accented pronouns is due to the satisfaction of this presupposition. $Op_{unlikely}$ not only accounts for accents on pronouns, but also on coreferential nouns and other types of constituents as well. Finally, this operator also accounts for the distribution of accent and unlikelihood associated with other focus-sensitive constructions.

Keywords: Pronominal Reference; Prosody; Accented Pronouns; Focus

1 Introduction

In English, discourse-old material tends to be unaccented. Pronouns, since they require antecedents, are often subject to this tendency. However, a puzzle emerges when pronouns with discourse-old antecedents receive accent, as shown in (1)-(2):

(1) John$_j$ pushed Bill$_b$ and...
a. he$_{b/\#j}$ fell.
b. HE$_{j/\#b}$ fell. (Kehler 2005)

(2) John$_j$ pushed Bill$_b$ and...

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a. he$_{j/\#b}$ apologized.

b. HE$_{b/\#j}$ apologized.

Without accent, the pronoun *he* in (1a) is generally taken to refer back to Bill; on the other hand, accenting the pronoun means that its reference switches to John. Similarly, in (2a), the unaccented pronoun naturally refers to John, and with accent, it refers to Bill instead. At first glance, accent just forces reference to switch from a preferred to a less preferred referent.

Unfortunately, this hypothesis is too general: it predicts that accenting a pronoun should always switch its reference. This prediction is incorrect, as (3) shows:

(3) John$_j$ bought Bill$_b$ a drink and (then)...

a. he$_{j/?b}$ went home.

b. ?# HE$_{b/j}$ went home.

The unaccented pronoun *he* in (3a) most easily refers back to John; reference to Bill is also possible, but dispreferred. However, in the absence of further context, the subject pronoun in (3b) can bear no accent, unlike the pronouns in (1b) and (2b).

On the other hand, if context suggests that either Bill or John is more likely to go home, then the pronoun in (3b) becomes accentable, as (4) shows:

(4) CONTEXT: *John has just lost an embarrassing bet to Bill, to whom he now owes a drink. John has been angrily muttering that he should just leave.*
John bought Bill a drink and (then)...

a. he$_{j/\#b}$ went home.

b. HE$_{b/\#j}$ went home.[1]

In (4b), accented *he* felicitously refers to the less likely referent, Bill, in contrast to the marginality of (3b) in a neutral context. Crucially, the context makes John more likely to go home than Bill, and this in turn licenses the accent.

The ability of context to make an otherwise marginal accented pronoun felicitous suggests that this phenomenon is presuppositional. This is supported by the fact that the intuition of unlikelihood that arises in (1-2) persists in environments that are traditionally used to test for presupposition, such as if-clauses and questions.

1 For the sake of consistency, the majority of examples in this paper will have accent on the subject pronoun. Note that similar facts obtain with pronouns in object position:

(i) John pushed Bill and...

a. the teacher punished him$_{j/\#b}$.

b. the teacher punished HIM$_{b/\#j}$.

As shown in (5), these environments allow the projection of the presupposition associated with *stop* that the property in question held at some point in the past:

(5) a. **If-clause:** If John has stopped drinking turpentine, perhaps his wife can forgive him.

b. **Question:** Has John stopped drinking turpentine?

Presupposition of both a and b: John used to drink turpentine.

Similarly, these environments allow the projection of unlikelihood in (6):

(6) a. **If-clause:** If John pushed Bill and HE$_{j/\#b}$ fell, then John must be quite a weakling.

b. **Question:** Did HE$_{j/\#b}$ fall?

Presupposition of both a and b: John falling is unlikely.

Both of the tests in (6) imply that John falling would be surprising. By contrast, the unaccented versions below in (7) create no such intuition:

(7) a. **If-clause:** If John pushed Bill and he$_{b/\#j}$ fell, then Bill must be quite a weakling.

b. **Question:** Did he$_{b/\#j}$ fall?

No presupposition

Accent in (1-2) thus introduces a presupposition of unlikelihood that is absent from the unaccented versions of the sentences.

In order to correctly account for the data in (1-3), then, an analysis must accomplish three things. First, it must predict the distribution of felicitous accents. Second, it must account for the reference of accented elements. Third, it must derive a presupposition of relative unlikelihood. As shown in the next section, previous accounts of accented pronouns, and accentual phenomena more generally, fail to capture these three facts. This paper proposes a solution to these issues in the form of a focus-sensitive operator, $Op_{unlikely}$, which expresses a presupposition about the relative likelihood of its associate. In addition to accounting for the distribution and referential properties of accented pronouns, this paper will also show that $Op_{unlikely}$ is independently needed for other likelihood-sensitive focal constructions in English.

2 Previous analyses

The interaction of accent and pronominal reference has long been a topic of research in linguistic theory (Akmajian & Jackendoff 1970; Venditti, Stone, Nanda & Tepper 2002; de Hoop 2003; among others). There are a number of ways of accounting for the distribution and reference of accented pronouns, which cannot all be covered

within the scope of this paper. However, the most common approaches can be grouped into pronoun-specific and more general theories of accent placement. This section shows that because they do not generate the presupposition of relative unlikelihood expressed by accented pronouns, these analyses do not predict either their distribution or their reference.

2.1 Pronoun-specific theories

According to pronoun-specific theories of accent placement, accented pronouns have a special, disambiguating role in grammar. Within the framework of Centering Theory (Grosz, Weinstein & Joshi 1995), several researchers (Kameyama 1996; Nakatani 1993; Cahn 1995; Beaver 2004) have suggested that accented pronouns express "Complementary Referential Preferences" relative to their unaccented counterparts. Unaccented pronouns pick out the most preferred referent according to a salience ranking based on grammatical role. Accented pronouns pick out some less-preferred referent - in the case of (Kameyama 1996), the ranking of potential antecedents is completely inverted, and accented pronouns pick out the *least* salient referent. These analyses thus define accented pronouns in opposition to unaccented ones. (8) below illustrates the derivation of (2) under such an account:

(8) John pushed Bill and...

a. he apologized.
Antecedents: <John, Bill >
he = John

b. HE apologized.
Antecedents: <Bill, John >
HE = Bill

This approach derives the correct readings as shown in (8).[2] However, treating accented pronouns as an independent, disambiguating phenomenon fails to capture the actual breadth of their distribution. As Kehler (2005) notes, the same accent pattern arises for the minor modifications of (1b) and (2b) given in (9) and (10):

(9) John pushed Mary and HE/#he fell.

(10) John pushed Mary and SHE/#she apologized.

2 Obviously, taking grammatical role as the correct ranking for salience will not derive the contrast in (1). Since the subject, John, is more salient than the object, Bill, grammatical ranking of antecedents predicts that (1) and (2) should have the same accentual and referential patterns. What follows supposes that another source of ordering is available, such as plausibility, that will account for the distinction in (1).

Replacing *Bill* with *Mary* makes either *he* or *she* unambiguous due to gender marking. Yet the sentences in (9-10) mirror the accentuation in section 1: accent must fall on a pronoun referring to John if he falls, and on Mary if she apologizes. Contrary to the predictions of pronoun-specific theories, these pronouns *must* bear accent, although these examples contain no ambiguity for accent to disambiguate.

Pronoun-specific theories also miss the generalization that the same accentual patterns arise for non-pronominal referential forms. Since these accounts apply only to pronouns, they do not predict the accent patterns on proper nouns in (11-12):

(11) a. John pushed Bill and JOHN/#John fell.

b. John pushed Bill and Bill/#BILL fell.

(12) John pushed Bill and...

a. John/#JOHN apologized.

b. John pushed Bill and BILL/#Bill apologized.

This combination of reference and accent directly parallels the pattern in (1-2). For the predicate *fall*, the subject must be accented if it is *John*, as in (11a), and unaccented if it is *Bill*, as in (11b). The converse is true for *apologize*. These facts are too coincidental to receive the separate explanation they would require under pronoun-specific accounts.

The data presented in this section suggest that the role of accent is not to disambiguate by switching reference: rather, accent *depends* on reference. The distribution of accented pronouns should therefore be explained in terms of more general theories of accent, which depend on denotation rather than referential forms.

2.2 General accentual theories: Information Structural accounts

Unlike pronoun-specific theories of accent placement, Information Structural accounts predict accent on a wide array of syntactic constituents. Under these accounts, accent on a constituent depends on the Focus (Selkirk 1995; Schwarzschild 1999) or GIVEN-ness (Wagner 2007; Sauerland 2005) marking it receives, and this in turn depends on what is entailed by the overt context. Importantly, these theories are not subject to the same problem of under-generation that pronoun-specific theories of accent placement are, since they apply to all constituents. However, as this section will show, these approaches fail to capture the distinctions between (1) and (2), because they do not derive the presupposition of unlikelihood associated with accent.

Schwarzschild's (1999) influential system, for instance, predicts accent based on Focus marking by keeping track of the overt context and what it entails. As a result, it fails to capture the differences in (1) and (2). In particular, his account predicts the accents in (13) and (14), where the pronoun's referent has been fixed as John:

(13) # John pushed Bill and he$_j$ FELL$_F$.

(14) John pushed Bill and he$_j$ APOLOGIZED$_F$.

Examining the second clauses in (13-14), no F(ocus)-marking is possible on the pronoun because the initial clause entails John's existence. The only constituent that can be F-marked in either case is the verb head, regardless of whether the verb is *fell* or *apologized*: neither of these predicates, nor their existential closures, are entailed by the context. This erroneously predicts that accent should fall on the verb in both (13) and (14).

If the pronoun refers to Bill, accent placement proceeds similarly in (15-16):

(15) John pushed Bill and [he$_b$ FELL$_F$]$_F$.

(16) # John pushed Bill and [he$_b$ APOLOGIZED$_F$]$_F$.

F-marking is still illicit on *he*, because Bill is GIVEN. F-marking is necessary on the verb for the same reason as in (13-14). Finally, F-marking is required on the clause as a whole, because nothing entails that Bill has done anything so far. Just as above, the accentuation of (15) and (16) are predicted to be identical, with only the verbs bearing accent.

Since the initial clauses are kept constant, what is entailed by the overt structural context does not change. As a result, fixing the pronoun's referent also fixes the predicted F-marking, and the accent pattern in turn. However, this type of analysis ignores that what changes is the relationship between the clauses: world knowledge guides a listener to expect certain outcomes from an event of pushing. The unaccented versions of the sentences reflect likely outcomes, and the accented versions reflect unlikely ones, based on expectations of the relationships between these clauses. The next section discusses accent placement on the basis of inferred relationships between clauses in discourse.

2.3 General accentual theories: Question Under Discussion-based accounts

Question Under Discussion (QUD) models (Roberts 1996; Büring 2003) structure discourse as a series of moves answering (often inferred) questions. According to these theories, accent depends on Question-Answer Congruence (von Stechow 1990): an answer is congruent to a question if its foci correspond to the constituent being questioned. The inference of a QUD depends on a number of factors: world knowledge, grammatical structures, and context, among others. However, although QUDs depend to some degree on what is expected, there is nothing in the theory that specifically predicts the link between the accents exemplified in (1-2) and a presupposition of unlikelihood. As this section shows, QUD models of discourse account for quite complex accentual patterns. Whereas QUD models may account

for certain types of accentual patterns, they do not account for the accentual patterns in (1-2) because they do not predict the presupposition of unlikelihood.

Complex QUDs have been posited to account for the accentual patterns in parallel sentences (Jackendoff 1972; Büring 2003), as in (17):

(17) **Inferred QUD:** *Who ate what?*
Inferred Sub-QUD: *What did John eat?* JOHN$_{CT}$ ate the BEANS$_{F}$.
Inferred Sub-QUD: *What did Frank eat?* FRANK$_{CT}$ ate the EGGS$_{F}$.
Inferred Sub-QUD: *What did Mary eat?* MARY$_{CT}$ ate the MELON$_{F}$.
Inferred Sub-QUD: *What did Sara eat?* SARA$_{CT}$ ate the SALAD$_{F}$.

Here, the use of a Contrastive Topic (CT) accent indicates that the speaker is providing an answer for a new Sub-QUD, and the accent on the Focus-marked constituent provides an answer for that Sub-QUD. Partitioning the complex QUD into sub-QUDs eventually entails a complete answer to the complex QUD as a whole. Kehler 2005 shows that this process can be used to account for the available referents of accented pronouns in parallel and contrastive sentences like the one shown in (18):

(18) **Inferred QUD:** Who hurt who?
JOHN$_{CT}$ pushed BILL$_{F}$ and then HE$_{b_{CT}}$ shoved FRANK$_{F}$.

In (18), CT marking forces *he* to be disjoint from John, to form a distinct sub-QUD. The only other available antecedent to the pronoun is the one it picks up, Bill.

Of course, the sentences in (1-2) only contain one accent, rather than the complex accent patterns in (17-18). However, one might still extend a QUD approach to the motivating data in (1-2). Under such an analysis, the accents in (1) *could* arise from the following inferred QUDs:

(19) John pushed Bill and...

a. **Inferred QUD:** What happened?
He$_{b}$ fell.

b. **Inferred QUD:** Who fell?
HE$_{j}$ fell.

A neutral QUD as in (19a), which demands an answer with focus at the clausal level, would then generate the response with an unaccented pronoun. On the other hand, an inferred constituent QUD like (19b) would demand accent on the subject NP, resulting in an accented pronoun referring to John. However, there is no principled reason to posit different QUDs for the sentences in (19). One might just as easily infer the same QUDs with unattested combinations of accent and reference as in (20):

(20) John pushed Bill and...

a. **Inferred QUD:** What happened?
He$_j$ fell.

b. **Inferred QUD:** Who fell?
HE$_b$ fell.

This same problem holds for the other sentences from section 1 as well – inferring a QUD like *who apologized?* produces accent on any subject pronoun given in answer, and the same can be said for *who went home?* As noted in section 1, the unifying factor governing the felicity of accent is a presupposition of unlikelihood. Absent this presupposition, I see no principled way for a QUD model of discourse and accent placement to exclude illicit accent-referent combinations.

More generally, all the flavors of analysis sketched here fail to account for the fact that accent marks an unlikely outcome. The next section presents an analysis of accented pronouns which relies on this presupposition of relative unlikelihood.

3 Account

Recall the sentences given in section 1, repeated here as (21-23):

(21) John pushed Bill and...

a. he$_{b/\#j}$ fell.

b. HE$_{j/\#b}$ fell.

(22) John pushed Bill and...

a. he$_{j/\#b}$ apologized.

b. HE$_{b/\#j}$ apologized.

(23) John bought Bill a drink and...

a. he$_{j/?b}$ went home.

b. ?# HE$_b$ went home.

World knowledge generates strong expectations of who will fall in (21) and apologize in (22). In the (a) sentences, the expected outcome obtains, and no accent is possible. The outcomes of the (b) sentences are unlikely, and accent marks the source of this unlikelihood.

By contrast, the sentence in (23) generates no clear expectations of who is likely to go home. In a neutral context, *he* may not bear accent: the only way to pronounce the sentence is as in (23a). However, where only one individual is contextually likely to go home, as in (4), a pronoun referring to the other individual must receive accent.

Accent is only licit if an alternative referrent would have been more likely to undergo an outcome.

As discussed in section 2, no existing analysis of accent placement captures the fact that the felicity of accent depends on the availability of a more likely alternative. This sensitivity to alternatives makes the accent that pronouns receive analogous to focus-sensitive operators like *only* and *even*, both of which express meanings and presuppositions that are sensitive to the alternatives of their associates. *Even*, in particular, expresses a presupposition about the likelihood of its associate, as in (24):

(24) Even JOHN$_F$ eats seitan.
Presuppositions: John is the least likely person to eat seitan. Everyone else also eats seitan.

Rooth 1992 provides a set of tools to define similar focus-sensitive operators in the form of Alternative Semantics. According to this system, prosodic accentuation of a constituent has at least two consequences. First, it generates an ordinary semantic value, which is the proposition that the sentence would express without Focus. Second, it generates a set of alternative propositions formed by swapping out the focus-marked constituent with all of its same-type alternatives. This is schematized below in (25):

(25) If α = [... XP$_F$ ...], then...
a. $[\![\alpha]\!]^O = \mathrm{P}_{<st>} = [\alpha_{XP_F/XP}]$
b. $[\![\alpha]\!]^A = \{\mathrm{P}_{<st>} \mid \mathrm{P} = [\alpha_{XP_F/x \in alt(XP)}]\}$

The presupposition associated with accented pronouns can now be expressed by means of a focus-sensitive operator, $Op_{unlikely}$, defined in (26), where C is a contextually salient subset of $[\![\alpha]\!]^A$, and p is $[\![\alpha]\!]^O$.[3]

(26) $[\![\mathrm{Op}_{unlikely}]\!] = \lambda C_{<st,t>}, \lambda p_{<st>} : \exists q_{<st>}[q \in C \wedge q >_{likely} p].p$

$Op_{unlikely}$ expresses a presupposition that there is an alternative q in C to p, and that q is more likely than p. Aside from this presupposition, the application of $Op_{unlikely}$ yields the assertion that p is true. Like other focus-sensitive operators, $Op_{unlikely}$ associates with a prosodically accented focus-marked element; however, unlike most other focus-sensitive operators, $Op_{unlikely}$ itself is phonologically null.

This accounts for the licit accented pronouns as occuring where $Op_{unlikely}$'s presupposition of a relatively more likely alternative is satisfied, and the illicit ones as presupposition failures:

3 The denotation of this operator is in some respects similar to Guerzoni's (2004) denotation for *even*. Section 4.1 discusses the contrasts and similarities between the two.

(27) John pushed Bill and...

a. $\text{Op}_{unlikely}([\text{HE}_j]_F$ fell)
= $\exists q, q \in$ {John fell, Bill fell} $\wedge$ $q >_{likely}$ John fell. John fell.
$\rightarrow$ **Satisfied presupposition**

b. # $\text{Op}_{unlikely}([\text{HE}_b]_F$ fell)
= $\exists q, q \in$ {John fell, Bill fell} $\wedge$ $q >_{likely}$ Bill fell. Bill fell.
$\rightarrow$ **Presupposition failure**

In (27a), accent is licit on a pronoun referring to John, since the likelihood of Bill falling satisfies $Op_{unlikely}$'s presupposition. On the other hand, accent on a pronoun referring to Bill generates a presupposition, because there is no alternative more likely to fall than Bill. Similarly, in (28a), accent is illicit on a pronoun referring to John, since no one is more likely than John to apologize:

(28) John pushed Bill and...

a. # $\text{Op}_{unlikely}([\text{HE}_j]_F$ apologized)
= $\exists q, q \in$ {John apologized, Bill apologized} $\wedge$ $q >_{likely}$ John apologized. John apologized.
$\rightarrow$ **Presupposition failure**

b. $\text{Op}_{unlikely}([\text{HE}_b]_F$ apologized)
= $\exists q, q \in$ {John apologized, Bill apologized} $\wedge$ $q >_{likely}$ Bill apologized. Bill apologized.
$\rightarrow$ **Satisfied presupposition**

In (28b), by contrast, accent on a pronoun referring to Bill is perfectly licit, because John is more likely than Bill to apologize.

Finally, accent is illicit regardless of the referent on a pronoun in (29), since neither alternative is more likely than the other, in the absence of further information:

(29) John bought Bill a drink and...

a. # $\text{Op}_{unlikely}([\text{HE}_j]_F$ went home)
= $\exists q, q \in$ {John went home, Bill went home} $\wedge$ $q >_{likely}$ John went home. John went home.
$\rightarrow$ **Presupposition failure**

b. # $\text{Op}_{unlikely}([\text{HE}_b]_F$ went home)
= $\exists q, q \in$ {John went home, Bill went home} $\wedge$ $q >_{likely}$ Bill went home. Bill went home.
$\rightarrow$ **Presupposition failure**

This account provides a straightforward way to capture the data that were problematic for pronoun-specific theories, presented in section 2.1. Since the denotation

given in (26) is agnostic as to the referential form, determining licit accent placement proceeds exactly as above for proper nouns, save that the name *John* or *Bill* replaces the pronoun *he*. This same derivation accounts for accent placement on unambiguous pronouns as in (9-10), modulo swapping *Mary* for *Bill*.

The account presented here predicts that accent should be illicit if there is no more likely contextually available alternative, since this results in a presupposition failure. On the other hand, if a more likely alternative exists, it correctly predicts the felicity of accent.

3.1 Further predictions

$Op_{unlikely}$ only requires that the accented element it applies to be less likely than another alternative, but does not state that it is the *least* likely alternative. This makes a number of correct predictions.

First, it predicts the existence of ambiguous accented pronouns, where one referent is likely to undergo an outcome, and the alternative set contains two unlikely referents that could serve as antecedents. By contrast, pronoun-specific theories predict no such ambiguity, as the role of an accented pronoun is to disambiguate. The prediction made by the current analysis is borne out, as shown in (30):

(30) John asked Bill to get a glass of water for Mary, and $\text{HE}_{j/b}$ drank it.

Because Mary is the intended recipient of the water, she is likely to drink it; Bill and John are both considered unlikely to do so. If either of them do, pronouns referring to Bill or John must bear accent. This is not predicted by pronoun-specific theories, but follows from the formulation of $Op_{unlikely}$.

Second, unlike pronoun-specific theories, Information Structural accounts predict accent on a broad range of constituents. In the case of sentences where no constituent is GIVEN, they generally make predictions in line with the Nuclear Stress Rule (Bolinger 1972): accent will fall on the last word in the sentence. On the other hand, the analysis advanced here predicts that if one referent is likely to undergo an outcome, and a less likely one undergoes that outcome instead, then the unlikely one should bear accent. As (31) shows, this prediction is correct:

(31) CONTEXT: *John and Bill are quarrelsome roommates living in a rickety death-trap of an apartment.*

a. John pushed Bill and their CHANDELIER fell.

b. #? John pushed Bill and their chandelier FELL.

Here, Information Structural theories predict accent on *fell*, as in (31b). However, since Bill is more likely to fall than the chandelier, $Op_{unlikely}$ requires accent on the subject, rather than the predicate.

Third, neither Information Structural nor QUD-based accounts of accent placement predict that changes to context that affect the likelihood of an outcome should have an effect on the felicity of accent. On the other hand, because the evaluation of likelihood is dependent on world knowledge, the analysis proposed here predicts that it should be possible to reverse the felicity of accent by reversing the outcomes' relative likelihood. This prediction obtains, as (32) shows:

(32) a. NEUTRAL CONTEXT:
John and Mary picked out a dress together and HE/she tried it on.

b. 'MARKED' CONTEXT: *Our mutual friend John is a drag performer, and our friend Mary never wears feminine clothes.*
John and Mary picked out a dress together and he/SHE tried it on.

In both sentences in (32), what is entailed by the overt context remains constant; similarly, the QUD remains *What happened next?* On the other hand, $Op_{unlikely}$ provides a simple way to explain this contrast. In a neutral context as in (32a), knowledge of heteronormative Western culture makes it likely for Mary to try on a dress and unlikely for John to do so. However, these facts are not immutable – additional context can supervene on this knowledge as in (32b), and make John more likely to try on the dress than Mary. As a result, the accentability of both the pronouns *he* and *she* flips – the previously unaccentable *she* now requires accent, and the previously accented *he* cannot be accented.

Fourth, because Alternative Semantics applies generally across constituent types, the formulation of $Op_{unlikely}$ in (26) predicts the accentuation of unlikely non-nominal constituents. Wagner 2007 presents examples such as (33), where different modifiers exhibit opposite accentual preferences in identical contexts:

(33) CONTEXT: *Mary's uncle, who produces **high-end convertibles**, came to her wedding. I wonder what he brought as a present.*

a. He brought [a CHEAP convertible].

b. #He brought [a RED convertible]. (Wagner's (7a-b))

Neither *cheap* nor *red* is GIVEN, unlike *convertible*. On Schwarzschild's (1999) analysis, this predicts that both adjectives should be equally accentable. However, as (33) shows, only *cheap* may bear accent.

The current analysis accounts for this distinction: given that Mary's uncle produces high-end convertibles, he would have to go out of his way to procure a cheap one. He is therefore more likely to bring Mary a high-end convertible than a cheap one, and *cheap* may bear accent. On the other hand, the stated context does not support the inference that the convertible is likely to be any color. Thus accent on *red* is illicit, because it is considered neither likely nor unlikely.

Finally, $Op_{unlikely}$'s insensitivity to the type of constituent it applies to predicts that verbs with more likely alternatives should also be accentable. This is indeed the case, as shown in (34):

(34) CONTEXT: *There is a state-run lottery with small but fair odds of winning.* John bought a lottery ticket and...

a. #HE$_j$ won.

b. he$_j$ WON.

Here, since the lottery's odds are small, it is likely that someone other than John will win. This initially suggests that it should be possible to accent a pronoun referring to John as in (34a). However, because the lottery is fair, no other individual is more likely than John to win the lottery, which accounts for the infelicity of (34a). Rather, John is simply more likely to *lose* the lottery than win it, which accounts for the licitness of accent on the verb in (34b). Note that (34a) becomes felicitous in a context where everybody but John bought a large quantity of tickets, thus making themselves more likely to win than he is.

The current analysis, therefore, accounts not only for the nominal data presented in previous sections but also the sentences with accented modifiers presented in Wagner 2007, and accent on verb like the one in (34).

4 Related phenomena

Although the data that originally motivated the proposal of $Op_{unlikely}$ were the effects of accent on pronominal reference, this operator also accounts for accent on a number of other constituent types, as the previous section showed. In addition to these accents presented above, a variety of focal constructions in English are only felicitous when they apply to unlikely alternatives, which suggests that this operator is independently necessary. This section begins with a comparison between $Op_{unlikely}$ and the well-studied likelihood-sensitive focal operator *even*, and then presents data from lesser-known focal constructions. Although a full semantic analysis of these constructions will not be attempted in this paper, their accentual and presuppositional properties suggest the involvement of $Op_{unlikely}$.

4.1 Comparison with *even*

There is an immediate parallel between $Op_{unlikely}$ and *even* - both are focus-sensitive operators that require contextually determined low relative likelihood. However, *even* and $Op_{unlikely}$ contrast both in terms of their quantificational force and also the truth of their alternatives. This accounts for the difference in their felicity in describing the situation in (35):

(35) CONTEXT: *Only John fell.*
John pushed Bill and...

a. HE$_j$ fell.

b. # even HE$_j$ fell.

Here, $Op_{unlikely}$'s existential presupposition is satisfied – John is less likely than Bill is to fall, and thus accent is felicitous in (35a). On the other hand, the same sentence with *even* in (35b) is not felicitous. In order for (35b) to be felicitous, Bill would also have to have fallen, along with anyone else who was contextually salient.

The distinction between (35a) and (35b) arises because $Op_{unlikely}$ and *even* differ in terms of the way they quantify over their alternatives, and in the truth of their alternatives. These differences are captured by their denotations in (36) and (37):

(36) $[\![Op_{unlikely}]\!] = \lambda C_{<st,t>}, \lambda p_{<st>} : \exists q_{<st>}[q \in C \wedge q >_{likely} p].p$

(37) $[\![even]\!] = \lambda C_{<st,t>}, \lambda p_{<st>} : \forall q_{<st>}[q \in C \wedge q \neq p \rightarrow q >_{likely} p \wedge {}^{\vee}q = 1].p$
(Guerzoni 2004)

According to Guerzoni, the felicitous use of *even* requires that its associate be the unique, least likely of a set of presupposed-true alternatives. On the other hand, $Op_{unlikely}$ requires only that its associate be distinct from, and less likely than, some other available alternative, regardless of that alternative's truth value.

Though $Op_{unlikely}$ and *even* both express a presupposition about the unlikelihood of their focus-marked associates, $Op_{unlikely}$ is felicitous in circumstances where *even* is not. This suggests that $Op_{unlikely}$ is not simply a covert manifestation of *even*, but rather expresses a distinct meaning.

4.2 Extensions to other focal constructions

4.2.1 *But*

Grice (1989) notes that the coordinating conjunction *but*, which has a semantics analogous to the standard conjunction *and*, has an additional conventional implicature that the first conjunct must contrast with the second, as shown in (38):

(38) a. John is poor, and he's happy.

b. John is poor, but he's happy.

In (38a), the speaker expresses no bias about the compatibility of poverty and happiness, whereas (38b) suggests these two states are stereotypically incompatible.

Expressing this incompatibility between clauses has accentual consequences: specifically, the element that contrasts with expectations must bear stress, as in (39):

(39) a. ?# John is a Republican but HE respects women.

b. John is a Republican but he RESPECTS women.

c. John is a Republican but he respects WOMEN.

Intuitively, the alternatives under consideration in each case account for the contrasts in accentability in (39). Sentence (39a) presupposes the existence of a more likely Republican to respect women than John; however, in the absence of further context, it is difficult to recover who this might be. As a result, accent on the pronoun *he* is illicit. Rather, either the verb *respect* or the noun *women* must bear accent, as in (39b) and (39c), which presuppose more likely alternatives to *respects* and *women*. These are easily recoverable as *disrespects* and *men*, for instance.

The analysis presented here captures the distribution of accent above in much the same way as the distribution of accent on other constituents – the availability of more likely alternatives will permit accents in (39b-c). However, the unavailability of more likely alternatives will generate a presupposition failure in (39a). Thus, $Op_{unlikely}$ derives the conventional implicatures associated with *but* as presuppositions, and in so doing also accounts for the observable accent patterns in these sentences.

4.2.2 *Instead*

Like *but*, the focus-sensitive adverb *instead* requires the unlikelihood of the element it associates with, not just the availability of a contrastive alternative, as in (40):

(40) CONTEXT: *John is a delinquent student who occasionally cuts class to go shopping.*

a. John went SHOPPING instead (of going to class).

b. # ? John went to CLASS instead (of going shopping).

Here, the context provides two potential alternatives - John either goes to class, or he goes shopping. However, it is much more natural, given world knowledge of truancy, to apply *instead* to the exceptional event, going shopping, as in (40a), than to the default, going to class, as in (40b). Putting focus on *class* yields the inference that John is truant exceptionally frequently – his going to class is a rarity. Similar restrictions arise in (41), where *instead* associates with a subject – the mere presence of contextual alternatives does not license its felicitous use:

(41) CONTEXT: *John is an eighth grader who is too young to drive, and Mary is an exhausted single mother.*

a. # John was too young to drive, so MARY drove instead.

b. Mary was too exhausted to drive, so JOHN drove instead.

Despite the presence of both John and Mary in the context, world knowledge very strongly suggests that if anyone is going to drive, it will be Mary. Attempting to associate Mary's driving with *instead* yields infelicity. On the other hand, associating John with *instead* is perfectly acceptable, since an unlicensed child driving a car is much less likely than his overtired mother doing so.

The infelicitous placement of accent in (40b) and (41a) can be generated as a presupposition failure, assuming that *instead* requires $Op_{unlikely}$. Moreover, the places where accent *is* licit also come out as a result. Like *but*, the analysis becomes simpler assuming that *instead* involves $Op_{unlikely}$.

4.2.3 *So X that Y*

The construction *so X that Y*, exemplified in (42) and (43), requires that a focus-marked element in *Y* be an alternative that is low on the scale of likelihood:

(42) a. "They'll be so anxious for good workers, they'll hire WOMEN." (Mitt Romney, 2nd Presidential debate, 2012)

b. # They'll be so anxious for good workers, they'll hire the MOST QUALIFIED CANDIDATES.

(43) a. "It's so easy, a CAVEMAN could do it." (Geico advertising slogan)

b. # It's so easy, a SOFTWARE ENGINEER could do it. (In the same context as above.) [4]

Sentence (42a), which was uttered by a Republican Presidential candidate, is only felicitous if the addressee is willing to accommodate that the speaker believes that women are less likely to be hired than men. As (42b) shows, replacing *women* with a likely alternative yields oddity regardless of context. Similarly, the advertising slogan in (43) implies that signing up for insurance online is simple enough that the

4 Interestingly, these sentences have a universal flavor. Specifically, they are paraphrasable with an overt *even*, as shown below:

(ii) a. They'll be so anxious for good workers, they'll *even* hire WOMEN.

b. It's so easy, *even* a caveman could do it.

In both of these sentences, there is a sense that any more likely alternative would suffice. However, this universality is due to the modal, as the perfective sentence below shows:

(iii) They were so anxious for good workers, they hired WOMEN.

Here, there is no implication that they also hired men. This suggests that the universality is a form of free-choice inference brought about by the modal. More research is necessary in order to describe the nature of this inference.

least likely individuals to be able to could do so. Replacing the inept *caveman* with the technologically savvy *software engineer* results in an ineffective tagline.

Like the focal constructions involving *but* and *instead* in the previous sections, the accentual and presuppositional effects of *so X that Y* suggest the involvement of $Op_{unlikely}$.

4.2.4 *X of all Y*

Finally, the construction *X of all Y* requires that some constituent in *X* bear Focus, and be less likely than some other alternative. This is exemplified in (44-45), where accent placement determines who the speaker is surprised at:

(44) John brought MARY to the dance, of all people.

(45) JOHN brought Mary to the dance, of all people.

Sentence (44) expresses a presupposition that Mary was an unlikely date for John – of all of the people who were available for him to take as a date, he chose *her*, and not some more likely companion. On the other hand, (45) suggests that John was less likely to take Mary to the dance than any of her other suitors. If John taking Mary out *were* likely, then the construction *X of all Y* would not be licit, as shown in (46):

(46) # JOHN brought Mary to the dance, of all people, as everyone expected.

In (47), linking the Focus-marked noun *dance* with *of all people* results in oddity:

(47) John brought Mary to the DANCE, of all{#people/places/things/ #events/#formals/#activities}.

Rather, to associate with the non-human event *dance*, *Y* must be *places* or *things*. More generally, *Y* must express the sort (Gupta 1980) of the focus-marked element in *X*, be that *people, places,* or *things*}. *Y* can be no more specific than this - using *events* or *formals* or *activities* yields oddity.

In all of the felicitous sentences above, the accented element in *X* of the construction *X of all Y* must be less likely than a contextually available alternative. This combination of accent and presupposition points to the involvement of $Op_{unlikely}$. More generally, the constructions discussed in this section – *but, instead, so X that Y,* and *X of all Y* – all provide independent evidence that the grammar of English needs $Op_{unlikely}$ in order to account for the unlikely presuppositions they are associated with.

5 Conclusion

This paper started with three puzzling facts about accented pronouns. First, accent occasionally serves to "switch" the reference of a pronoun. That is, unaccented and accented pronouns can refer preferentially to different individuals. Second, the distribution of accent is limited: it is not always possible to accent a pronoun as a means to switch its reference. Finally, the felicitous use of an accented pronoun gives rise to a presupposition of relative unlikelihood. Altering context to support such a presupposition can make previously marginal accented pronouns felicitous.

Pronoun-specific, Information Structural, and QUD-based accounts of accented pronouns all fail to capture the correct distributional and referential generalizations. Pronoun-specific theories fail to account for the fact that accent depends on reference, not the other way around – unambiguous pronouns and proper nouns with the same referents receive accent in the same environments as accented ambiguous pronouns. Information Structural accounts, because they rely on entailments of the overt context, are insensitive to changes in likelihood generated by inferred context. As a result, they do not predict the effect that contextual inferences have on the felicity of accent. Moreover, QUD-based theories are not adequately constrained to account for the correct combinations of accent and reference.

In order to solve the distributional and referential puzzle of accented pronouns, I posited the existence of a focus-sensitive operator, $Op_{unlikely}$. This operator presupposes that the focus-marked constituent it associates with is less likely to participate in an event than a contextually available alternative. The shifted reference of accented pronouns relative to their unaccented counterparts is therefore attributable to this operator. Applying $Op_{unlikely}$ where no more likely alternative is inferrable – either because the alternative it applies to is already the most likely one, or because no other alternative is recoverable – results in presupposition failure. Unlike pronoun-specific, Information Structural, and QUD-based accounts of this phenomenon, $Op_{unlikely}$ captures the correct reference and distribution of accented pronouns.

Furthermore, because $Op_{unlikely}$ is insensitive to referential form, its presence accounts not only for cases where accenting a pronoun switches reference, but also for cases of unambiguous, mandatorily accented pronouns, as well as for mandatory accents on proper nouns. Similarly, because its formulation as a focus-sensitive operator is agnostic as to the type of expression to which it applies, $Op_{unlikely}$ accounts for the distribution of accent on other types of constituents including adjectival modifiers and verb phrases.

Finally, the distribution of accent and the presupposition of unlikelihood associated with focal constructions such as *but*, *instead*, *so X that Y* and *X of all Y* suggest that they all involve $Op_{unlikely}$. Despite the simplicity of its formulation, $Op_{unlikely}$ accounts for a broad range of accentual phenomena.

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