Anaphoricity and contrast in free focus[*]

Roni Katzir

rkatzir@tauex.tau.ac.il

April 20, 2022

Abstract

The sensitivity of focus to context has often been analyzed in terms of anaphoric relations between sentences and surrounding discourse. Data from Wagner (2006) and Katzir (2013) challenge earlier anaphoric accounts, but recent work by Schwarzschild (2020) and Goodhue (2022) proposes to overcome the challenge without abandoning anaphoricity. I argue against these recent proposals and in favor of a non-anaphoric view in which the felicity profile of focus arises from the ability of focus to feed exhaustification and question formation.

1   Cheap convertibles and where to find them

Free focus is the name sometimes used to refer to focus that does not have an overt associating operator (such as 'only'). The following illustrates (with context-setting sentences in parentheses here and below):[1]

(1)   (She brought an expensive convertible.) No, she brought a [CHEAP]$_F$ convertible

The felicity of free focus depends heavily on the surrounding discourse. In the context provided in (1) focusing 'cheap' is acceptable. If the context had been "She brought a book" instead, the same response would have been odd.

---

[1]See Halliday (1967), Jackendoff (1972), Rooth (1992), and Schwarzschild (1999), among many other works. Following Jackendoff (1972) and much later work I will consider focus to be mediated by a syntactic feature, notated as F, that can appear on constituents in the sentence. Prosodically, F-marking often results in prominence. F-marked constituents can be replaced with various substitutions, giving rise to a set of alternatives. In (1), for example, the only F-marking is on the adjective 'cheap'. This leads to the placement of accent on the adjective and to its having alternatives such as "She brought an expensive convertible". (I refer to focus alternatives as syntactic objects, but nothing in the present discussion hinges on that.) Where needed I will follow Jacobs (1991), Kratzer (1991), and others in indexing F-marks, but where this is not necessary I will avoid doing so and often omit notating F-markers altogether.

According to a long tradition, free focus is governed by an anaphoric condition. Roughly, if we treat F-marked elements as wildcards, the sentence should match a previous sentence in discourse. In (1), for example, we have *She brought a x convertible* (with x marking the wildcard status of the F-marked 'cheap'), which matches the discourse-given "She brought an expensive convertible". I will refer to this view as ANAPHORICITY.[2]

Wagner (2006, 2012) noted a challenge to ANAPHORICITY:

(2) (She brought an expensive convertible.) # No, she brought a $[\text{RED}]_F$ convertible

From the perspective of ANAPHORICITY, (1) and (2) seem identical. Why then is the former good and the latter bad?

Wagner suggests that the appearance of formal identity between (1) and (2) is misleading and that in (2) the sentence does not, in fact, match the context. This is so because ANAPHORICITY requires not just anaphoric matching but also *contrast*. Specifically, [cheap convertible] successfully contrasts with [expensive convertible], so ANAPHORICITY is satisfied in (1), but [red convertible] fails to contrast with [expensive convertible], so ANAPHORICITY is not satisfied in (2).

A different, non-anaphoric account of Wagner's observations is provided in Katzir (2013, 2014). According to this alternative explanation, what makes (1) good and (2) bad is that the former constitutes coherent discourse while the latter does not. Specifically, "She brought a $[\text{CHEAP}]_F$ convertible" can be understood exhaustively, meaning that she brought a cheap convertible and did not bring an expensive convertible. This exhaustive inference arises through the negation of the focus alternative "She brought an expensive convertible". The inference denies the context-setting sentence, and the result is a coherent discourse move. On the other hand, "She brought a $[\text{RED}]_F$ convertible" cannot be understood as addressing the context-setting sentence. This is so because exhaustification has been argued to avoid making arbitrary choices (see especially Fox 2007). And given the focus alternatives "She brought a cheap convertible" and "She brought an expensive convertible", negating either would affirm the other, which would be arbitrary, while negating both would lead to contradiction given the assertion. In terms of Fox (2007)'s analysis, neither alternative is *innocently excludable* given the assertion. Exhaustification, then, does not help the assertion address the context-setting sentence, and the discourse move is perceived as odd.

Katzir (2013)'s evidence for the exhaustification-based account and against Wagner (2006)'s modified ANAPHORICITY-based account came from contexts that maintain the anaphoric profile of (1) and (2) but in which the potential alternatives for the purposes of exhaustification *are* innocently excludable, as in the case of embedding under a universal operator. In such cases, accent on 'red' is no longer odd:

---

[2]ANAPHORICITY has sometimes been implemented in terms of focus alternatives, by requiring that a sentence have a focus alternative in discourse. Of the works discussed below, Schwarzschild (2020) implements ANAPHORICITY directly while Goodhue (2022) implements it in terms of focus alternatives. To keep the presentation simple I will gloss over this distinction.

(3)   (It is required that she bring an expensive convertible.) No, it is required that she bring a ✓CHEAP/✓RED convertible.

The felicity of placing accent on 'red' in (3) is as expected by the exhaustification-based approach: the alternatives "It is required that she bring an expensive convertible" and "It is required that she bring a cheap convertible" are both innocently excludable given the assertion that she is required to bring a red convertible (note that the universal operator 'require' ensures that both alternatives can be negated consistently with the assertion), and the result of exhaustification directly addresses the context-setting sentence (as before, by denying it). On the other hand, the pattern challenges Wagner's account, since the felicity of the assertion suggests that there is no inherent problem with [red convertible] in the context of [expensive convertible]. We are left with a challenge to ANAPHORICITY and with evidence for the exhaustification-based account.

2   QUESTIONS, and do we still need ANAPHORICITY?

The exhaustification-based approach can be seen as part of a broader view, in line with Katzir and Singh (2015) and Anvari (2021), who require that a sentence be a good answer to a good question, as well as with Büring (2019b,a), who analyzes free focus in terms of questions that do not require an anaphoric target. According to this broader context for exhaustification, free focus is not anaphoric and is not subject to any focus-specific discourse requirement; rather, its felicity depends on whether it induces a good question (through the set of focus alternatives) and a good answer (often through exhaustification, as discussed above, though in other cases, such as (8) and (9) below, an answer can be good independently of exhaustification). I will refer to this non-anaphoric view as QUESTIONS.

QUESTIONS addresses the challenge to ANAPHORICITY posed by the oddness pattern in (1)–(3), as discussed above. It does so based on machinery that is presumably shared also by accounts that assume ANAPHORICITY; namely, the ability of focus to feed exhaustivity and question formation and the requirement that questions and answers be good. One may wonder, therefore, whether the stipulation of a focus-specific anaphoric requirement on focus is still needed. Two recent papers — Schwarzschild (2020) and Goodhue (2022) — argue that it is. I discuss the role of focus anaphoricity in each and conclude that in both cases focus anaphoricity does more harm than good.

3   Local deaccenting?

Schwarzschild (2020) proposes a version of ANAPHORICITY that does not impose a contrast requirement and is thus similar to his 1999 system and different from Wagner (2006). By not requiring contrast, this version of ANAPHORICITY does not rule out any of the examples in (1)–(3); this, in turn, allows QUESTIONS to rule out (2) but not (1) or (3), in much the same way that Katzir (2013)'s proposal did.

Also similarly to his 1999 system, Schwarzschild (2020)'s version of ANAPHORICITY is local and universal: every constituent must be anaphoric unless it is F-marked.[3] And to avoid over-focusing, F-marking should be used sparingly.[4] This allows the system to handle certain cases of so-called local anaphoric deaccenting, as in the following:

(4)   (What did John's convertible do?) It HIT John

If the context had included a sentence of the form *John's convertible x John*, focusing 'hit' in (4) would have been unsurprising, both for ANAPHORICITY and for QUESTIONS. But the context does not provide such a sentence. The context-setting question can be taken to provide an anaphoric antecedent of the form *John's convertible x*. This seems to license F-marking of the whole VP in the answer, which does not correspond to the accent observed on 'hit'. The intuition that Schwarzschild follows is that the presence of 'John' in the discourse allows it to be deaccented. The local, universal nature of his version of ANAPHORICITY captures the correct pattern: it is not only the VP that is F-marked but also the verb, which accounts for the deaccenting of 'John'. Schematically, [It [hit$_F$ John]$_F$]. This is a feature of local ANAPHORICITY and a challenge for global ANAPHORICITY and for QUESTIONS.

However, as discussed by Büring (2019b,a), local anaphoric deaccenting is problematic in light of slight modifications of (1) and (2) in which a question is asked about the entire direct object. In such cases, the pattern of oddness observed by Wagner still holds:

(5)   (She has many expensive convertibles. Guess what she brought...)
    a.   She brought a CHEAP convertible
    b.   # She brought a RED convertible

In the ANAPHORICITY-based system of Schwarzschild (2020) (just as in the 1999 system), accent is licensed on the adjective: 'convertible' can be deaccented given its presence in the context-setting sentence, and the beginning of the sentence does not require

---

[3]See Spathas (2010) for evidence that this requirement is too strong and that some constituents are neither F-marked nor anaphoric. I set aside this issue here.

[4]Schwarzschild (2020) follows Beaver and Velleman (2011) in divorcing the marking of focus for the purpose of anaphoric matching and prosodic prominence from the marking of focus for the purpose of focus alternatives and exhaustification. This has interesting implications, as Schwarzschild discusses. However, making prominence sensitive only to anaphoricity and not to focus alternatives and exhaustification raises the challenge of how to account for cases of prosodic prominence that seem to be related to focus alternatives but appear within fully anaphoric structures. The following, based on an example by Aya Chayat (p.c.), illustrates:

  i. (Last week, MARY saw a convertible. Yesterday, ED saw a convertible.) Today, MARY saw a convertible

In (i), the entire sentence other than 'today' is anaphoric, and yet accent on 'Mary' is warranted. Presumably this is because of considerations that relate to QUESTIONS: 'Mary' is focused both in order to mark the question and for purposes of exhaustification. It is not clear to me how an account that divorces prominence from focus alternatives could account for such cases, and in order to keep the discussion below simple I will ignore this distinction in what follows and keep using a unified F-marking.

accent because [She brought x] matches the embedded question "What she brought" in the context-setting sentence. Schematically, [She brought [a [cheap/red]$_F$ convertible]$_F$]. This is the right result for the adjective 'cheap' (5a) but the wrong one for 'red' (5b). Note that the problem that (5b) poses to ANAPHORICITY goes beyond the problem posed by (2) above. This is so because, while the challenge that (2) poses for ANAPHORICITY (which fails to rule out the sentence on its own) can be addressed by adopting QUESTIONS (which rules out the sentence as a bad discourse move), the same is not true for (5). In (2), the context requires a denial, and that denial is not derivable, as discussed above. Whether or not local anaphoric deaccenting is available in that case does not change the inability of the sentence to provide an appropriate discourse move, and the result is correctly predicted to be odd. A similar rescue is unavailable for (5b). Differently from (2), in (5b) there is an F-marking that should satisfy QUESTIONS by supporting an acceptable discourse move — namely, F-marking on the whole direct object [a red convertible]. This F-marking should suffice to make the sentence acceptable as an answer to the question provided by the context. Such an answer might be slightly odd since it ignores the expectation set up by the context (namely, that she brought an expensive convertible), but it would still be better than the failure of an explicit denial that arises with (2), and indeed both Wagner (2006) and Goodhue (2022) mark "She brought a red CONVERTIBLE", corresponding to F-marking on the entire direct object, as felicitous in contexts such as (5). And if this F-marking is acceptable and supports an appropriate discourse move, the further local anaphoric deaccenting of 'convertible' should not change that, which incorrectly predicts that (5b) should be acceptable. This is a problem for Schwarzschild's version of ANAPHORICITY.

As mentioned above, the appearance of local anaphoric deaccenting requires an explanation also on an ANAPHORICITY-free version of QUESTIONS. In the case of (5), the immediate challenge is that the F-marking in (5a) seems to correspond to the narrow question of whether she brought a cheap or an expensive convertible, while the actual question provided by the context is the broader question of what she brought. There is an apparent mismatch, then, between the question that the assertion seems to answer and the actual question provided by the context. Büring (2019b,a) discusses ways in which the appearance of local anaphoric deaccenting might actually involve a reconstructed non-anaphoric question. Applied to the present case, it is conceivable that one simply reconstructs the narrow question of what kind of convertible she brought, perhaps with the expectation that she brought an expensive one. (Similar comments apply to (4).)

However, I believe that (5a) and (5b) can be understood as also attempting to address the broader, context-given question of what she brought, with the exhaustive inference (from the felicitous (5a)) that she did not bring anything (not a book, not a yacht) other than a cheap convertible. I propose that the combination of broad exhaustivity (at the level of the direct object) with narrow focus (on the adjective) is due to the accommodation of an answer to the contextually-provided question, which the responses in (5a) and (5b) then attempt to correct. In particular, suppose that the context included explicitly the answer that is already implied by it, namely $\phi = [Exh$ She brought [an expensive convertible]$_F$]. If that were the case, (5a) and (5b) would be instances of so-called second-occurrence

focus and would be understood as attempts to correct ϕ, successfully for (5a) and unsuccessfully for (5b). My proposal, then, is that the context in (5) licenses the accommodation of ϕ and that the inferences and oddness pattern in this example are the same as if ϕ were actually there.[5]

Of course, the explanation sketched above raises the question of whether second-occurrence focus is compatible with QUESTIONS. Building on Büring (2015) (whose analysis, while couched in an anaphoric framework, translates directly into QUESTIONS), I suggest that it is. Specifically, I take the parses of the responses in (5), with an explicit or accommodated ϕ, to be $\psi_1 = [Exh_1$ She brought [a [cheap]$_{F2}$ convertible]$_{F1}$] and $\psi_2 = [Exh_1$ She brought [a [red]$_{F2}$ convertible]$_{F1}$], where Exh_1 binds the broad $F1$ on the direct object but not the narrow $F2$ on the adjective. $F2$, in turn, serves to define a question that includes both ϕ and its attempted correction. In the case of ψ_1 the question ($\{\phi, \psi_1\}$, did she bring an expensive convertible and nothing else or did she bring a cheap convertible and nothing else?) is good, and ψ_1 answers it well. In the case of ψ_2, on the other hand, the question ($\{\phi, \psi_2\}$, did she bring an expensive convertible and nothing else or did she bring a red convertible and nothing else?) is intuitively bad, and in any event ψ_2 fails to correct ψ.[6]

I leave a more complete discussion of second-occurrence focus and apparent local deaccenting for another occasion and only conclude that such cases have at least preliminary accounts on QUESTIONS but are puzzling for anaphoric accounts such as Schwarzschild (2020).[7]

---

[5]As noted above, it also seems possible to ignore the expectation that she brought an expensive convertible and just answer the question of what she brought, with a residual oddness that might reflect the difficulty of ignoring the expectation. This accounts for the possibility of responding with just broad focus on the entire direct object and no narrow focus on the adjective.

[6]In fact, the badness of the question $\{\phi, \psi_2\}$ is predicted to be bad on the analysis of Fox (2019), who argues that the elements of a question denotation, when exhaustified, must partition the context set (which the elements of $\{\phi, \psi_2\}$ fail to do, given that they overlap and remain overlapping after exhaustification).

[7]Among other things, QUESTIONS faces the challenge of accounting for Rooth (1992)'s *farmer*-example:

i. An AMERICAN/American farmer met a CANADIAN farmer

However, as far as I can see the support provided to local anaphoric deaccenting by this example is considerably weaker than it seems. An anaphoric approach, as outlined by Rooth (1992), could let the subject and the direct object be each other's anaphoric antecedents (possibly with material internal to each of these arguments serving as antecedents to material in the other). But if that were possible, consider what would happen if 'American' and 'Canadian' were absent. In that case, the two arguments would be identical, so if mutual antecedence were possible, each argument would be given by virtue of the other, and the sentence should have the accent pattern #"A farmer MET a farmer" (cf. "He SAW you"), contrary to fact. And local deaccenting can appear in variants of (i) even when the entire larger constituent – here, 'an American farmer' – is given, contrary to the predictions of existing anaphoric accounts: "(Last month, an American farmer shot a Canadian farmer. And yesterday, . . .) an American farmer shot an AMERICAN farmer." (See also note 4.)

4 Focus in additive contexts

I turn now to Goodhue (2022), who offers a different revival of ANAPHORICITY. Where Schwarzschild (2020) returns to the permissive target-matching of anaphoric proposals before Wagner (2006), in which no requirements of contrast are imposed on anaphoric targets, Goodhue follows Wagner's more restrictive view on anaphoricity but modifies the details of the contrast requirement. In light of (3), which showed the significance of innocent exclusion (as well as the futility of making [expensive convertible] and [red convertible] incompatible), Goodhue bakes innocent exclusion into the anaphoricity condition. Specifically, he requires that when a sentence is uttered, there is an innocently excludable alternative to it that is salient in the discourse. This allows ANAPHORICITY to mimic the effects of exhaustification in (1)–(3): in (1) and (3) the context-setting sentence is innocently excludable given the assertion, so it counts as a good anaphoric target, while in (2) the context-setting sentence is not innocently excludable given the assertion, so it does not count as a good anaphoric target.

Since QUESTIONS is still needed and since it accounts for the pattern in (1)–(3), bringing back ANAPHORICITY and writing innocent exclusion into it might seem superfluous. However, Goodhue suggests that exhaustification faces a challenge in the case of additives and that a suitable version of ANAPHORICITY can help. The following illustrates:

(6) (What kinds of convertible do you have? Well, . . .)
    a.   I have EXPENSIVE convertibles and I have CHEAP convertibles
    b.   # I have EXPENSIVE convertibles and I have RED convertibles

Above we saw that QUESTIONS explained the felicity of (1) and the oddness of (2) by the ability of the former and the inability of the latter to deny the target sentence. The failure of (2), in turn, was attributed to exhaustification being subject to a condition of innocent exclusion. The contrast between the felicity of 'cheap' in (6a) and the oddness of 'red' in (6b) seems similar to the contrast between (1) and (2), but now an explanation in terms of denial seems unlikely: the context here is additive, with each conjunct adding to the other rather than denying it. Goodhue concludes that while focus is sensitive to innocent exclusion, it does not always require the actual exclusion of alternatives. This is exactly what his modified version of ANAPHORICITY, which checks for innocent exclusion but does not require actual exhaustification, accomplishes.

I believe that rather than supporting contrastive ANAPHORICITY, the broader picture arising from additive contexts in fact argues against it. Note, first, that the additive context in (6) is a very specific one: it is a context in which the speaker offers a menu of possible choices. As far as I can tell, such contexts require a partitioning of the space of choices by the items on the menu. The items form such a partition in (6a), since the set of expensive convertibles and the set of cheap convertibles are disjoint. In (6b), on the other hand, the items fail to form a partition, since the set of expensive convertibles and the set of

red convertibles are not, generally, disjoint.[8] This property of menus of choices would of course require an explanation, but I see no reason to think that an anaphoric account of focus would have an advantage in this respect. And simple variants of (6) show that contrastive anaphoricity (as in Goodhue's proposal, but also as in Wagner's earlier version) faces serious challenges in accounting for focus in additive contexts.

First, note that (6b) does not improve if we maintain the overlap between the items (so that the menu does not form a partition) but extend the menu so that every item has a contrasting anaphoric target :[9]

> (7)   (What kinds of convertible do you have? Well, ...) # I have EXPENSIVE con-
>   vertibles, I have RED convertibles, I have CHEAP convertibles, and I have BLUE
>   convertibles

The two variants, (6b) and (7), are comparably odd, even though neither conjunct in the former had a salient contrastive alternative while in the latter every conjunct has one. This is consistent with the partition requirement on menus of choices but is surprising for an account of (6b) in terms of a contrastive anaphoric requirement.

Note further that if we move to additive contexts that do not involve menu items, focus on 'expensive' and 'red' becomes perfectly acceptable:

> (8)   (Tell me more about this convertible.) Well, it is a RED convertible. And it is an
>   EXPENSIVE convertible.

For an attempt to derive the pattern of oddness above from modifications of ANA-PHORICITY, the felicity of (8) is puzzling: if 'red' and 'expensive' cannot serve as ana-phoric targets for one another in denials (2) or additives (6b), why is it that they can do so in (8)?

A direction for a response by contrastive ANAPHORICITY, pointed out to me by Dan Goodhue (p.c.), is to attribute the felicity of (8) to an exceptional ability to look for ana-phoric targets outside of the immediate context in this particular case. If in (8) 'red' could ignore the contextually-provided 'expensive' and if 'expensive' could similarly ignore 'red', then 'red' could perhaps target a non-anaphoric 'blue' alternative and 'expensive' could target a non-anaphoric 'cheap' alternative. Crucially, of course, this possibility should be unavailable for the infelicitous (2) and (6b). I do not know how such a condition on allowable targets might be stated. The challenge strikes me as nontrivial. More sig-nificantly, though, there are examples that cast doubt on the ability of any target, whether present in the sentence or not, to satisfy a contrastive requirement:

---

[8]Note that 'red convertibles' cannot be strengthened by exhaustification to mean red but not expensive. This is so because, similarly to the case of (2), 'expensive convertibles' is not innocently excludable for the assertion 'red convertibles' given the alternative 'cheap convertibles'.

[9]When the price-related items are adjacent and the color-related items are adjacent (e.g., if the order is expensive-cheap-red-blue), I believe it is possible to read the sentence as offering two distinct partitions. I have interleaved the price-related conjuncts and the color-related ones in (7) in order to make this kind of double-partition reading less accessible.

(9)   (I heard he sold some of his convertibles. Yes, in fact . . .) he sold ALL of them

In (9), the only plausible target for an anaphoric account would be 'some'. But 'some' is weaker than 'all' and does not contrast with it on any definition of contrast that I am aware of. Would the non-anaphoric 'none' be able to serve as a target? This seems unlikely. For one thing, the response starts (with 'Yes') by affirming that he sold some of his convertibles, which makes the 'none' alternative an implausible target. More generally, there are reasons to think that 'all' does not have 'none' as a formal alternative (see Bar-Lev and Katzir 2022). For QUESTIONS, on the other hand, the felicity of (8) and (9) is unsurprising. As in earlier examples, focus defines a good question in both examples. And regardless of exhaustification, the sentences serve as good answers to their respective questions.[10] But — in stark contrast with the earlier cases of denial — the fact that exhaustification of 'red' cannot entail either the truth or the falsity of 'expensive' and that exhaustification of 'expensive' cannot entail either the truth or the falsity of 'red' is simply irrelevant in the present additive context and does not hurt the discourse coherence of the sentences in any way. Similarly for the inability of exhaustification to strengthen 'all'.

5   Conclusion

I conclude that the felicity of focus in discourse depends on the felicity of the questions and answers that focus feeds. Anaphoric conditions on focus are unhelpful at best and often damaging.

References

Anvari, Amir. 2021. Cell effability and apparent redundancy effects. Ms., June 2021.

Bar-Lev, Moshe E., and Roni Katzir. 2022. Communicative stability and the typology of logical operators. Ms., Tel Aviv University, March 2022.

Beaver, David, and Dan Velleman. 2011. The communicative significance of primary and secondary accents. *Lingua* 121:1671–1692.

Büring, Daniel. 2015. A theory of second occurrence focus. *Language, Cognition and Neuroscience* 30:73–87.

Büring, Daniel. 2019a. Focus, questions and givenness. Current Research in the Semantics / Pragmatics Interface, Volume: 36, 6–44. Holland: Brill.

Büring, Daniel. 2019b. *Topless and salient—convertibles in the theory of focus*, 137–155. Cham: Springer International Publishing.

---

[10]Exhaustification (specifically, obligatory and very local exhaustification) has recently been argued to be responsible for the inference that a red convertible is totally red (Paillé 2021). Beyond that, exhaustification is arguably inert in both (8) and (9). For the second sentence in (8), for example, if it is an expensive convertible then negating that it is a cheap convertible adds nothing, while negating color alternatives is impossible since no such alternative is innocently excludable. Similar comments apply for (9).

Fox, Danny. 2007. Free choice disjunction and the theory of scalar implicatures. In *Presupposition and implicature in compositional semantics*, ed. Uli Sauerland and Penka Stateva, 71–120. Palgrave-Macmillan.

Fox, Danny. 2019. Partition by exhaustification: Comments on Dayal 1996. In *Proceedings of Sinn und Bedeutung*, volume 22.

Goodhue, Daniel. 2022. All focus is contrastive: On polarity (verum) focus, answer focus, contrastive focus and givenness. *Journal of Semantics* 39:117–158.

Halliday, Michael A. K. 1967. Notes on transitivity and theme in English, Part II. *Journal of Linguistics* 3:199–244.

Jackendoff, Ray. 1972. *Semantic interpretation in generative grammar*. Cambridge, MA: MIT Press.

Jacobs, Joachim. 1991. Focus ambiguities. *Journal of Semantics* 8:1–36.

Katzir, Roni. 2013. A note on contrast. *Natural Language Semantics* 21:333–343.

Katzir, Roni. 2014. On the roles of markedness and contradiction in the use of alternatives. In *Semantics, pragmatics, and the case of scalar implicatures*, ed. Salvatore Pistoia Reda, 40–71. Palgrave-Macmillan.

Katzir, Roni, and Raj Singh. 2015. Economy of structure and information: Oddness, questions, and answers. In *Proceedings of Sinn und Bedeutung 19*, ed. Eva Csipak and Hedde Zeijlstra, 302–319.

Kratzer, Angelika. 1991. The representation of focus. In *Semantics: An international handbook of contemporary research*, ed. Arnim von Stechow and Dieter Wunderlich, 825–834. Berlin: Walter de Gruyter.

Paillé, Mathieu. 2021. The distribution of controlled exhaustivity. In *Semantics and Linguistic Theory*, volume 30, 843–860.

Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75–116.

Schwarzschild, Roger. 1999. GIVENness, AvoidF and other constraints on the placement of accent. *Natural Language Semantics* 7:141–177.

Schwarzschild, Roger. 2020. The representation of focus, givenness and exhaustivity. In *Making worlds accessible. essays in honor of Angelika Kratzer*, ed. Rajesh Bhatt, Ilaria Frana, and Paula Menendez Benito, 167–192.

Spathas, Giorgos. 2010. Focus on anaphora: Accent placement and the syntax and semantics of anaphors. Doctoral Dissertation, Universiteit Utrecht.

Wagner, M. 2006. Association by movement: evidence from NPI-licensing. *Natural Language Semantics* 14:297–324.

Wagner, Michael. 2012. Focus and givenness: a unified approach. In *Contrasts and positions in information structure*, ed. Ivona Kučerová and Ad Neeleman, 102–147. Cambridge: Cambridge University Press.