That IS a high-end convertible: contrastive focus, answer focus, givenness, and polarity focus

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Abstract

In this paper, I develop a general theory of focus and givenness that can account for polarity focus, including data that are sometimes set apart under the label "verum focus". I show that polarity/verum focus creates challenges for a classic theory of focus (e.g. Rooth, 1992, a.o.) that can only be dealt with by requiring that all focus marking is truly contrastive, and that givenness deaccenting imposes its own distinct requirement on prominence shifts. A key, novel feature of my account is that focal targets are split into two kinds, those that are contextually supported and those that are constructed ad hoc, and that the presence of a contextually supported target can block the ability to construct an ad hoc target. This enables a novel explanation of the data motivating true contrast, and enables polarity focus to be brought into the fold of a unified and truly contrastive theory of focus. I then compare the account to theories of verum focus that make use of non-focus-based VERUM operators, and make the argument that the focus account is more parsimonious and has better empirical coverage. The results impact our understanding of focus and givenness in general, and truly contrastive focus in particular, as well as polarity focus, verum focus, and VERUM operators.

1 Introduction

This paper explores the prospects for accounting for polarity focus, including phenomena often referred to as verum focus, within a general theory of focus and without appealing to VERUM operators. A straightforward application of a classic theory of focus such as Rooth 1992 quickly raises two questions: Why does polarity focus require a contrast with its polarity alternative, and why isn't polarity focus obligatory in answers to polar questions? Answering these two questions requires us to expand our empirical sights well beyond polarity focus, and leads to two general

conclusions about the semantics/pragmatics of prosodic prominence shifting: All focus marking in English requires true contrast, and all deaccented expressions must be given.

My account builds on work by Wagner (2006, 2012) by taking all focus marking to be truly contrastive. It also builds on work by Büring (2016b, 2019) by taking prominence shifts to require both true contrastive focus and givenness deaccenting, and by taking givenness deaccenting, but not contrastive focus marking, to require a salient antecedent. Since focus marking does not require a salient antecedent, I will adopt Büring's replacement term for "antecedent", *focal target*.[1]

A key novel claim of my account is that focal targets are split into two kinds—those that are contextually supported (either salient in the context or inferable from the context), and those that are constructed ad hoc on the basis of the focus utterance itself—and that the presence of a contextually supported target can block the ability to construct an ad hoc target. This claim is crucial to (i) simplifying the conditions that hold on focus marking, (ii) explaining the key data that motivates the view that all focus is truly contrastive, and (iii) bringing polarity focus into the fold of a unified and truly contrastive theory of focus.

This paper is divided into two parts. Part I develops a complete argument whose results stand independently of Part II. Part II depends on Part I, and can't be read in isolation of it.

Part I develops a novel unified account of contrastive focus, answer focus, and givenness, and proceeds as follows: In section 2, I demonstrate challenges for treating polar questions as the focal target for polarity focus. Then in section 3, I suggest that the target of polarity focus is always the contrastive polarity alternative. To get a better handle on why polarity focus is always contrastive, I explore recent work on true contrastive focus in section 4, where I develop a theory of focus that offers a new explanation for the convertible examples that motivate Wagner's puzzle. In section 5, I argue that a set of novel examples of polarity focus in negative sentences speak in favor of maintaining distinct requirements on focus and givenness, which in turn enables a novel explanation for why focus is obligatory in answers to WH questions, but optional in answers to

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[1]Focal targets might still be fruitfully thought of as antecedents to anaphoric focus marking if we take non-salient targets to be a case of presupposition accommodation, as I will suggest below. However, whether or not such targets are best thought of as accommodation is not central to the main thesis here.

polar questions.

Part II turns to verum focus to make the argument that it can be accounted for via the account of polarity focus from Part I. In section 7, I show that the emphasis on truth inference that is usually ascribed to verum focus can be made to follow from the account of polarity focus developed here. In section 8, I compare accounts of verum focus to my account, pointing out challenges for VERUM operator approaches and suggesting that they may not be needed to account for verum focus, given my account of polarity focus in Part I.

Part I

Polarity focus, contrastive focus, answer focus, givenness

2 Polar questions as targets for polarity focus utterances

Polarity focus in English is characterized by prominence on the auxiliary verb, signaling focus marking on the polarity head of the sentence as in (1a) and (1b).[2]

(1)   A is looking through the groceries B just bought. Here are four possible conversations:

    a.   A: Did you buy yogurt?   c. (i) B: # I DID buy yogurt.
        B: I DID buy yogurt.   (ii) B: I bought YOGURT.

    b.   A: You didn't buy yogurt.   d. A: You bought sour cream.
        B: (No,) I DID buy yogurt.   (i) B: # (No,) I DID buy yogurt.
                            (ii) B: (No,) I bought YOGURT.

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[2]Small caps indicate the word that bears the nuclear, or final, pitch accent. A few examples have crucial pre-nuclear pitch accents indicating separate F-marked words. These words will also be rendered in small caps.

In (1a), B uses polarity focus in reply to A's polar question, while in (1b), it marks a contrast in polarity between B's and A's utterances. (1c-i) shows that polarity focus cannot be used out of the blue. Default prominence on the object as in (1c-ii) is preferred in such contexts. In (1d), only the expressions in the object positions of A's and B's sentences differ in meaning. The result is that the polarity focus utterance in (1d-i) is infelicitous. (1d-ii) is the preferred intonational pattern.

These examples show that, like other kinds of focus prominence shifting accounted for in classic work (e.g. Kratzer, 1991; Rooth, 1992; Schwarzschild, 1999), polarity focus (PolF) requires an appropriate focal target. Both Wilder (2013) and Samko (2016a) argue that the focal target required by PolF is a corresponding polar question. I will articulate this view, and demonstrate a challenge for it: PolF appears to be unexpectedly optional in some responses to polar questions.

I assume that the polarity of a sentence is encoded in a polarity head, Pol (cf. Laka, 1990; Roelofsen & Farkas, 2015; Holmberg, 2016). Pol is a functional projection that c-commands the vP and is dominated by the TP. The polarity phrase (PolP) can only be headed by either positive polarity ($+$) or negative polarity ($-$). Positive polarity denotes the identity function from propositions to propositions, while negative polarity is negation (cf. Wilder 2013 for a similar assumption).

(2)   a. $[\![+]\!] = \lambda p_{\langle s,t \rangle}.\, p$
        b. $[\![-]\!] = \lambda p_{\langle s,t \rangle}.\, \neg p$

In agreement with Wilder (2013) and Samko (2016a), I take polarity focus to be F-marking on the polarity head. Let's explore how a polar question could serve as the focal target for PolF in terms of Rooth's (1992) alternative semantics. In addition to the ordinary semantic value of a structure ϕ, ϕ also has a focus semantic value, $[\![\phi]\!]^f$. $[\![\phi]\!]^f$ is calculated by replacing the denotation of the F-marked constituent within ϕ with the set of all objects of the same semantic type, and combining sets of semantic objects via pointwise composition, producing a set of focus alternatives. A presuppositional operator *squiggle* ($\sim$) adjoins to ϕ along with a variable (Γ for sets of semantic objects, or γ for individual objects), which gets its content from a focal target in the context. $\sim$ requires that the set of focus alternatives $[\![\phi]\!]^f$ relate to Γ/γ in one of the two following ways.

(3)   Rooth's (1992, p. 93) presupposition for $\sim$:

   a. $\phi \sim \Gamma$ presupposes that a contextually given Γ is a subset of the focus semantic value of ϕ ($\Gamma \subseteq [\![\phi]\!]^f$), and that Γ contains both the ordinary semantic value of ϕ and an element distinct from it.

   b. $\phi \sim \gamma$ presupposes that a contextually given γ is a member of the focus semantic value of ϕ ($\gamma \in [\![\phi]\!]^f$), and that γ is distinct from the ordinary semantic value of ϕ.

To see how this can be applied to polarity focus, consider the dialogue below in which B's PolF utterance felicitously answers A's polar question.

(4)   A: Does Dinah like Ivy?
        B: Dinah DOES like Ivy.

Suppose that the semantics of a polar question is a set of two propositions, the positive and negative answers, $\{p, \neg p\}$ (Hamblin, 1973, a.o.). Therefore by (3a), the focus semantic value of B's PolF utterance needs to minimally be the set $\{p, \neg p\}$. Let (4)B have the structure in (5):[3]

(5)
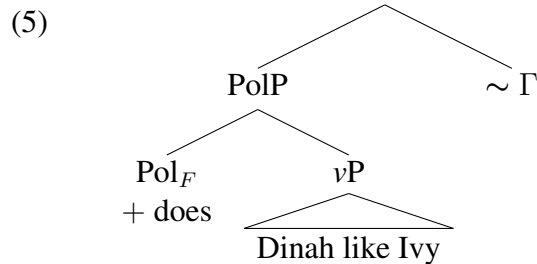
I assume that the set of focus alternatives for $+$ *does* is the domain of functions from propositions to propositions, $D_{\langle st,st \rangle}$, restricted down to just the meanings of the polarity heads $+$ and $-$.[4] Let p

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[3] When pronounced, the subject raises to spec-TP. I assume that at LF the subject reconstructs to its lower position.

[4] Cf. Krifka (1998) and Rullmann (2003), who both assume that the only relevant alternative to the identity function is negation. See also Samko 2016a for an argument that modal focus and polarity focus are distinct phenomena, and therefore that modals should not be among the alternatives to focused polarity heads. Modals aside, it is clear that the set of alternatives to polarity heads cannot include just any function imaginable in $D_{\langle st,st \rangle}$, since many infelicitous dialogues would be incorrectly predicted to be felicitous. For example:

(i)   A: Who does Dinah like?
        B: # Dinah DOES like Ivy.

For each answer to A's WH question, there is a constant function mapping any proposition to it, so including any function in $D_{\langle st,st \rangle}$ as an alternative to the polarity head would incorrectly predict (i) to be felicitous. This is a general problem for F-marked constituents denoting higher types, as discussed previously by Fox & Katzir (2011), Büring

represent the proposition *that Dinah likes Ivy*. Composing the focus semantic value of *v*P with that of Pol via pointwise function application results in a set of focus alternatives at the PolP node, $\{p, \neg p\}$. This set is identical to the denotation of A's polar question, thus the presupposition in (3a) is met and (4) is predicted to be felicitous. This is how Rooth's (1992) set case presupposition in (3a) can be applied to polarity focus.[5]

The problem for Wilder's and Samko's view that the target for PolF is always a corresponding polar question is that there is an unexpected asymmetry between answers to polar questions and WH questions. The use of focus to make an answer congruent to a WH question appears to be obligatory, while PolF does not appear to be obligatory in response to polar questions.

(6)   A: Who submitted her paper?

    a.   B: IVY submitted her paper.
    b.   B: ?? Ivy submitted her paper.

In (6), focus prominence must be shifted to the constituent corresponding to the WH-word in the question. Compare this to a similar dialogue with a polar question.

(7)   A: Did Ivy submit her paper yesterday?

    a.   B: ?? (Yes,) She DID submit her paper.
    b.   B: (Yes,) She submitted her paper.   (based on Gutzmann et al., 2020, 12)

Gutzmann et al. (2020) report that (7b) is felicitous, while (7a) is not unless A's question conveys some bias for the negative answer. Wilder also gives examples demonstrating this effect:

(2016a, p. 117ff), and Bruno (2017). Focus alternatives minimally need to be restricted to those denoted by natural language expressions.

    [5]Samko (2016a) also uses a Roothian framework, but assumes a third value for polarity heads, null polarity, which she assigns to polar questions. She then applies Rooth's individual case presupposition in (3b), arguing that null and positive polarity contrast in the relevant way to satisfy the presupposition. Samko doesn't provide semantic values for these polarity heads, but the assumption is clearly that the polar question target is a member of the focus semantic value of the PolF utterance, distinct from the latter's ordinary semantic value because it has null polarity. This approach faces a technical challenge: supposing positive polarity is the identity function and null polarity means that the polarity head is empty, the target and the PolF utterance will each denote p. Thus they will not contrast semantically as required by (3b), and the focus presupposition will not be satisfied. Perhaps the account could be revised so that null polarity is instrumental in producing the denotation of a polar question, but then the account should rely on the set case presupposition, as described in the main text above.

(8)   A: Does she work hard?

    a.   B: ?? (Yes,) She DOES work hard.
    b.   B: (Yes,) She works hard.   (based on Wilder, 2013, 169)

For comparison, I've constructed a similar WH question dialogue:

(9)   A: Who works hard?

    a.   B: IVY works hard.
    b.   B: ?? Ivy works hard.

Again, (8b) is felicitous, certainly much more so than (9b). Prior work explains the obligatory prominence shifts in contexts like (6) and (9) in which the preceding WH question is the only available focal target via a mechanism like maximize presupposition (I'll rehearse how in a moment). Thus if the polar question is the target for polarity focus, we expect obligatory PolF in (7) and (8) as well, contrary to fact.

    Beyond this unexpected asymmetry, Wilder (2013) agrees with Gutzmann et al. (2020) that the use of PolF in response to a polar question as in (8a) is either infelicitous or at least degraded. Both suggest that it needs to be motivated by a prior dispute over p or some bias for $\neg p$. I agree that making p contentious in the context increases the likelihood of a PolF response, and in fact will argue below that $\neg p$ is always the focal target of PolF on p. However, like (1a) and (4), (7a) and (8a) do not strike me as obviously infelicitous in the absence of such context. I believe this is because the speaker is able to signal contrast against targets that are not obviously salient in the context, perhaps via a process of presupposition accommodation (von Fintel, 2008). From the perspective of non-speakers, this makes the speaker's use of PolF in response to a neutral polar question look optional. I'll return to the issue of contextually salient vs. accommodated focal targets in section 4. Nothing I say in the following depends on whether PolF in (7a) and (8a) is infelicitous or merely optional. The key facts are that the salience of a contrastive focal target improves PolF in answers to polar questions, and that PolF is *not required* in answers to polar questions, i.e. that (7b) and (8b) are felicitous, which is enough to cause concern for an account that takes questions to trigger

obligatory focus marking in their answers.[6]

Note that Wilder (2013) and Gutzmann et al. (2020) use positive answers to demonstrate the non-obligatoriness of PolF in response to polar questions, and Wilder explicitly notes that his comments are restricted to positive answers. In contrast, PolF is preferred in negative answers to polar questions.

(10)   A: Did Ivy submit her paper yesterday?
    a.   B: (No,) She DIDN'T submit her paper.
    b.   B: ??(No,) She didn't submit her paper.

(11)   A: Does she work hard?
    a.   B: (No,) She DOESN'T work hard.
    b.   B: ??(No,) She doesn't work hard.

This again points to the key role of contrast, since the negative answers contrast against the propositional content of the positive polar questions. The role of contrast will be explored in the following, and I return to this specific data point below in section 5.2.

To see why the asymmetry between answers to WH questions and polar questions is important, let's first consider a possible explanation for the judgments in (6) and (9) found in the literature (e.g.

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[6]Complicating the comparison between answers to WH questions and polar questions is the fact that focus is the only means to demonstrate question-answer congruence in the former case, but not in the latter. The polar particles *yes* and *no* are anaphoric to discourse referents made available by the question (e.g. Krifka, 2013; Roelofsen & Farkas, 2015). Ellipsis in the following clause would also connect the answer to the question. This multiplicity of ways in which answers cohere to polar questions may make judging examples like (7) and (8) more challenging than (6) and (9). However, even with a polar particle and ellipsis, there is still a detectable effect of polarity focus:

(i)   A: Do you sing?
    a.   B: Yes, I DO.
    b.   B: Yes, I do.   (Gutzmann et al., 2020, 11)

In both (ia) and (ib), the nuclear pitch accent necessarily falls on *do*, and yet there is still a prosodic distinction to have intuitions about. (ia) has a rising contrastive pitch accent, indicative of narrow focus, while (ib) has a high pitch accent signaling default prominence (in ToBI, the distinction is between L+H* and H* respectively, though I remain agnostic about whether this intonational distinction is truly phonological or merely phonetic, see Ladd 2008, p. 151ff. and references therein). This intonational distinction corresponds to an interpretational one: Gutzmann et al. report (ia) to be infelicitous unless "the speaker expects that somebody might doubt her ability to sing". As mentioned above, I will weaken this slightly. But the key question is, why is PolF not obligatory here? And why does it signal that the answer contrasts against its negative alternative?

Schwarzschild, 1992, 1999; Truckenbrodt, 1995; Williams, 1997; Wagner, 2005, 2006; Sauerland, 2005; Mayr, 2010). Prominence shifting induces a presupposition. The idea is that the principle of maximize presupposition (Heim, 1991; Percus, 2006; Sauerland, 2008; Schlenker, 2012) in (12) makes focus marked utterances preferable to truth-conditionally equivalent but non-focus marked utterances, as long as the focus presupposition is met.

(12)   *Maximize presupposition*:
        If a sentence S is a presuppositional alternative of a sentence S' and the context c is such that

        a.   the presuppositions of S and S' are satisfied within c;
        b. S and S' are truth-conditionally equivalent relative to c;
        c. S carries a stronger presupposition than S',

        then S should be preferred to S'.   (Schlenker, 2012, 393)

Maximize presupposition depends on a means of identifying which expressions compete with one another. Perhaps the right approach for generating alternatives for maximize presupposition calculation relative to focus marking is to compare all possible focus markings for a structure. Schwarzschild (1992) basically makes this suggestion, with Truckenbrodt (1995) further arguing that all possible domains of focus need to be considered as well.[7] If this is right, then two of the alternatives compared in a context like (6) will be (6a) and (6b). By Rooth's set case presupposition in (3a), (6a) presupposes that the set of propositions representing A's WH question is a subset of the focus semantic value of (6a). (6b) lacks this presupposition, but otherwise the two utterances are truth-conditionally equivalent. Since (6a)'s presupposition is met in (6), maximize presupposition requires the speaker to use (6a) rather than (6b).

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[7]The prospects for further restricting the alternatives to be compared are not obvious, as Kratzer & Selkirk (2020) note. In the case of focus in answers to WH questions as in (6), the scale of alternatives should include the focus-marked answer (6a), overfocused answers like "IVY submitted her PAPER", and the non-focus-marked counterpart (6b). This latter alternative is a null case (lack of focus marking), which may be undesirable though not unprecedented (see Eckardt & Fränkel (2012), who take sentences with the additive particles *too* to compete with those that lack them). Another possibility is to avoid scales altogether, and, following Rouillard & Schwarz (2017), determine alternatives structurally à la Katzir 2007. However more work is needed. Katzir's algorithm generates stronger competitors by making substitutions or deletions, but crucially not additions. This works for overfocussing since the stronger alternative is the one with fewer F-markers. However, the weakest structure will be the non-focus-marked one as in (6b). Finding a presuppositionally stronger alternative to compare it against such as (6a) requires the *addition* of an F-marker and $\sim \Gamma$, not a substitution or deletion.

But if this is the account of the judgments in (6) and (9), and if polar questions are the targets of PolF utterances, then it is surprising that PolF is in fact not obligatory in response to overt polar questions as in (7) and (8). This is a challenge to Wilder's (2013) and Samko's (2016a) accounts, as well as the one I just gave above using Rooth's (1992) set case presupposition.[8]

3   Contrasting alternatives as targets to PolF utterances

In search of a way forward, let's consider Wilder's (2013) examples in (13) and (14), which demonstrate uncontroversially felicitous uses of PolF answers to polar questions (CT stands for contrastive topic intonation, as discussed in e.g. Büring 2003).

(13)   A: I hear that he might not work hard. DOES he work hard?
       B: (Yes,) he DOES work hard.   (Wilder, 2013, 169)

(14)   A: Is he a good candidate? Does he work hard?
       B: (Yes,) he DOES [WORK HARD]$_{CT}$ (but his results are miserable . . .)
                                                                      (Wilder, 2013, 169)

What these examples have in common is the presence of a salient alternative to the PolF utterance with contrasting polarity. In (13), the possibility that he does not work hard is contextually salient thanks to A mentioning it and using polarity focus in the question. In (14), the combination of PolF with contrastive topic marking on *work hard* conveys that there is something else that the candidate does not do. In this case, he does not get good results. This commonality between (13) and (14) points to the following hypothesis.

(15)   *PolF licensing condition*:
       Polarity focus is only licensed by contrast between the PolF utterance and a target that is
       the opposing polarity focus alternative.

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[8]Lohnstein (2016) argues that verum focus is focus on sentence mood, and that the relevant alternatives are declarative, y/n-interrogative, wh-interrogative, and imperative. Thus, on the view that preceding examples exhibit verum focus, the alternatives to them include polar questions, and so Lohnstein's account is also subject to this challenge.

If (15) is correct, then (13) and (14) are predicted to be felicitous. (15) would also explain Wilder's (2013) and Gutzmann et al.'s (2020) intuitions that conflict over p with some bias toward $\neg p$ in the context renders PolF felicitous in response to polar questions. Gutzmann et al.'s VERUM operator account can be taken to have (15) as a consequence. I will address this in section 8.2.

For additional evidence that (15) is on the right track, consider that in cases where the contrastive polarity target is the only obvious target, PolF is strongly preferred to default prominence. For example:

(16)   A: Aïda hasn't eaten breakfast.
      a.   B: She HAS eaten breakfast.
      b.   B: ?? She has eaten breakfast.

The PolF utterance in (16a) is strongly preferred to the default prominence of (16b) in this context. This is predicted by the salience of A's contrastive target coupled with the focus presupposition and the principle of maximize presupposition.[9]

We can also consider repetitions of assertions such as in (17).

(17)   A: Dinah likes Ivy.
      a.   B: ?? Dinah likes Ivy.
      b.   B: DINAH likes Ivy.
      c.   B: Dinah DOES like Ivy.

The sentence *Dinah likes Ivy* is somewhat odd when repeated with default prominence as in (17a). This is perhaps due to the fact that that proposition has just been asserted by A, so it is not clear what B's assertion contributes. Prominence shifts as in (17b) and (17c) save a re-assertion of p by making informative contributions via their focus presuppositions (Schlenker, 2012). They presuppose the presence of an alternative that the focus utterance contrasts with, such as *Moira*

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[9]The relevant contrast is between a PolF utterance with otherwise standard declarative intonation in (16a) and a default prominence utterance with standard declarative intonation in (16b). A close variant of (16b) could bear other intonational tunes such as the contradiction contour (Liberman & Sag, 1974; Goodhue & Wagner, 2018) which would render it felicitous despite lacking PolF.

likes Ivy for (17b), or *Dinah does not like Ivy* for (17c). Doing so conveys the relevance of the focus contrast.[10]

Samko (2016a) claims that examples like (17c) are infelicitous, however in Samko 2016b, she reports such an example:

(18)   A: He was 11-for-16 on field-goal tries last season [. . .]. He hit a career-long 53-yarder against Washington.
         B: (That's right) He DID hit a career-long 53-yarder against Washington.

(Samko, 2016b, 8)

Samko claims that B's utterance should be infelicitous because it doesn't contrast with the polarity of A's utterance, but that it is felicitous if we imagine that B has forgotten about the event, though she doesn't have an explanation for why B's forgetfulness matters. B's forgetfulness matters because it enables the inference that B has accidentally come to believe that he did *not* hit a career-long field goal against Washington, which is the proper contrastive target for PolF. However, the target could arise in other ways, for example if B intends to reinforce A's assertion of p by drawing attention to its contrast with $\neg p$, like (17c) above.

Unlike optional PolF in response to polar questions as in (7) and (8), the preceding examples show that contexts that make the contrastive polarity target $\neg p$ either highly salient or the only salient target render PolF strongly preferred, as predicted by (15).

But we still don't know *why* (15) holds. Rooth's (1992) individual case presupposition in (3b) already correctly predicts a PolF utterance to be felicitous when there is a target with the meaning of the opposite polarity alternative. But there is nothing in Rooth's theory that predicts PolF to *require* a contrastive target, so (15) is not yet explained. My goal is for (15) itself to play no official role in the grammar, but to just fall out as a consequence of the general theory of focus.

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[10]A reviewer argues that more needs to be said to understand how focus is used intentionally to convey the relevance of a contrast. However, it is not immediately clear to me that we need a theory of the intentional use of focus here. It may just be that B takes the contrastive polarity alternative to be available as a target (through no intentional choice of their own), and so has to mark focus, and in so doing, signals the polarity contrast to the hearer. That said, this is a subtle case that raises questions about why speakers "emphasize" certain contrasts, and how that notion fits with a purely grammatical view of focusing. Section 7 is also related to this point.

Besides the question of why (15) holds, we have a second question: Why is PolF optional in responses to polar questions? On the assumption that (15) is correct, the fact that polar questions themselves do not make the contrastive target available would seem to predict PolF to be infelicitous.

The answer will be related to the explanation for another case of optional focus marking:

(19)   A: Yesterday, Jolene and Dolly pitched the tent. What happened today?
    a.   B: JOLENE pitched the tent.
    b.   B: Jolene pitched the tent.   (Klassen & Wagner, 2017, 310)

In (19), B's utterance can contrast with A's target utterance in the subject position, leading to the prominence shift in (19a). On the other hand, B can take their utterance not to stand in contrast with A's, in which case default prominence is the preferred option as in (19b). Klassen & Wagner (2017) demonstrate experimentally that naïve speakers produce both prominence patterns in the context of (19). They also demonstrate experimentally that repeated sentences normally bear default prominence using examples like (20):[11]

(20)   A: Yesterday, Jolene pitched the tent. What happened today?
    B: Jolene pitched the tent.   (Klassen & Wagner, 2017, 309)

Klassen & Wagner (2017, 310) make the following general remarks about focus marking:[12]

> "[T]he use of prominence shifts reveals something about the alternatives entertained by the speaker, and hence about which type of meaning they try to convey. A prominence shift [as in (19a)] conveys a contrast to an alternative subject, while the lack of a prominence shift [as in (19b)] conveys that they consider the present utterance to not stand in contrast with the previous utterance. This should lead to different pragmatic inferences based on the pronunciations."

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[11]Default prominence is felicitous in (20) unlike in (17a) because while *Jolene pitched the tent* is given, *Jolene pitched the tent today* is not asserted or presupposed. Moreover, the PolF utterance *Jolene* DID *pitch the tent* would be infelicitous in (20), unlike in (17a). If a contrastive target is not available, then all-given sentences bear default prominence.

[12]Klassen & Wagner's (2017) observation that default prominence conveys that the utterance does not stand in contrast with a target may be thought of as an antipresupposition along the lines of Percus 2006 by applying maximize presupposition to focus as discussed in section 2 above.

I believe that something similar is happening with answers to polar questions, discussed in section 5.2.

4 A convertible theory of focus

So we have two questions:

1. Why does polarity focus require a contrastive target?

2. Why is answer focus obligatory in response to WH questions, while polarity focus is not obligatory (but is apparently optional) in response to polar questions?

To answer question 1, I will argue that the hypothesis in (15) that polarity focus is necessarily contrastive holds because *all focus marking requires true contrast*. This argument will build on work on the proper characterization of contrastive focus by Wagner (2006, 2012), Katzir (2013), and Büring (2016b, 2019). Careful consideration of the data that motivates this work as well as new data will help to clarify how focal targets are made available, and the relationship between contextually salient or inferable targets vs. accommodated or ad hoc targets. This, in combination with givenness deaccenting will enable an answer to question 2 in section 5.

4.1 Wagner's puzzle

Consider the following examples inspired by Wagner 2006, 2012, which suggest that focus marking requires not only contrast, but *true* contrast, with the proper characterization of "true" contentious in the literature.

(21)   A: Mary's uncle, who has been known to give high-end convertibles as presents on special occasions, is coming to her wedding. I wonder what he brought as a present.

    a.   B: He brought a CHEAP convertible.
    b.   B: # He brought a RED convertible.
    c.   B: He brought a red CONVERTIBLE.   (based on Wagner, 2006, 297)

A's utterance makes the target *that he brought a high-end convertible* available. Given this, Rooth's

(1992) individual case presupposition in (3b) is met by (21a), thus it is accurately predicted to be felicitous. However, if (21a) is predicted to be felicitous, then so is (21b), contrary to fact. The problem is that Rooth's $\sim$ requirement is too permissive: *high-end*, *cheap*, and *red* all have the same semantic type, which is enough for the target to satisfy the focus requirement for both (21a) and (21b). Other general theories of focus marking are overly permissive in the same way (e.g. Kratzer, 1991; Schwarzschild, 1999; Rooth, 2015; Kratzer & Selkirk, 2020). Moreover, a theory that allows pure givenness deaccenting in the absence of any focus marking would also predict (21b) to be felicitous contrary to fact, since *convertible* is given in the context. This unexpected asymmetry in (21) is Wagner's puzzle.

To explain this puzzle, Wagner (2006, 2012) suggests that the focus requirement be strengthened to one that requires a true contrast between the focus utterance and the target in that each are a distinct cell in a single partition. The idea is that the set of cheap convertibles and the set of high-end convertibles are each cells in a partition of convertibles and so (21a) is felicitous, but the sets of red and high-end convertibles overlap, and so are not and (21b) is infelicitous. Katzir (2013) argues, contra Wagner, that Rooth's original formulation does not need to be strengthened if we understand the focus utterance to be exhaustified via an EXH operator like that in Fox 2007, which filters out non-innocently excludable alternatives. In the next section, I will follow Wagner in positing a strengthened focus requirement.

4.2 Implementing true contrast and challenges for Katzir 2013

I will formulate the true contrast condition directly in terms of the notion of innocent exclusion.

(22)   *Innocent exclusion*
       Let ϕ be a focus utterance such that $[\![\phi]\!]^o = p_{\langle s,t \rangle}$, and $[\![\phi]\!]^f = A$.
       IE$(p, A) := \bigcap \{M \mid M$ is a maximal set of excludable alternatives in A given $p\}$
       a. $M \subseteq A$ is a set of excludable alternatives in A given p iff $\{\neg q \mid q \in M\} \cup \{p\}$ is
             consistent.[13]

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[13]Let $P = \{\neg q \mid q \in M\} \cup \{p\}$. P is consistent iff there are states of affairs relative to which all propositions in P are simultaneously true. If we think of propositions as sets of possible worlds, then P is consistent iff $\bigcap P \neq \varnothing$.

b.   A set M that satisfies (22a) is maximal iff there is no M' such that $M \subset M'$ and M' satisfies (22a). (Fox, 2007; Chierchia et al., 2012)

The intuition behind the label "innocent exclusion" is that if a speaker were to say, "He only brought a RED convertible," the utterance would exclude that he brought any convertibles of other colors, but it would not exclude that the convertible he brought was high-end or that it was cheap. The former are innocently excludable, the latter are not. To see how (22) captures this intuition, consider the case in which ϕ is the focus utterance in (21a), "He brought a CHEAP convertible." According to (22), the proposition *that he brought a high-end convertible* is an innocently excludable alternative because it is present in every maximally large set of focus alternatives to (21a) that, when negated as in (22a), can be consistently combined with the meaning of (21a). Now consider if ϕ were (21b), "He brought a RED convertible." Both *that he brought a cheap convertible* and *that he brought a high-end convertible* are focus alternatives to (21b). On the assumption that all convertibles are either cheap or high-end, clearly not both of these alternatives can be present in any given maximal set of alternatives that, when negated and combined with the meaning of (21b), is consistent.[14] So some sets M will contain *that he brought a cheap convertible*, and the others *that he brought a high-end convertible*. Thus, (22) says that neither is an innocently excludable alternative to (21b).

Here is a first pass at the proposed focus requirement based on innocent exclusion:

(23)   *Focus condition (preliminary)*
       $\phi \sim \gamma$ is felicitous only if there is a target with meaning γ such that
       $\gamma \in \text{IE}(p, A)$

The focus requirement imposed by (23) is that γ is a member of the innocently excludable alternatives to ϕ. The focal target in (21) is *that he brought a high-end convertible*. We just saw that this target is an innocently excludable alternative to (21a), but not to (21b), so (23) explains Wagner's

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[14]That is, there are not states of affairs that render all three propositions true. In terms of sets of possible worlds: $\bigcap \{$*that he did not bring a cheap convertible*, *that he did not bring a high-end convertible*, *that he brought a red convertible*$\} = \varnothing$.

puzzle so far. Note that (23) does not impose exhaustification on the focus utterance. It just means that, *if* ϕ were to be exhaustified, then it would entail the negation of the target γ.

However, Katzir (2013) shows that just assuming that the focus utterance is actually exhaustified by an EXH operator achieves the same result for (21).[15] The idea is that an EXH operator associates with focus, and only if the exhaustified utterance successfully excludes the target is the focus utterance felicitous, as in (21a). Otherwise we can't tell how the focus utterance relates to the prior discourse, leading to infelicity as in (21b). So why have I baked innocent exclusion into the requirement imposed by $\sim$? Consider the following:

(24)   A: Her uncle brought a high-end convertible.
        B: Yeah, and he brought a CHEAP convertible.

B's use of focus here can be thought of as additive (note that *too* could easily be added to the end of B's utterance, though it doesn't have to be). B is agreeing with A and adding another fact. If the second conjunct of B's utterance were parsed with an EXH operator, it would be incorrectly predicted to exclude the focal target, A's utterance. (23) makes no such prediction for (24).

In defense of Katzir's account, one could argue that (24) simply isn't parsed with EXH. However then we could ask why (21b) cannot also be parsed without EXH, which would render it felicitous on the EXH account of true contrast, but which appears to be impossible. To make the challenge more explicit, consider example pairs in which EXH must be absent from the conjuncts of one sentence, but present in the conjuncts of its counterpart, and in which the reason for these different parses is not obvious.

(25)   B walks into a bookstore that has a sign in the window that reads, "We buy books". A is behind the counter.
        a.   B: I'm hoping to sell you some books. I have a SYNTAX book to sell, and I have a
              SEMANTICS book to sell.

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[15]EXH has roughly the same meaning as the word *only*. Assuming IE(p, A) as defined in (22):

(i) $[\![\text{EXH}]\!](p)(A)(w) \Leftrightarrow p(w)$ & $\forall q \in \text{IE}(p, A)[\neg q(w)]$

      b.   B: ?? I'm hoping to sell you some books. I have a SYNTAX book to sell, and I have a USED book to sell.

(26)   A walks into a bookstore and says to B, "What kind of books do you sell?"

      a.   B: I sell SYNTAX books, and I sell SEMANTICS books.

      b.   B: ?? I sell SYNTAX books, and I sell USED books.

Intuitively, the asymmetry is caused by the fact that *syntax* and *semantics* truly contrast but *syntax* and *used* do not. The strengthened true contrast focus condition in (23) captures this since the focal targets of each conjunct in (25a) and (26a) are innocently excludable, while those of each conjunct in (25b) and (26b) are not. For the EXH account to predict these facts, (25a) and (26a) would need to be parsed without EXH in either conjunct, otherwise they would entail the falsity of the other conjunct. But (25b) and (26b) would need to be parsed *with* EXH in the conjuncts so that they are required to entail the falsity of their focal targets, which they will fail to do due to the non-innocent excludability of the focal target, resulting in infelicity because we can't understand how the exhaustified conjuncts relate to their counterparts. But it is unclear then how to motivate the necessary absence of EXH in the (a) examples and its necessary presence in the (b) examples.[16]

    While (23) makes the right predictions so far, it is still not quite right. Consider the following example.

(27)   A: Mary's uncle either brought a blue convertible or a yellow convertible.
           B: No, he brought a RED convertible.

Suppose a realistic context for (27) in which there are many possible colors that a convertible could be. The focal target for B's utterance appears to be A's utterance, which is the union of a subset of $\text{IE}(p, A)$. I will redefine the focus requirement (23) to allow the focal target to be the generalized

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[16]Bade (2016) gives an account of exhaustivity in conjunctions based on Fox 2007 that predicts a wide-scope EXH because exhaustifying an individual conjunct leads to a contradiction. This would correctly predict (25a) and (26a), however it is still not obvious under this view why (25b) and (26b) must be parsed with exhaustified conjuncts. Moreover that account applied to these examples misses the simple fact that the asymmetry is due to a use of focus that truly contrasts in (25a) and (26a), but not in (25b) and (26b).

union of any subset of $\mathrm{IE}(p, A)$.[17]

(28)   *Focus condition (final)*
$\phi \sim \gamma$ is felicitous only if there is a target with meaning γ such that
$\gamma \in \{\bigcup X \mid X \in \mathcal{P}(\mathrm{IE}(p, A))\}$

Since $\mathrm{IE}(p, A)$ is itself a proper subset of $\{\bigcup X \mid X \in \mathcal{P}(\mathrm{IE}(p, A))\}$,[18] (28) covers previous examples in which γ is a member of $\mathrm{IE}(p, A)$, as well as new examples like (27) just above, and (29) just below. In the following, I will still speak of "the innocently excludable alternatives" with the understanding that this includes not just individual members of $\mathrm{IE}(p, A)$ but also the generalized union of any subset of $\mathrm{IE}(p, A)$.

(28) resolves Wagner's puzzle by strengthening the focus requirement via innocent exclusion.[19] It also answers question 1 from the beginning of this section, that is, it explains why a polarity focus utterance requires its contrastive polarity alternative as target, as hypothesized in (15). The only innocently excludable alternative to a polarity focus utterance is its contrastive polarity alternative. Thus (15) falls out as a consequence of the theory of true contrastive focus developed here.

However, one aspect of the account remains unclear: Where exactly do focal targets come

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[17]Since the empty set is a member of every power set, and since $\bigcup \varnothing = \varnothing$, the empty set is predicted by (28) to be a felicitous target for any focus utterance. It is not obvious whether this causes any trouble, since it is not clear what it would mean to identify the target with the empty set. One situation that would cause trouble is if we were to identify the empty set case with the situation in which there is no available focal target. Then we would make the pathological prediction that any focus marking is felicitous out of the blue. Such a worry could be avoided by revising (28) to remove the empty set from the power set of $\mathrm{IE}(p, A)$ as follows:

(i)   *Focus condition (minus the empty set)*
$\phi \sim \gamma$ is felicitous only if there is a target with meaning γ such that
$\gamma \in \{\bigcup X \mid X \in [\mathcal{P}(\mathrm{IE}(p, A)) \setminus \{\varnothing\}]\}$

The concern that the account I propose pathologically predicts any focus marking to be felicitous in any context that lacks a salient focal target will return in section 5 below, but for different reasons.

[18]Because the power set of the innocently excludable alternatives, $\mathcal{P}(\mathrm{IE}(p, A))$, contains singleton sets of each member of $\mathrm{IE}(p, A)$, and the generalized union of a singleton set containing a proposition is just the proposition itself. So each proposition in $\mathrm{IE}(p, A)$ is in $\{\bigcup X \mid X \in \mathcal{P}(\mathrm{IE}(p, A))\}$.

[19]Technically, (28) is not strictly stronger than Rooth's (1992) individual case presupposition in (3b). (28) does make some members of $[\![\phi]\!]^f$ unacceptable as focal targets since $\mathrm{IE}(p, A)$ lacks many of the alternatives in $[\![\phi]\!]^f$. But then it expands on $\mathrm{IE}(p, A)$ (and $[\![\phi]\!]^f$) by including generalized unions of subsets of $\mathrm{IE}(p, A)$. So the set of possible focal targets according to (28) both includes some targets ruled out by, and excludes some targets predicted by, Rooth's theory. Polarity focus is one exception to this because the set of focus alternatives is so tightly constrained.

from? Consider the following example due to Michael Wagner (p.c.).

(29)   A: I heard Mary's uncle brought a convertible.
         B: Yeah, he brought a RED convertible.

B's utterance in (29) doesn't really contrast with A's, but elaborates on it ("elaboration focus", Büring 2016a). Of course, if some other color convertible were saliently expected in the context, say blue, then that could serve as the target, satisfying (28). But (29) is perfectly felicitous without such a context. Crucially, (29) cannot be claimed to be an example of pure givenness deaccenting, since if pure givenness deaccenting were possible, then it would incorrectly predict (21b) to be felicitous.

Instead, I will claim that B's focus utterance in (29) is felicitous because it contrasts against the most general contrastive focal target, *that he brought a non-red convertible*, constructed ad hoc on the basis of the focus utterance. This focal target is the generalized union of the whole set of innocently excludable alternatives to B's utterance in (29), and so satisfies the condition in (28) but not (23). Thus (29) is another example motivating the revision of the focus condition to (28). But, if the most general contrastive focal target to a focus utterance can be constructed ad hoc, then an explanation for the infelicity of (21b) is still needed. It will be instructive to consider Büring's (2019) account of true contrast in the next section. I raise novel challenges for this account, which lead me to the observation that it matters whether a focal target is contextually supported or merely accommodated. This will resolve the asymmetry between (21b) and (29), and will be relevant in turn to answering question 2 above in section 5 below.

4.3   The account in Büring 2019 and challenges for it

Büring (2019) also seeks to explain Wagner's puzzle via a strengthened focus requirement inspired by innocent exclusion. My account shares much with this account, but by the end of this subsection, I will clearly delineate the contrasts between them.

(30) $\phi \sim \Gamma$ is well-formed only if there is a value α, the FOCAL TARGET, for Γ s.t.

   a. α contains at least one element that is a member of the focus semantic value of ϕ, and that is distinct from the ordinary semantic value of ϕ. (**Rooth's condition**)
   b. α is a **proper question**
   c. α is **relevant** to the participants at the time of the utterance of ϕ
   d.   the participants can unambiguously **identify** α given the utterance of ϕ

(Büring, 2019, 17)

(30a) is roughly the individual case presupposition from Rooth 1992.[20] (30b) and (30c) together impose a strengthened true contrast focus requirement. "Proper question" is a novel way of recasting the set of innocently excludable alternatives as a question under discussion (QUD). (30d) replaces the requirement that a focal target be "salient", or "given" as in (3), with the requirement that it merely be "identifiable", which allows targets that are either salient, or constructed "after the fact", ad hoc.

While (30b) is the part of Büring's explanation for true contrast that is spelled out formally, the condition that bears the most weight in explaining Wagner's puzzle in the end is (30c), so I will give only an intuitive sense of what a proper question is. Roughly, a proper question is a complete question in which, for any answer p in the proposition set representing the question, "p and none of the other answers" is consistent. For example, assume that all convertibles are either *cheap* or *high-end*. The focal target for (21a) could be {*that he brought a cheap convertible, that he brought a high-end convertible*}. Clearly, "He brought a cheap convertible and not a high-end convertible" (and vice versa) is coherent, so this question is proper. As for (21b), the question {*that he brought a red convertible, that he brought a high-end convertible*} would not be proper because, though it is coherent, it is not complete. Intuitively, what this means is that it is a random subset of answers to two different questions, one about quality or cost, and another about color. The complete question can be found by exhaustifying the disjunction of all of the focus alternatives to both the focus utterance and the other propositions in the focal target, producing {*that he brought a red convertible, that he brought a non-red convertible, that he brought a high-end convertible, that he*

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[20]Büring (2016b, 2019) restates Rooth's presupposition in terms of his novel theory of focus semantics, unalternative semantics. However, as noted in Büring 2019, issues related to the pragmatic licensing of focus marking are independent of the particular theory of focus un/alternatives, so I abstract away from these details here.

brought a non-high-end convertible}.[21] This question is complete but not coherent, since e.g. if the car were not high-end and not non-high-end, then there would be no remaining possibilities for the way the car might be, and therefore it is not proper. However, this does not yet explain the infelicity of (21b) because Büring assumes that the ability to identify a proper question target is quite powerful: upon hearing the focus utterance, any listener can immediately identify a proper question by forming a set containing the meaning of the focus utterance and the exhaustified disjunction of its focus alternatives. For (21b), this would be {*that he brought a red convertible, that he brought a non-red convertible*}, and would satisfy condition (30b).

(30c) is the condition that predicts (21b) to be infelicitous. The idea is that a question α counts as relevant if the true answer would matter to the discourse participants. Given that Mary's uncle has been known to make gifts of high-end convertibles in (21), whether he brought a high-end convertible or a cheap convertible matters, as bringing a cheap convertible would be surprising. It is less clear how it matters whether he brought a red or a non-red convertible. "The point is that [the color of the convertible] is not *crucial*. Nothing else of interest would follow if the convertible had been non-red." (p. 21) But if it had been non-high-end, something of interest would follow (e.g. her uncle has become stingy, or her uncle has a grudge against her parents and he finally got back at them, etc.). Büring points out that the notion of relevance here must be stronger than informativity, since saying that he brought a red convertible as in (21c) is informative enough to be felicitously asserted. The account of true contrast in (30) mostly boils down then to making proper question focal targets trivially identifiable, and strengthening Rooth's requirement via a special relevance requirement on focal targets.

Büring applies his account to answer focus as well.

(31)   A: Who likes Ivy?
    a.   B: DINAH likes Ivy.
    b.   B: # Dinah likes IVY.

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[21]See Büring 2019, 23ff. for precise details.

(31a) makes a proper question identifiable, {*that Dinah likes Ivy (and no one else does), that some-one other than Dinah likes Ivy*}. The answer to this question is relevant to A, as it is a subquestion of A's WH question. Meanwhile, the proper question target of (31b) is not a subquestion of (31)A, so it does not meet (30c). Thus answer focus is correctly predicted by this account.[22]

However, now consider (32), which is a challenge for the account in (30), and is telling about its prospects for accounting for polarity focus.

(32)   A: Mary's uncle, who has been known to give high-end convertibles as presents on special occasions, is coming to her wedding. I wonder what he brought as a present.
        B: # He brought a HIGH-END convertible.

The question {*that he brought a high-end convertible, that he brought a non-high-end convertible*} is just as identifiable, proper, and relevant here as it is relative to (21a), so the theory in (30) predicts (32)B to be acceptable contrary to fact.

The change to the context in (33) renders B's utterance intuitively felicitous.

(33)   A: Mary's uncle, who has been known to give cheap convertibles as presents on special occasions, is coming to her wedding. I wonder what he brought as a present.
        B: He brought a HIGH-END convertible.

That Mary's uncle usually gives cheap convertibles sets up a contrast with B's focus utterance in (33), making it felicitous. An identifiable, proper, and relevant question is not enough. A salient, contrastive target makes the difference. This suggests that focal targets are better treated as contrastive propositions than proper questions, as I have done (28). That said, making the most minimal change to (30) to require focal targets to be propositions is not sufficient. For instance, we could imagine changing (30) to require that the focal target α be a proposition, and further changing (30b) to require that, when α is added to a set along with the denotation of the focus utterance,

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[22]See also Büring 2016b (p. 568). Büring does not officially say that (30c) means that a true contrast must form a subquestion of a prior QUD, instead leaving the special notion of relevance informal. Still, if this is what it means to be "contrastively relevant", then it is likely on the right track, and I would think of it as being about the pragmatics of Gricean/QUD relevance, rather than a subcondition on focus marking. However, the next pair of examples show that Büring's contrastive relevance requirement is not enough to explain truly contrastive focus.

it produces a proper question. The result would still fail to predict the asymmetry between (32) and (33), since *that he brought a non-high-end convertible* would still be identifiable, proper, and relevant in each context. What (32) and (33) reveal is that the salience of a relevant contrastive target has a key role to play. In other words, we need a way to constrain the identifiability of targets dependent on what is salient in the context.

The account in (30) runs into a similar problem with optional polarity focus in response to polar questions, discussed in sections 2 and 3. The issue is that a relevant proper question is easy to identify from a polarity focus answer to a polar question, namely the polar question itself, and so all of the requirements in (30) are met. With the assumption of a mechanism to force focus marking, such as maximize presupposition in section 2, polarity focus is incorrectly predicted to be required. What seems to matter in both the case of answers to polar questions and in (32)/(33) is whether or not the contrastive focal target is salient, as I suggested in section 3. But Büring's account makes no provision for the important role of salience in identifying a focal target.

Finally, I believe that the problem with (21b) is also caused by what is salient in the context, rather than relevance. The focus marking of (21b) conveys that there should be a true focus contrast at the location of the adjective *red*, but the focal target salient in the context does not contrast truly in that location. Again, the salience of the focal target plays a key role. Thus my account will differ from Büring 2019 in three key ways: Focal targets are truly contrastive propositions, not proper questions, as is already captured by (28). Relevance will not play a central role. And the ad hoc identification of focal targets must be constrained in a principled way (section 4.4).

4.4 Contextually supported targets vs. accommodated targets

To explain the various contrasts we have seen so far, I propose that salient targets can block the construction or accommodation of ad hoc targets. For example, the context of (21), but not (29), provides a salient, unignorable target. In (21), the target is the expected answer to A's question, *that he brought a high-end convertible*. When B goes on to utter "He brought a RED convertible" in (21b), we expect the salient target to be among the innocently excludable alternatives. But it isn't,

and apparently we are not free to identify ad hoc a different, innocently excludable target for (21b), so it is infelicitous. In (29), there is no such salient target, and listeners are free to accommodate the most general contrastive target, *that he brought a non-red convertible*.[23] The contrast between (32) and (33) will also yield to this explanation. In (32), the salient target *that he brought a high-end convertible* is not an innocently excludable alternative to the focus utterance, and it blocks a different target from being accommodated, so (32) is infelicitous. Meanwhile, the salient target in (33) is *that he brought a cheap convertible*, which renders the focus utterance "He brought a HIGH-END convertible" felicitous, as predicted by (28).

So there are two sources of targets for focus marking:

(34) a. *Contextually supported targets*: The context makes a meaning γ salient or otherwise inferable.
  b. *Accommodated targets*: The focus utterance itself enables the most general contrastive target γ to be constructed ad hoc and accommodated.

I intend the term "contextually supported" to include "salient": all salient targets are contextually supported but not vice versa. I officially use the term "contextually supported" in (34a) because, as a matter of empirical fact, the key dividing line appears to be between those targets that are constructed out-of-the-blue, without any help from the context beyond the focus utterance itself, and those targets that receive some contextual support, even if they don't clear the high-bar required to be counted as "salient". For example, while (21) makes the target *that he brought a high-end convertible* salient or at least highly expected, this seems less likely in the original context that motivates Wagner's puzzle in (35). (35) elicits the same pattern of focus in B's answers as (21).

(35) A: Mary's uncle, who produces high-end convertibles, is coming to her wedding. I wonder what he brought as a present.   (Wagner, 2006, 297)

This context makes *that he brought a high-end convertible* a live possibility, but it doesn't make

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[23]It is reasonable to ask why A's utterance in (29) is not itself an unignorable, salient target. I will answer this at the end of this subsection, once we have a better handle on the relationship between salient and accommodated targets.

it salient enough to license givenness deaccenting. For example, B cannot reply to (35)A with, "I DOUBT he brought a high-end convertible." One reviewer suggests that (35) only makes us expect that the uncle will bring an expensive gift. Even if this is right, then this plus the fact that he brought a convertible (as is entailed by any of B's answers in (21)) implies that it should be expensive/high-end. Thus, the context in (35) including B's answer provides support for the expectation *that he brought a high-end convertible*, which distinguishes it from a focal target that is completely accommodated. Therefore everything said below about (21) could also be said about (35). That said, I frequently use "salient" when discussing examples above and below because the contexts discussed support the relevant targets via salience.

It is commonly accepted that focal targets can become available either through contextual salience or a process of accommodation (e.g. Rooth, 1992; Büring, 2019; Wagner, 2020, a.o.). What is novel here is the claim that contextually supported targets restrict the availability of accommodated targets. This restriction can happen in two ways: First, if the contextually supported target truly contrasts with (is an innocently excludable alternative of) the focus utterance, then an ad hoc target cannot be constructed. Second if the focus utterance is pronounced as if it should contrast narrowly with the contextually supported target, then an ad hoc target cannot be constructed. It will be helpful to see each of these restrictions in action by completing the original convertibles pattern in (21) with one more data point in (36b). I make the various focal targets explicit.

(36)   A: Mary's uncle, who has been known to give high-end convertibles as presents on special occasions, is coming to her wedding. I wonder what he brought as a present.
        Salient target γ: *that he brought a high-end convertible*   ($\gamma^{\text{ a high-end convertible}}$)

    a.   B: He brought a [CHEAP]$_F$ convertible.
        Ad hoc target γ': *that he brought a non-cheap (high-end) convertible*
                                     ($\gamma'^{\text{ a non-cheap convertible}}$)

    b.   B: # He brought a [cheap CONVERTIBLE]$_F$.
        Ad hoc target γ': *that he brought something other than a cheap convertible*
                                     ($\gamma'^{\text{ not a cheap convertible}}$)

    c.   B: # He brought a [RED]$_F$ convertible.
        Ad hoc target γ': *that he brought a non-red convertible*
                                     ($\gamma'^{\text{ a non-red convertible}}$)

    d.   B: He brought a [red CONVERTIBLE]$_F$.

Ad hoc target γ': *that he brought something other than a red convertible*
$$(\gamma'^{\textit{ not a red convertible}})$$

What we see in (36) is that, when the salient target $\gamma^{\textit{ a high-end convertible}}$ is an innocently excludable alternative to the focus utterance, narrow focus on the adjective as in (36a) is felicitous while NP focus as in (36b) is not. But when the salient $\gamma^{\textit{ a high-end convertible}}$ is *not* an innocently excludable alternative, the pattern flips: narrow focus on the adjective as in (36c) is not felicitous while NP focus as in (36d) is.

If the salient $\gamma^{\textit{ a high-end convertible}}$ were the only available target, then the contrast between (36a) and (36b) would be straightforwardly predicted on the account I have developed so far. (36a) truly contrasts with $\gamma^{\textit{ a high-end convertible}}$ according to (28). (36b) also truly contrasts with $\gamma^{\textit{ a high-end convertible}}$, but it is overfocused, that is, it encodes a strictly weaker focus presupposition than (36a) and so is ruled out by maximize presupposition.

But we can still ask why the ad hoc target $\gamma'^{\textit{ not a cheap convertible}}$ can't be used instead of $\gamma^{\textit{ a high-end convertible}}$. If it could, we would expect (36b) to be felicitous, since it is not overfocused relative to $\gamma'^{\textit{ not a cheap convertible}}$. I propose that the salient target $\gamma^{\textit{ a high-end convertible}}$ blocks this because it is itself an innocently excludable alternative to (36b). Given this, and the fact that $\gamma^{\textit{ a high-end convertible}}$ entails $\gamma'^{\textit{ not a cheap convertible}}$, it makes little sense to accommodate an ad hoc target $\gamma'^{\textit{ not a cheap convertible}}$ for B's focus utterance to contrast against. So we have to understand B's utterance as contrasting against the salient $\gamma^{\textit{ a high-end convertible}}$, but then maximize presupposition renders the presuppositionally stronger (36a) preferred, and (36b) is infelicitous. This is one way that a salient target γ blocks the accommodation of an ad hoc target γ': when γ itself is an innocently excludable alternative to the focus utterance, γ can't be ignored in favor of γ'.

Unlike (36b), $\gamma^{\textit{ a high-end convertible}}$ is not an innocently excludable alternative to the focus utterance in (36d), and so nothing I've said so far blocks (36d) from being evaluated relative to its ad hoc target $\gamma'^{\textit{ not a red convertible}}$. This is good, since (36d) is intuitively felicitous, and if it had to be evaluated relative to the salient $\gamma^{\textit{ a high-end convertible}}$, it would be incorrectly predicted infelicitous. But this now raises a puzzle: $\gamma^{\textit{ a high-end convertible}}$ is also not an innocently excludable alternative to

(36c), so nothing I've said so far blocks (36c) from being evaluated relative to its ad hoc target $\gamma'^{\,a\ non\text{-}red\ convertible}$. But this is bad, since (36c) is intuitively infelicitous. We want to force (36c) to be evaluated relative to the salient $\gamma^{\,a\ high\text{-}end\ convertible}$.

Here is the key difference in how the salient target $\gamma^{\,a\ high\text{-}end\ convertible}$ relates to each of (36c) and (36d): If $\gamma^{\,a\ high\text{-}end\ convertible}$ had satisfied the innocent excludability requirement in (28) for both of these focus utterances, then (36d) would be overfocused while (36c) would not. That is, (36c) is F-marked *as if it were supposed to contrast narrowly with* $\gamma^{\,a\ high\text{-}end\ convertible}$ while (36d) is not. In this sense, we can think of $\gamma^{\,a\ high\text{-}end\ convertible}$ as a "strong focus alternative" to (36c) but not (36d), despite that it isn't an innocently excludable alternative to either. Let's make the notion of "strong focus alternative" precise:[24]

(37)   Strong focus alternative:
        γ is a strong focus alternative to a focus utterance $\phi \Leftrightarrow$
        a. $\gamma \in [\![\phi]\!]^f$, and
        b.   there is no ϕ' such that $\gamma \in [\![\phi']\!]^f$ & $[\![\phi']\!]^f \subset [\![\phi]\!]^f$

A salient target γ being a strong focus alternative to the focus utterance ϕ is another way that the use of an ad hoc target γ' is blocked. Because $\gamma^{\,a\ high\text{-}end\ convertible}$ is a strong focus alternative to (36c), we feel as if the two should truly contrast. Since they don't, the use of F-marking is confusing and infelicitous. Note that upon hearing (36d), on the other hand, it is natural to assume that the red convertible is also high-end, that is, that $\gamma^{\,a\ high\text{-}end\ convertible}$ is true. Because $\gamma^{\,a\ high\text{-}end\ convertible}$ is not a strong focus alternative to (36d) (and also isn't innocently excludable), (36d) manages to signal that no contrast with $\gamma^{\,a\ high\text{-}end\ convertible}$ was ever intended. So we assume B is signaling the contrast with $\gamma'^{\,not\ a\ red\ convertible}$.

Here are the two conditions on how the contextually supported target restricts the availability of the ad hoc target, collected together.

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[24]Note that the formulation of (37) is very similar to the contrast constraint in Schwarzschild (1992, 12) and Truckenbrodt (1995, 173), despite that it is put to very different use. There, the contrast constraint is meant to play the role that I have given to maximize presupposition here, namely enforcing that the strongest possible focus presupposition is marked. Here, the definition of strong focus alternative in (37) is merely a means of precisely identifying a relationship between a focus utterance ϕ and a non-innocently excludable salient target γ such that γ cannot be ignored.

(38)   *Constraints on ad hoc focal targets*:
         A target γ' cannot be accommodated ad hoc on the basis of the focus utterance ϕ if there is a contextually supported target γ that is unignorable.

   a.   A contextually supported target γ is unignorable iff one of the following is true:
          (i) γ is among the innocently excludable alternatives
          (ii) γ is among the strong focus alternatives

For (36a), $\gamma^{\textit{a high-end convertible}}$ is both an innocently excludable alternative and a strong focus alternative, so it can't be ignored. It also satisfies (28), so (36a) is predicted to be felicitous. For (36b), $\gamma^{\textit{a high-end convertible}}$ is an innocently excludable alternative, so it can't be ignored. It satisfies (28), but (36b) imposes a weaker presupposition than (36a), and so maximize presupposition renders (36b) infelicitous. For (36c), $\gamma^{\textit{a high-end convertible}}$ is a strong focus alternative, so it can't be ignored. But it doesn't satisfy (28), so (36c) is predicted to be infelicitous. For (36d), $\gamma^{\textit{a high-end convertible}}$ is neither an innocently excludable alternative nor a strong focus alternative, so it can be ignored. $\gamma'^{\textit{not a red convertible}}$ is accommodated ad hoc, and it satisfies (28), so (36d) is predicted to be felicitous. Finally, we can now see why A's utterance in (29) can be ignored: it is neither an innocently excludable alternative, nor a strong focus alternative to B's focus utterance, so the latter is correctly predicted to be felicitous.

The result is that we have a simple account of the true contrast requirement of focus in (28), one that makes use of alternative semantics for focus, and imposes a strengthened true contrast requirement on focal targets based on innocent excludability. Focal targets can be found both among contextually salient meanings, and by accommodating them based on the focus utterance itself. (38) takes some first steps in exploring how contextually salient targets constrain the use of ad hoc targets.[25] These components come together to explain the problem with (21b): The problem

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[25]One remaining puzzle is examples like (17c) and (18), where there is a salient target that is a strong focus alternative to the focus utterance, since A has just asserted the same content that B then asserts with focus. Why can these targets be ignored in favor of an accommodated contrastive target? Compare them to (20) and (32), in which the content of the focus utterance is given and these salient targets cannot be ignored. The difference is that the content of the focus utterance is merely saliently given in (20) and (32), while it has just been asserted in (17c) and (18). Somehow, the fact that the content of the focus utterances in (17c) and (18) was just asserted provides an escape hatch to avoid the salient target in favor of an accommodated one. This may be because the prior assertion renders to current one irrelevant—unless the speaker intends to add more information via a focus presupposition, as suggested in section 3. And this means that we as listeners are already looking past the prior assertion for some contrastive target to accommodate that will explain why speaker B is bothering to assert the proposition again.

isn't that the color of the convertible that he brought isn't relevant. The problem is that (21b) is focus marked as if it should contrast narrowly with the salient target. Because of this, (38) blocks an ad hoc target from being used. But according to (28), (21b) does not truly contrast with the salient target, and so it is correctly predicted to be infelicitous.

5 Givenness explains the asymmetry between answers to WH questions and polar questions

The ability to construct an ad hoc target when it is not blocked by a contextually supported target raises a question: Why can't focal targets just be accommodated whenever there is no contextually supported target present? The account so far seems to suggest that they can, incorrectly predicting all sorts of focus markings that aren't satisfied by the context. The answer is that there is an independent condition on givenness deaccenting that requires deaccented expressions to be salient, as previously argued for by various researchers (e.g. Rooth, 2015; Rochemont, 2016; Büring, 2019; Kratzer & Selkirk, 2020).

In section 5.2, I will use this fact to explain the asymmetry in question-answer congruence between answers to WH questions and polar questions. But first in section 5.1, I will introduce novel evidence from polarity focus that speaks in favor of having a separate givenness requirement.

5.1 Evidence from polarity focus for distinct givenness deaccenting

The theory I have developed so far, like Rooth's, can only make different predictions for a pair of examples if they differ from one another along at least one of three dimensions: (i) the ordinary semantic value of the focus utterance ϕ, (ii) the focus semantic value of ϕ, or (iii) the focal target (the value of γ). Consider the pair of examples (39) and (40), which give rise to different intuitions, but that I will argue do not differ along any of these three dimensions.

(39)   A: Does Dinah eat cheese?

    a.   B: Dinah DOESN'T eat cheese.

    b.   B: Dinah does NOT eat cheese.

    c.   B: # Dinah DOES not eat cheese.

The ordinary semantic value of each of B's utterances in (39) is $\neg p$, and their focus semantic values are $\{p, \neg p\}$, as I will demonstrate below. According to the theory developed above, the target has to be the contrastive polarity alternative, p. (39) demonstrates that this configuration allows the pitch accent to land on *doesn't* and *not*, but not *does*.

However, if there is an overt *not* in A's question, the pattern changes:

(40)   A: Does Dinah not eat cheese?

    a.   B: Dinah DOESN'T eat cheese.

    b.   B: Dinah does NOT eat cheese.
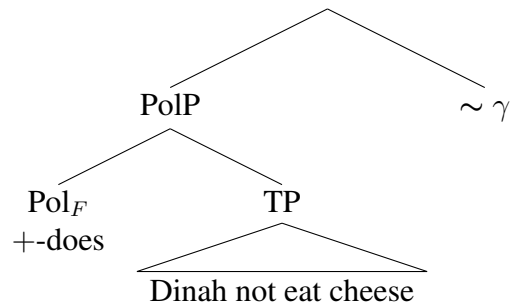
    c.   B: Dinah DOES not eat cheese.

The addition of *not* to A's question enables *not* to be deaccented in (40c), with the pitch accent landing felicitously on *does*. However, (40) does not differ from (39) along any of the three crucial dimensions: the ordinary and focus semantic values of B's utterances are the same in (40) as in (39), and the theory I proposed above again requires the polarity focal target to be the contrastive polarity alternative, p. Thus the theory developed so far does not yet explain the contrast between (39) and (40).

To unpack this a bit more, I am assuming that the structure of the (a) and (b) sentences differs from that of the (c) sentences.

(41)   Syntactic structure for the (a)/(b) sentences:

        PolP   ~ γ

    Pol_F TP

    −-does not

        Dinah eat cheese
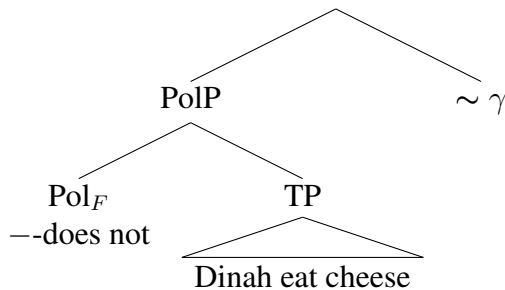
(42)   Syntactic structure for the (c) sentences:

        PolP   ~ γ

    Pol_F TP

    +-does

        Dinah not eat cheese

In the (a)/(b) sentences there is an F-marked negative polarity head $-$, which contributes propositional negation at logical form, while the (c) sentences have an F-marked positive polarity head $+$, and a lower, constituent negation *not* that modifies the VP directly.[26]

However, the differences between (41) and (42) do not predict the empirical asymmetry between (39) and (40). First, the ordinary semantic values of the (a)/(b) sentences and the (c) sentences are identical on these structural assumptions. Each of them convey contradictory negation, $\neg p$, regardless of the syntactic position of *not*. For the (c) sentences, assume the VP denotes a function, $\lambda x_e.\lambda w_s.\ x$ *eats cheese in* w, that characterizes the set of individuals who eat cheese. The constituent negation denotes a function, $\lambda P_{\langle e,\langle s,t\rangle\rangle}.\lambda x_e.\lambda w_s.\neg P(x)(w)$, that takes the VP as input and returns a function that characterizes its complement, the set of individuals who do not eat cheese. Once this negated property composes with the subject argument *Dinah*, the result will be the same proposition as is produced by applying propositional negation in the (a)/(b) sentences, namely $\neg p$.

Second, while the focus semantic value is calculated differently for these two structures, they

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[26]There is independent evidence from polar particle responses in support of the structures (41) and (42).

(i)   A: Does Dinah not eat cheese?

    a.   B: Yes, she does NOT eat cheese.
    b.   B: No, she does NOT eat cheese.
    c.   B: Yes, she DOES not eat cheese.
    d.   B: #No, she DOES not eat cheese.

On the assumption that the (a)/(b) examples in (i) feature sentential negation, while the (c)/(d) examples feature constituent negation, recent theories of polar particles such as Krifka 2013 and Roelofsen & Farkas 2015 accurately predict the intuitions in (i). A complete description of these theories would take us too far afield, especially since the difference between the two structures in (41) and (42) will not resolve the intuitive asymmetry between (39) and (40). However the interaction between polar particles and polarity focus may be of independent interest, so here is a brief explanation just focusing on (id): Krifka (2013) argues that sentences with constituent negation only introduce one propositional discourse referent with content $\neg p$. *No* in (id) can only pick this up and assert its negation, $\neg\neg p$ (i.e. p). Thus, *no* is infelicitous in (id) because it contradicts the meaning of the clause that follows it, $\neg p$. Goodhue & Wagner (2018, 10ff) more directly predict the infelicity of (id) by modifying Krifka's theory so that *no* requires its complement clause to contradict the target. For Roelofsen & Farkas (2015), *no* spells out both [$-$] and [REVERSE] features that require it to c-command a clause that either has negative polarity, or has opposite polarity and content from the target clause respectively. Neither requirement is met in (id) ([$-$]'s requirement isn't met because the following clause has a positive polarity head with a lower constituent negation), so it is predicted to be infelicitous. (ia)-(ic) are accurately predicted to be felicitous by each theory. Since the accurate prediction of the intuitive interactions between polar particles and polarity focus in (i) depends on the correspondence between the prominence patterns in (39)/(40) and sentential vs. constituent negation in (41) and (42), this provides some independent evidence that these structures are on the right track.

nevertheless both result in $\{p, \neg p\}$ because the only two focus alternatives are $+$ and $-$. The result is obvious for the (a)/(b) sentences. For the (c) sentences, since the TP denotes $\neg p$, the alternatives $+$ and $-$ each receive the proposition $\neg p$ as input, producing the propositions $\neg p$ and $\neg\neg p$ $(= p)$ respectively as the resulting members of the focus alternative set. So for both (41) and (42), the ordinary semantic value is $\neg p$, and the focus semantic value is $\{p, \neg p\}$.

Third, given that the polarity focus utterances in (39) and (40) all denote $\neg p$, the focus presupposition of $\sim$ in (28) requires the same target for each of them, p. So even with the assumption that the structures of the (a)/(b) sentences differ from that of the (c) sentences, the asymmetry cannot be explained by the theory developed so far.

5.1.1 The givenness solution

At first glance, a VERUM operator account may look like an appealing solution to this challenge. The idea would be that the (a)/(b) examples are genuinely PolF while the (c) examples are verum focus, and the details of a VERUM theory could be worked out in such a way as to predict the requirement of an overt negation in the target. However, I think this approach is a nonstarter, since the prominence patterns we're exploring here can be replicated in embedded contexts:

(43)   A: Does Dinah eat cheese?
    a.   B: I don't know. But if she does NOT eat cheese, we're in trouble.
    b.   B: # I don't know. But if she DOES not eat cheese, we're in trouble.

(44)   A: Does Dinah not eat cheese?
    a.   B: I don't know. But if she does NOT eat cheese, we're in trouble.
    b.   B: I don't know. But if she DOES not eat cheese, we're in trouble.

Given that VERUM is supposed to be a common ground management operator high in the left periphery of the matrix clause, it will not be a viable approach for explaining these deaccenting facts. VERUM focus accounts will be discussed in more detail in section 8, including further discussion of embedding facts in section 8.2.

The account I will pursue is based on givenness deaccenting: deaccenting signals the salience of the deaccented expression in the context. If the expression is not salient, then deaccenting is infelicitous. The contrast between (39c) and (40c) is due to the lack of overt negation in A's question in (39) and its presence in (40).

A simple implementation of a givenness requirement distinct from focus marking will suffice here. I assume that given constituents are syntactically G-marked. G-marks impose a definedness condition on ordinary semantic values.[27]

(45) $[\![\alpha_G]\!]^{o,c}$ is defined only if c provides a target a such that $[\![\alpha]\!]^o = a$.

The requirement in (45) says that a G-marked constituent α_G presupposes a contextually given a such that a is identical to the ordinary semantic value of α. On this approach, G-marking works in tandem with F-marking. The same drive to maximize presuppositions by F-marking constituents that contrast also causes the G-marking of given constituents. In (39c) and (40c), the negative adverb *not* is G-marked (along with *Dinah*, *eat*, *cheese*, and larger sub-constituents, all of which I won't discuss further since their licensing does not vary across the two examples). The definedness condition in (45) thus requires that the context provide an antecedent meaning a that is identical to $[\![not]\!]^o$. This antecedent is available in A's question in (40), but not (39), thus predicting the intuitions.[28]

On this view, focal targets and givenness antecedents can be distinct, and moreover, seem to be made available in different ways. As argued in sections 3 and 4, the target for polarity focus is always the contrastive polarity alternative, even when that alternative is not overtly uttered. Thus, the target for PolF in (46a) is $\neg p$, *that Dinah does not like Ivy*, despite that that proposition has not been uttered. Meanwhile, the PolF target for (46b) and (46c) is p, *that Dinah likes Ivy*. However,

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[27]This implementation is a simplified version of that found in Kratzer & Selkirk 2020. See Rooth 2015 for an interesting unification of the theory in Rooth 1992 with a givenness requirement. The result can explain examples like (39) and (40), as demonstrated in Goodhue 2018.

[28](45) assumes that identity is the relevant relation between G-marked expressions and antecedents, but for discussion on whether or not entailment/hyponymy is more appropriate, see Schwarzschild 1999; Keshet 2013; Büring 2016a; Rochemont 2016; Wagner 2020. The distinction doesn't matter for the issues at hand, so I won't discuss it further here.

one of the antecedents needed for givenness deaccenting in (46c) is *not*. Since that antecedent isn't

available, (46c) is infelicitous.

(46) A: Does Dinah like Ivy?

  a. B: She DOES like Ivy   F-target = $\neg p$
  b. B: She does NOT like Ivy   F-target = p
  c. B: # She DOES not like Ivy   F-target = p, G-antecedent = *not*

What these examples show is that F-targets and G-antecedents can be distinct from one another,

and that F-targets can be accommodated or constructed ad hoc in a way that G-antecedents perhaps

cannot. In particular, despite that $\neg p$ is the target licensing PolF in (46a), apparently that does not

mean that the denotation of *not* is available for givenness deaccenting in (46c). It seems that

linguistic salience is needed to deaccent negation. Compare this to examples demonstrating cases

in which non-linguistic salience is enough to license givenness deaccenting.

(47) B sees A with a new pack of cigarettes.
      B: I thought you QUIT smoking.   (Büring, 2016a, 18)

(48) A and B are eating a kale salad.
      A: We eat the same thing every week.
      B: I LIKE kale salad.

(49) A: Why do you think he hasn't played soccer before?
      B: He THREW the ball into the goal.   (Wagner, 2020, 22)

In none of these examples are the deaccented expressions linguistically given. Instead, their mean-

ings seem to be non-linguistically salient in the context as in (47) and (48), or even just accom-

modated or evoked as in (49). It seems intuitive that non-linguistic objects or events can make

expressions denoting those objects and events salient. It is harder to imagine an aspect of non-

linguistic context that could make the negation-denoting *not* salient, hence an antecedent for the

givenness deaccenting of *not* in (39)/(40) does not seem to be available unless overtly uttered in

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the context.

An anonymous reviewer points out that negation can be felicitously deaccented even when not overtly given:

(50)   Yesterday, I heard Kim was ill, and today, SAM is not feeling well.

Note that while *not* is not overtly salient in the context (and neither are *feeling* or *well*), there is an overt expression *ill* that implies *not feeling well*. This may be what matters for deaccenting negation here. Consider the parallel polarity focus example:

(51)   A: I heard Kim is ill.
        B: Yeah, she IS not feeling well.

While (51)B is clearly felicitous, there is some flexibility in where the final pitch accent could land in this sentence. To foreshadow an issue to be explored further in section 5.2, these facts may be due to B's utterance being all-given in (51) while the second conjunct in (50) is not.

Dissociating givenness from focus allows us to explain the givenness deaccenting facts in this section while retaining the theory of focus developed in sections 3 and 4. Thus, polarity focus provides novel evidence that some amount of theoretical independence between focus and givenness marking must be maintained. In particular, we have to allow givenness to impose its own separate requirement, and to have salient antecedents distinct from the focal target. As mentioned in the introduction, the distinct requirements of both focus and givenness need to be met for a prominence shift to be felicitous, which helps to further constrain the marking of focus contrasts against accommodated targets.

5.2   Obligatory and optional focus in answers

Now that we have a theory of truly contrastive focus, we're ready to return to question 2 from the beginning of section 4: Why is focus marking in answers to WH questions obligatory, while it is

optional in answers to polar questions?

Building on Büring's (2016b; 2019) explanation of answers to WH questions, I take the focus marking in the answer to enable identification of the most general contrastive target by taking the generalized union of the set of innocently excludable alternatives. Here again is (31):

(31)   A: Who likes Ivy?
    a.   B: DINAH likes Ivy.
    b.   B: # Dinah likes IVY.

For (31a), the target is *that someone other than Dinah likes Ivy*. The contrast between this target and (31a) is relevant since when combined in a set, they produce a subquestion of the QUD set up by A's WH question. Focus on the object as in (31b) does not produce such a subquestion, so is irrelevant to the QUD and therefore infelicitous.

So far so good. However, my explanation needs to go beyond this. The reason is that all of this holds for polarity focus answers to polar questions as well: The polarity contrast is relevant since the identifiable target is just the contrastive polarity alternative, which, when combined in a set with the answer, produces a subquestion of the polar question, namely the polar question itself. Therefore, polarity focus in answers to polar questions is predicted to be just as obligatory as answer focus in (31a), contrary to fact.

The difference depends on an asymmetry in givenness. The focus marked constituents in answers to WH questions are not given, while the rest of the answer is. Pressure to mark givenness via deaccenting, combined with the fact that marking focus on the remaining non-given constituent signals a contrast that is relevant to the QUD, produces the requirement of focus marking in answers to WH questions.

In answers to polar questions, on the other hand, the whole answer is given in the prior polar question. Thus givenness applies no pressure to use polarity focus. Whether the answer bears polarity focus depends on whether there is contextually supported contrastive target. If there is one, then F-marking is preferred. We saw that this is indeed the case with (13) and (14), where

the context makes a contrastive polarity target salient, and polarity focus is preferred. In answers to polar questions in unbiased contexts such as (7) and (8), there is no contextually supported contrastive target. The result is that polarity focus does not have to be marked. If the speaker takes there to be a contrastive polarity focal target, then they mark PolF, and we hearers can easily identify what they intend to contrast against. But if the speaker does not mark PolF, we don't bat an eye. We only notice a lack of focus marking if the context supports the contrastive target.

Now recall (10) and (11): negative answers to polar questions more naturally bear PolF than positive answers. The account just given predicts this observation, since in negative answers, the negation is not given in the question, and so there is pressure to mark givenness deaccenting on the given expressions following negation, and to mark focus on the negative polarity head. Moreover, the proposition that contrasts with the negative answer may be made salient by the positive polar question itself, providing further reason to mark the polarity contrast in negative answers to positive questions.[29]

The explanation of example after example here has depended on the salience vs. accommodation of focal targets. If there is a contextually supported target, focus needs to be marked. In the absence of such a target, givenness deaccenting can clinch a prominence shift as in answers to WH questions. But absent that, the prominence shift seems to be up to how the speaker views the context. If they view their utterance as contrastive then they mark focus; if not, they don't.

6   Conclusion to Part I

Part I began by considering the prospects for explaining polarity focus phenomena within a general theory of focus. Bringing polarity focus into the fold has forced us to face many challenging issues

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[29]I remain agnostic as to how this fact interacts with recent work on the semantics and pragmatics of questions. One possibility is that polar questions denote, at least some of the time, singleton sets of their content proposition, $\{p\}$, which is responsible for making p available as the sole, salient, contrastive target (e.g. Roberts, 1996/2012; Biezma & Rawlins, 2012; Truckenbrodt, 2012; Krifka, 2015, a.o.). Another possibility is that polar questions denote sets of their positive and negative answers $\{p, \neg p\}$ as in the classic analysis (Hamblin, 1973; Groenendijk & Stokhof, 1984), but they only make their content proposition salient due to it being uttered overtly. The latter could be further modeled via a formal highlighting algorithm as in Roelofsen & Farkas 2015.

in focus theory. One is that focus in answers to WH questions is obligatory, while polarity focus in answers to polar questions is not. Further data suggested that polarity focus is always contrastive, and that its optional use in answers to polar questions is caused by uncertainty over the presence of the required contrastive target.

But this tentative explanation raised questions that go to the heart of a general theory of focus such as Rooth 1992. Why would polarity focus be required to be understood contrastively, that is, why can't it be subject to the set case presupposition in (3a)? Do we need to retain the set case presupposition, or can we simplify the theory of focus? What is the nature of focal targets such that they could be optionally available in some cases? What makes focus marking obligatory in the first place?

The approach I took to getting a handle on the seemingly contrastive nature of polarity focus was to expand the empirical landscape under consideration to include examples from the literature on true contrast (Wagner, 2006, 2012; Katzir, 2013; Büring, 2016b, 2019). This lead me to propose a strengthened focus condition based on innocent exclusion (Fox, 2007; Chierchia et al., 2012), and to argue that contextually supported focal targets can restrict the accommodation of ad hoc targets. The result rethinks Rooth 1992, doing away with the set case presupposition and treating all focus marking as requiring true contrast, which explains why polarity focus is always contrastive.

I also showed that polarity focus provides novel data motivating a distinct requirement on givenness deaccenting, which in turn explains why focus in answers to WH questions is obligatory while in answers to polar questions it is optional. The constituent in the answer corresponding to the WH phrase is not given, while the rest of the constituents in the answer are given, and the so the former must bear the pitch accent (and moreover, marking focus there marks a contrast that is relevant to the WH question). Many answer to polar questions on the other hand are all-given, and so whether polarity focus is marked depends on whether the speaker takes there to be a contrastive polarity target available.

In the future, more work on the availability of focal targets is needed. How a speaker under-stands the context affects what they say and how they say it. The principle of maximize presuppo-

sition should force speakers to mark presuppositions when they can. Cases of optional presupposition marking therefore raise questions. I have attempted to address those questions for polarity focus here. The idea is roughly that, if there is no salient or contextually inferable contrastive focal target, a speaker may nevertheless have one in mind. If so, then maximize presupposition will force them to mark focus in the appropriate way, and the listener will have to accommodate the correct focal target, or the most general contrastive focal target. From the listener's perspective, the use of focus marking appears optional. But from the speaker's perspective, it may not be optional at all, much like marking definiteness.

One issue I haven't broached here is association with focus, however I assume that operators like *only*, *even*, and *too* can operate on the focal targets predicted by my proposed focus condition in (28). Finally, (28) employs innocent exclusion as a check on which alternatives count as contrastive focal targets, without then excluding those targets. Given the role of innocent exclusion in the EXH approach to scalar implicature, it might seem more attractive to pursue Katzir's (2013) direct application of EXH to focus, and find a way to defend that view in the face of the counterexamples I raised in section 4.2. Instead, I suggest that the picture I present for focus here is correct, and that the role of innocent excludability in focus marking suggests an underlying unification with its role in scalar implicature calculation as a principle restricting what counts as a valid alternative, independent of whether the utterance is further intended to exclude that alternative.

Part II

Verum focus as polarity focus

7 Explaining the emphatic effect of polarity focus

Höhle (1992) and others since (Richter, 1993; Romero & Han, 2004; Gutzmann & Castroviejo Miró, 2011; Wilder, 2013; Taniguchi, 2017; Gutzmann et al., 2020) have claimed that polarity

focus utterances give rise to the intuition that the speaker emphasizes the truth of their propositional content. Some researchers have taken this as evidence that polarity focus data cannot be explained by a general theory of focus, claiming that focus theory has nothing to say about this emphasis on truth inference. Instead, polarity focus must signal the presence of an operator whose semantics is responsible for this emphasis (Romero & Han, 2004; Gutzmann & Castroviejo Miró, 2011; Taniguchi, 2017; Gutzmann et al., 2020). Given this line of argument, it is incumbent on a theory of polarity focus as focus to offer an explanation for this pragmatic effect. My explanation is a specific instance of a more general fact about focus marking: Using focus marking to signal a contrast between the focus utterance and its target can have pragmatic effects. That is, information structural packaging impacts meaning.

Here is an example of the intuitive asymmetry to be accounted for:[30]

(52) A: Are you happy?
    a. B: I ᴀᴍ happy.
        ⤳ B emphasizes the truth of the proposition *that B is happy*
    b. B: I'm happy.
        ⇸ B emphasizes the truth of the proposition *that B is happy*

If polarity focus is reducible to a more general theory of focus, then the inference in (52a) cannot be hardcoded into "the meaning of polarity focus". It has to be derived via the pragmatics. Since the only difference between (52a) and (52b) is PolF, PolF must provide some extra input to the pragmatics that produces the contrast. Richter (1993, 18) suggests the following: "[T]he proposition of a sentence with verum focus [...] is not merely confirmed but especially emphasized by expressing the opinion that it is false to confirm its negation." In other words, PolF *somehow* emphasizes the propositional content of an utterance by claiming the falsity of its negative alter-

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[30]The intuition about emphasis on truth is not as sharp as more typical intuitions about e.g. truth vs. falsity, or felicity in a context. For example, if B produces (52b) with a contrastive L+H* pitch accent on *happy*, it is not immediately obvious that they are less emphatic about the truth of the proposition *that B is happy* than they are when they use PolF in (52a). (See Ladd 2008, p. 40, on the general difficulty of determining whether distinctions in emphasis are linguistic or paralinguistic.) This murkiness may speak against taking emphasis on truth as the starting point for an account of auxiliary prominence, as is done in the accounts of verum focus to be discussed in section 8. That said, the intuition is discussed widely in the literature, and I think it is clear enough to merit the following brief remarks.

native. The question is, how? After all, if a speaker asserts p, it follows that they take $\neg p$ to be false, so there is no predicted asymmetry in emphasis between a PolF utterance like (52a) and a regular assertion like (52b). Wilder's (2013) explanation of emphasis faces a similar challenge. Wilder claims that the target of PolF is the polar question $?p$, and emphasis arises because the PolF utterance answers $?p$ with p, thereby eliminating its negative alternative $\neg p$. Again, this predicts no asymmetry between (52a) and (52b), since (52b) also answers $?p$ with p, thereby eliminating its negative alternative $\neg p$.

Polarity focus emphasis can be explained as follows: On my account of polarity focus, PolF requires a contrastive polarity target. So what a PolF utterance with content p adds, above and beyond a non-PolF utterance, is that it references $\neg p$ via focus marking. PolF emphasis arises because a PolF assertion of p like (52a) contradicts the contrastive polarity target $\neg p$, while also targeting $\neg p$ focally. A non-PolF assertion of p like (52b) also contradicts $\neg p$, but it has not targeted $\neg p$ via information structure. Using focus to signal that your assertion of p contrasts with the focal target $\neg p$ while also entailing that it is false produces the intuition that the truth of p is emphasized.

This account predicts that emphasis is not restricted to polarity focus. All that is required is that one utterance entails the falsity of a contrasting alternative, and focus signals the contrast between the utterance and the false alternative. For example:

(53)   A and B are arguing about whether Dinah or Moira likes Ivy more.
        A: Moira likes Ivy more.
        B: DINAH likes Ivy more.
        ⤳ B emphasizes the truth of the proposition *that Dinah likes Ivy more*

B's utterance entails the falsity of the sole, salient alternative required by the focus structure of the utterance, thereby emphasizing the truth of the content of her utterance. This effect is not intuitively different from the emphasis effect of PolF:

(54)   A: Dinah doesn't like Ivy.
        B: Dinah DOES like Ivy.
        ⤳ B emphasizes the truth of the proposition *that Dinah likes Ivy*

Emphasis does not necessarily depend on assertion. Consider Wilder's demonstration of PolF on a proposition that is presupposed.

(55)   A: If only Sue hadn't left her husband.
        B: I was surprised that she DID leave her husband.   (Wilder, 2013, 153)

In (55), A and B presuppose the proposition *that Sue left her husband*, and this presupposition entails the falsity of the proposition *that Sue did not leave her husband*. Despite that this information is presupposed, the information structure of B's utterance references this false alternative while presupposing its converse, producing the pragmatic effect of emphasis.

In summary, focus marking conveys information structure, and information structure has pragmatic effects. We saw this in the discussion of Klassen & Wagner's (2017) example (19). The pragmatic effect of claiming p while targeting the opposing $\neg p$ via information structure is to emphasize the truth of p. That is, emphasis on truth is just signaling contrast with a focus alternative via information structure while claiming the truth of a proposition that (contextually) entails the falsity of that alternative. This is how emphasis on truth can be explained by appealing to the basic notions of focus marking, without use of a VERUM operator.

8   Comparison to VERUM **focus accounts**

Instead of accounting for polarity focus fully within a general theory of focus as I have done above, some researchers, inspired by Höhle 1992, take emphasis on truth as the point of departure, and posit a notion "verum focus" that is distinct from polarity focus and that may not be focus at all. On this view, prominence on the auxiliary in Germanic languages is ambiguous between polarity focus and verum focus. The latter is handled by a VERUM operator with a semantics that explains optionality in reply to polar questions, the contrast requirement, and emphasis on truth. In the following, I briefly review two VERUM accounts from the literature and compare them to the focus account.

8.1 Romero & Han (2004), and a challenge for unifying verum focus and high negation

Romero & Han's (2004, R&H) account is based in part on the empirical observation that polar questions with polarity focus such as (56) and those with preposed negation such as (57) both convey epistemic bias.

(56)   B: Ok, now that Stephan has come, we are all here. Let's go!
          A: Wait, Jane's coming too.
          B: IS Jane coming?
          ⤳ B previously believed that Jane isn't coming

The epistemic bias of B's polarity focus question in (56) can be characterized as a speaker belief that the answer with opposite polarity from the question is true.

(57)   A: Ok, now that Stephan has come, we are all here. Let's go!
          B: Isn't JANE coming?
          ⤳ B previously believed that Jane is coming   (Romero & Han, 2004, 610)

I will call polar questions with preposed negation like B's in (57) high negation questions. B seems to be epistemically biased here as well, this time toward the positive answer.

Romero & Han (2004) analyze both kinds of questions as containing verum focus, and propose a VERUM operator that is meant to explain the distribution of both high negation and verum focus, as well as epistemic bias in questions containing them. Here is the operator's semantics:

(58) $[\![\text{VERUM}]\!] = \lambda p_{\langle s,t \rangle}.\lambda w_s.\forall w' \in Epi(w)[\forall w'' \in Conv(w')[p \in CG_{w''}]]$
                                             (Romero & Han, 2004, 627)

(58) has the semantics of an epistemic modal with a conversational twist. According to (58), VERUM says that in all worlds w' compatible with what is known in w ($Epi(w)$), the worlds w'' compatible with the conversational goals in w' ($Conv(w')$) are such that p is in the common ground

in those w'' worlds ($CG_{w''}$). This semantics captures emphasis on truth: VERUM(p) goes beyond a regular assertion of p by making explicit reference to the speaker's epistemic state and conversational goals, thus insisting on the truth of p. R&H take this to be a crucial feature distinguishing verum focus from non-verum uses of polarity focus. This is similar to my proposal in section 7 in that explicit reference to something implicit in non-verum focus utterances is held responsible for emphasizing truth.

To explain the restricted distribution of verum focus, R&H argue that by making reference to conversational goals, utterances with VERUM are meta-conversational moves, which makes them subject to the following constraint:

(59)   Principle of Economy:
        Do not use a meta-conversational move unless necessary (to resolve epistemic conflict or
        to ensure Gricean Quality).   (Romero & Han, 2004, 629)

Due to the constraint in (59), VERUM can only be used when p conflicts with an interlocutor's epistemic state, or when the speaker's evidence for p is not strong enough to satisfy Gricean Quality. (59) is meant to block VERUM from being used out of the blue. The conversation in (60), however, is in a state of epistemic conflict over p, so by the first half of (59) VERUM is licensed, and by (58), B is saying that p is in the common ground in all worlds compatible with B's conversational goals, given her epistemic state.

(60)   A: Jane didn't discover the theorem.
        B: Jane DID discover the theorem.

Given this, it is obvious that (59) can explain why verum focus is not obligatory in answers to polar questions, and why presence of a contrast in the context improves verum focus, and may even make it required.

The second half of the constraint in (59) is designed to explain the felicity of high negation questions in suggestion contexts. For example:

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(61)   A: Who discovered the theorem?
         B: Didn't JANE discover it?

The bias of B's question conveys that she believes that Jane discovered the theorem, which would

answer A's question. R&H argue that B didn't assert *Jane discovered it* because her evidence was

not good enough to respect Gricean Quality. The use of VERUM in the form of the high negation

question enables B to suggest an answer while avoiding asserting something she doesn't have

strong enough evidence for.

Now I will show that Romero & Han's theory of VERUM neither supplies sufficient nor nec-

essary conditions on the use of polarity focus. Note that R&H assume that only some instances

of what I would call polarity focus include the VERUM operator. Nevertheless, seeing why the

theory cannot account for PolF will help us compare it to my positive proposal, while revealing the

drawbacks of treating verum as a unique sub-phenomenon of polarity focus.

First, to see that VERUM does not supply a sufficient condition for PolF, reconsider sugges-

tion contexts. While VERUM is predicted to be felicitous in (61), note that polarity focus is not

felicitous:

(62)   A: Who discovered the theorem?
         a.   B: # DIDN'T Jane discover it?
         b.   B: # DID Jane discover it?

Neither (62a) nor (62b) are felicitous in this suggestion context. Though R&H's theory predicts

that the context is sufficient to license the use of VERUM, the context is apparently not sufficient to

license the prominence shift that marks verum focus. The reason is that verum/polarity focus, like

other kinds of prominence shifting, requires givenness antecedents to deaccent material following

the auxiiliary, but there is no antecedent for *Jane* in the context.

Here is another example of a suggestion context that licenses high negation but not polarity

focus:

(63)   Dialog between two editors of a journal in 1900:
        A: I'd like to send this paper out to a senior reviewer, but I'd prefer somebody new.

    a.   B: Hasn't FREGE not reviewed for us? He'd be a good one.

                                                              (Romero & Han, 2004, 619)

    b.   B: # HAS Frege reviewed for us? He'd be a good one.

R&H use this example to demonstrate the felicitous use of a high negation question like (63a) in a suggestion context. This question expresses bias toward the negative answer *that Frege has not reviewed for us*, and is claimed to meet the constraint in (59) by ensuring Quality. However, note that the polarity focus question in (63b) is supposed to convey the same bias but is intuitively infelicitous. The reason cannot be that VERUM is not predicted to be licensed here, since it is predicted to be licensed in (63a).[31] Again, the explanation is that the prominence shift is not licensed because an antecedent is missing.

So far the evidence that (59) is not sufficient to explain the distribution of polarity focus has come only from suggestion contexts. However there are also epistemic conflict contexts that license high negation but not PolF:

(64)   A: Ok, now that Stephan has come, we are all here. Let's go!

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[31]R&H argue that only certain verum focus questions can be used in suggestion contexts like (63). The key condition is that B cannot ask A about a proposition that A has just claimed to be ignorant about. For example, A's utterance in (63) raises the implicit QUD "Who hasn't reviewed for us?". By raising this question, A conveys that she doesn't know the answer to it, namely she doesn't know any (relevant) individuals such that they did not review for them. Let's refer to propositions representing such answers as $\neg p$. This leaves open the possibility that A does know some propositions of the form p, namely A may know some individuals who have reviewed for them. R&H observe that it would be infelicitous for B to ask (i) in this context.

(i)   [Context as in (63)]
          B: # Hasn't Frege reviewed for us?

Their proposed explanation is that (i) asks A to confirm an answer $\neg p$, *that Frege has not reviewed for us*, to the implicit QUD, a proposition A has just implied that she is ignorant of. (63a) on the other hand is felicitous because B is asking A to confirm $\neg\neg p$, *that it's not the case that Frege has not reviewed for us*, i.e. *that Frege has reviewed for us*, a proposition of the form p that A may possibly know. I'm skeptical of this explanation since it is in opposition to the clear intuition that by asking (63a), B asks A to confirm *that Frege has not reviewed for us*. We can set this intuition aside however, since my point here is that R&H's proposed explanation for the asymmetry between the two high negation questions (63a) and (i) cannot be extended to explain the infelicity of (63b). By R&H's own lights, this question should pattern with (63a) as it asks A about a proposition p, which she may well know. The asymmetry between (63a) and (63b) will have to be explained by other means. I suggest it is that (63b) is a kind of focus, thus requires focus and givenness targets, while (63a) is not and so does not.

a. B: Isn't JANE coming too?   (Romero & Han, 2004, 610)
b. B: # ISN'T Jane coming too?

(64a) is felicitous, and R&H's theory explains this by claiming that VERUM is licensed by epistemic conflict between B's belief that Jane is coming, and A's contextually implied belief that she is not. However, the same question with a polarity focus prominence shift in (64b) is not felicitous. Again, the proper antecedent is lacking.

R&H do not say whether they expect every context in which VERUM is felicitous to also be one in which polarity focus is felicitous. The preceding examples demonstrate that they aren't. The economy constraint in (59) that is meant to regulate the use of VERUM does not provide a sufficient condition for the use of polarity focus. A possible solution to this issue might be to say that verum/polarity focus has extra licensing requirements in addition to those imposed by the presence of the meta-conversational operator VERUM. Perhaps it is also subject to the requirements of a general theory of focus marking and givenness deaccenting.

However it turns out that Romero & Han's economy principle in (59) also does not impose a necessary condition on the use of polarity focus. There are felicitous examples of PolF that do not seem to meet the restrictions laid out in (59).

(55)   A: If only Sue hadn't left her husband.
        B: I was surprised that she DID leave her husband.   (Wilder, 2013, 153)

(65)   A: Yesterday, Jolene didn't pitch the tent. What happened today?
        B: Jolene DID pitch the tent.

In neither of these examples is there any epistemic conflict between A and B. Moreover, since ensuring Quality only applies to verum/polarity focus in questions, it is irrelevant here. Thus, the constraint in (59) does not provide a necessary condition on the use of verum/polarity focus.

Since R&H do not take all instances of auxiliary prominence to be verum focus, a possible explanation for (55) and (65) is that they aren't subject to (59) because they do not include a VERUM operator. However, this rebuttal is challenged by the fact that (55) and (65) display the

emphasis on truth effect, one of the key phenomena that R&H's VERUM operator is meant to explain. Thus, the claim that (55) and (65) lack a VERUM operator would leave an undesirable gap in the account's empirical coverage.

Taking the above challenges together, and given that I developed an account that provides complete explanations for the phenomena associated with both PolF and verum focus without any appeal to a special VERUM operator, I believe that the VERUM operator is not needed to account for polarity/verum focus. An account purely in terms of focus, givenness, and general pragmatic principles provides a more empirically accurate and parsimonious account.

There is the remaining issue of epistemic bias in polar questions such as (56) and (57), for which R&H provide a unified account. While a complete discussion of epistemic bias is beyond the scope of this paper, it will be helpful to consider empirical asymmetries that speak against a unified account. We have already seen one asymmetry: polarity focus questions require givenness antecedents in a way that high negation questions do not. There is another asymmetry: bias in PolF questions is context dependent, whereas bias in high negation questions is necessary and triggered by the preposing of negation.

(66)   B wants to know whether Jill will be at a meeting for members of a club. But B lacks an
        opinion about whether Jill is a member.
        B: Will Jill be at the meeting?
        A: If she's a member, she will.

    a.   B: IS she a member?
            $\not\leadsto$ B believed she isn't a member
    b.   B: # ISN'T she a member?
            $\leadsto$ B believed she is a member

The context in (66) stipulates that B is unbiased with respect to whether or not Jill is a member. The verum/polarity focus question in (66a) is compatible with this stipulation. The high negation question in (66b) is not compatible with it. It seems that (66b) *must* convey a bias and so is infelicitous in the context. The two asymmetries lead me to conclude that the bias of verum/polarity focus questions and that of high negation questions require separate theoretical accounts. See

Goodhue 2018, revise and resubmit for further discussion.

I have argued that verum focus should be subsumed under polarity focus, and that PolF should not be accounted for via R&H's VERUM operator. This claim is consistent with R&H's claim that a VERUM-like operator is present in high negation questions, but it also calls into question the particular truth-emphasizing semantics of VERUM that R&H posit. For a related but alternative view of the crucial operator in high negation questions, see Goodhue 2018, revise and resubmit.

8.2 Gutzmann et al. (2020), and a challenge for non-focus, operator accounts

Gutzmann & Castroviejo Miró (2011, G&C) analyze verum focus as a use-conditional operator that takes a proposition p as input and conveys that the speaker wants to answer the polar question $?p$ so that it is no longer the QUD.

(67) $[\![\text{VERUM}]\!](p) \approx$ The speaker wants to answer the QUD $?p$.

(Gutzmann & Castroviejo Miró, 2011, 160)

This explains the fact that verum/polarity focus cannot be used out of the blue since the question $?p$ already needs to be the QUD in order to use VERUM. Moreover, treating VERUM as a use-conditional operator explains why verum/polarity focus does not affect the at-issue content of an utterance, much like the presuppositional focus account I developed above.

G&C also argue that (67) explains why verum focus emphasizes truth, since asserting p while also using a special operator to signal the desire to answer $?p$ results in a "double assertion" that has the effect of emphasizing that p is true. However, it is not clear that assertions of p without VERUM are any less explicit about signaling a desire to answer a salient question $?p$. Just like Wilder's (2013) account of emphasis, G&C's does not clearly explain what PolF adds above and beyond a non-PolF utterance.

Another challenge for G&C's account is that it makes similar if not indistinguishable predic-

tions from accounts such as Wilder 2013 or Samko 2016a, since both claim that verum/polarity focus requires a polar question $?p$ as antecedent. The first problem this creates for G&C is that it is unclear why a special VERUM operator is needed if an independently motivated general theory of focus delivers the same results. The second problem is that, just like focus accounts that take $?p$ to be the target, while G&C's account explains why verum/polarity focus cannot be used out of the blue, it does not explain why it is optional in response to overt polar questions.

Gutzmann et al. (2020, GHM) recognize that G&C's account is more or less indistinguishable from a focus account that takes $?p$ as target. To improve on it, GHM say that VERUM should impose a stronger felicity condition than the one in (67). The guiding idea is that verum/polarity focus requires that an interlocutor has previously sought to answer $?p$ with $\neg p$, or has at least implied this possibility. They propose the following semantics:[32]

(68) $[\![\text{VERUM}]\!](p)$ is felicitous if the speaker wants to prevent that the QUD is answered with $\neg p$.   (Gutzmann et al., 2020, 39)

GHM assume that the prevention of an action requires a previous attempt to perform that action to have been made. I make this explicit in (69).

(69) $[\![\text{VERUM}]\!](p)$ is felicitous only if an interlocutor has previously sought to answer $?p$ with $\neg p$, or has at least implied this answer.

(69) places a stronger requirement on the context than (67).[33] (69)'s requirement is similar to the focus presupposition of the account I developed in sections 3 and 4 in that both require contrast

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[32]There is a way of reading "prevent" (68) that causes it to fail to deliver on GHM's guiding idea. A speaker could want to prevent the QUD from being answered with $\neg p$ even if no one has previously suggested that $?p$ be answered with $\neg p$. For example, if A asks $?p$ and B wants to answer it with p, this could be taken to imply that B wants to prevent $?p$ from being answered with $\neg p$, given that p and $\neg p$ are contradictory. On this way of understanding "prevent" in (68), (67) may actually be stronger than (68). First, any speaker who wants to answer $?p$ with p wants to prevent it being answered with $\neg p$, thus when (67) is met, (68) is met. And second, if a speaker believes that neither the truth of p nor $\neg p$ has been established, then they could want to prevent $?p$ from being answered with either proposition, thus meeting the condition set out in (68) but not (67).

[33]A further requirement that "the speaker wants to answer $?p$ with p" could be added to (69) to make it more parallel to (67), though it is perhaps already implied by the usual pragmatics of an assertion of p, so I leave it out.

against a salient or accommodated contrastive alternative. However, GHM's proposal is meant to be stronger in that it requires an interlocutor to want to answer $?p$ with the opposing polarity alternative. I think this is too strong, given that I believe that auxiliary prominence can optionally be used in reply to polar questions even when no interlocutor has committed to (or implied commitment to) the opposing alternative, such as in (1a). We have seen other examples as well in which the condition in (69) is not obviously met, such as (14), (17c), (18), and (55).

Still, GHM note that (69) is a preliminary sketch, and it is at least possible that it could be extended to handle such examples and others that the focus account predicts. I think this points to a more general problem in distinguishing these accounts, which is that it will be hard, perhaps impossible, to distinguish an account that requires the contrastive alternative as a focal target from one that requires an interlocutor (real or imagined) to try to answer, or merely imply an answer, $\neg p$ to an issue $?p$. This is because both accounts will likely need to rely on a process of accommodation to explain some relevant examples, and where my account requires accommodation of $\neg p$, GHM's would require accommodation of a hypothetical agent who is leaning toward $\neg p$.

Luckily, examples of embedded verum/polarity focus provide a further opportunity to distinguish VERUM operator accounts like GHM's from a focus account.

(70)   A: Jane doesn't like cheese.
         B: I didn't say that she DOES like cheese.

(71)   A: Did Jill do her homework?
         B: I don't know. But if she DID do her homework, she can have a treat.

In (70), the clause embedded under *say* has verum/polarity focus, while in (71), the clause embedded in the antecedent of the conditional bears verum/polarity focus. However, it is quite clear that speaker B is not trying to answer $?p$ with p as predicted by G&C's proposal in (67), nor is B trying to prevent $?p$ from being answered with $\neg p$ as predicted by GHM's proposal in (68). Thus these accounts cannot explain the presence of verum/polarity focus here.

However, the focus account does, since the proper targets for F-marking of the polarity heads

of the embedded clauses, as well as all the relevant givenness antecedents, are available. Moreover, there is obviously no emphasis on truth in the embedded clauses here, since in each case, B clearly is not committed to the truth of the verum/polarity focus clause. This is predicted by the account I developed in section 7, since emphasis on truth only arises in contexts in which the speaker asserts or otherwise commits to p while targeting $\neg p$ via information structure. This shows that emphasis on truth is not central to the phenomenon, contrary to the implications of calling it "verum", and that it should be handled within the broader theory of focus.

Examples of embedded verum/polarity focus reveal a problem for the general approach that undergirds VERUM operator accounts like Gutzmann & Castroviejo Miró 2011 and Gutzmann et al. 2020, as well as Romero & Han 2004, Repp 2013, and Taniguchi 2017. Such accounts all treat the effects of verum/polarity focus as managing the common ground or updating contexts with the content of the verum/polarity focus utterance.[34] That is, they analyze verum/polarity focus as being about the pragmatic effects of the speaker's view that the argument of VERUM is true (or in the case of FALSUM, false). Embedding examples like (43), (44), (70) and (71) challenge this view. VERUM operator accounts can be shielded from such data if it is assumed that these embedded clauses do not exhibit verum focus, but rather polarity focus, and the two are distinct phenomena. This is perhaps a viable route to take, but then much of focus theory needs to be recreated within the felicity conditions of the VERUM operator for matrix verum focus, as I have shown repeatedly above. Moreover, I have shown that treating polarity focus as focus already provides all the tools needed to offer a unified account, including a context sensitive analysis of emphasis on truth, thus the replication of focus effects by a VERUM operator seems superfluous.

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[34]In the case of Repp's FALSUM operator, the content of the clause embedded under negation is denied admission to the common ground. Examples like (43), (44) and (i) demonstrate that FALSUM faces the same challenge as VERUM:

(i)   A: Jane likes cheese.
         B: I didn't say that she DOESN'T like cheese.

8.2.1 Gutzmann et al.'s (2020) crosslinguistic argument

The main thrust of Gutzmann et al. 2020 is a crosslinguistic argument in favor of using a VERUM operator instead of focus. GHM argue that the sorts of contexts that elicit verum/polarity focus in English and German elicit non-focus, overt operators in Gitksan, Chadic (Bura, South Marghi, and Hausa), and Kwak'wala. GHM take the data from these languages as evidence that all languages employ a VERUM operator. They claim that in English and German, VERUM is realized by a pitch accent on the auxiliary that just accidentally happens to look like focus prominence shifting.

The crosslinguistic evidence brought to light by Gutzmann et al. (2020) is very interesting and must be taken seriously. It may well be correct that Gitksan, Chadic, and Kwak'wala make use of non-focus operators in verum/polarity focus contexts. At the same time, given all of the ways in which verum/polarity focus in English and German appears to be subject to the usual requirements of focus and givenness, I urge caution before deciding in favor of an operator account for Germanic on the basis of evidence from other languages. After all, it is possible for different languages to make use of different grammatical constructions to achieve similar functional ends. Even within English, contexts that elicit verum/polarity focus may also elicit other grammatical constructions and intonations. For example, Goodhue et al. (2016) demonstrate experimentally that contexts in which one interlocutor directly disagrees with another reliably elicit both verum/polarity focus and the contradiction contour (Liberman & Sag, 1974). For another example, consider the relationship between verum/polarity focus and the adverb *really*. Romero & Han (2004) argue that both of these contribute a VERUM operator. However, the two phenomena exhibit the following asymmetries:

(72)   A: Did you buy yogurt?
    a.   B: I DID buy yogurt.
    b.   B: # I really DID buy yogurt/I really bought yogurt.

(73)   B wants to know whether Jill will be at a meeting that is for members only. But B lacks an opinion about whether Jill is a member.
    B: Will Jill be at the meeting?
    A: If she's a member, she will.

    a.   B: IS she a member?

    b.   B: # Is she really a member?

While answering a polar question as in (72) allows for the use of verum/polarity focus, *really* is strange in this context. If we keep in mind that in the context in (73), B has no opinion about whether or not Jill is a member, then the use of verum/polarity focus in (73a) is perfectly felicitous, while the use of *really* in (73b) is quite strange. The latter seems to necessarily convey that B has some previous reason to doubt that Jill is a member, which clashes with the context.

    GHM also note this asymmetry. Consider (74), which doesn't license verum/polarity focus. Interestingly, *really* appears to be felicitous here:

(74)   A: Hey Blair, I have to ask you something:

    a.   #ARE morphemes a part of syntax?

    b.   Are morphemes really a part of syntax?   (Gutzmann et al., 2020, 17, fn. 7)

Verum/polarity focus is infelicitous in (74a) because the proper givenness antecedents are not present in the context. (74b) does not impose such a requirement. Nevertheless, *really* does seem to impose its own requirements. In particular, we infer that A is skeptical that morphemes are a part of syntax (negative bias), and we accommodate that A has heard someone make this claim. Interestingly, Blair doesn't need to have heard the claim being made, but can accommodate it too. (74a) on the other hand isn't licensed by this accommodation. What these asymmetries reveal is that, despite the similarity in function between verum/polarity focus and *really* in English, the two are nevertheless distinct grammatical phenomena that come apart when examined more closely. The point here is that, given the grammatical variation for achieving similar functional ends within a single language, it is not immediately obvious that the crosslinguistic evidence adduced by GHM leads to the conclusion that verum/polarity focus in English and German is not a focus phenomenon.

    In future work, it would be fruitful to see how Gitksan, Chadic, and Kwak'wala behave with respect to embedding examples like (70) and (71). If they make use of the same strategies reported

in matrix contexts by Gutzmann et al. (2020), that suggests that whatever these operators contribute, it cannot be the semantics proposed in (68). On the other hand, perhaps these embedded contexts will produce behavior very different from that seen in the matrix contexts. If so, this might mean that a special operator really is appearing in matrix clauses high in the C domain in these languages. And if that is so, it is worth considering further exactly what that operator is, whether it also exists in English and German, and whether it perhaps even interacts with focus marking in any of these languages. These questions are left to future research.

9 Conclusion to Part II

In Part II, I turned my attention to challenges from the verum focus literature. I showed how a general theory of focus as contrastive focus could be used to explain why polarity focus seems to emphasize truth in many cases. The explanation is a novel instantiation of a general fact, which is that marking an utterance as standing in contrast with a target in a particular way has pragmatic implications. Then I showed that theories of verum focus fall short in their ability to explain polarity focus phenomena, and that they duplicate much of focus theory within the felicity conditions for the proposed VERUM operators. I believe that once we have a proper general theory of focus, and its application to polarity focus is clearly demonstrated, we don't need VERUM operators in order to explain the phenomena associated with polarity focus discussed in this paper.

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