Symmetry breaking, Partition by Exhaustification, and Fatal Competition*

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Abstract

A prominent solution to the 'symmetry problem' allows implicatures to be computed from simple but not from complex alternatives ('COMPLEXITY'; Katzir 2007). Recently Schwarz and Wagner (2024) have proposed a different mechanism for symmetry breaking ('BLOCKING'), arguing that it can, but COMPLEXITY cannot, account for cases of so-called 'simplex threats' in which the simple alternative is available but the expected implicature is unattested. This note provides a defense of COMPLEXITY. We show that it explains simplex threats once coupled with constraints on questions ('Partition by Exhaustification'; Fox 2019, 2020) and on assertability of sentences with contextually equivalent alternatives ('Fatal Competition'; Magri 2009, Bar-Lev and Fox 2023). We furthermore point out (following Schmitt and Haslinger 2025) that BLOCKING makes a wrong prediction for some cases.

1 Two approaches to symmetry breaking

The 'symmetry problem' (Kroch 1972) is illustrated by the observation that the strengthened, i.e. exhaustified, meaning of (1) is '(1) ∧ ¬(1a)' ('some but not all students smoked'), not '(1) ∧ ¬(1b)' ('all students smoked'), even though (1a) is relevant iff (1b) is relevant on widely accepted views of relevance (Lewis 1988) and neither is entailed by (1).

(1) Some students smoked (*some*)
  a. All students smoked (*all*)
  b. Not all students smoked (*not all*)

Katzir (2007) and Fox and Katzir (2011) proposed a theory of alternative generation that avoids this problem.

(2) COMPLEXITY
  a. The set of formal alternatives F of S is the set of simple alternatives of S.
  b. A is a simple alternative of S iff A is derivable from S by successive deletion or lexical substitution.

Assuming that the input to exhaustification is some subset of the set of formal alternatives F of a sentence, a consequence of COMPLEXITY is that exhaustification cannot result in the negation of more complex alternatives.

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(3) Consequence of COMPLEXITY
S can mean '$S \wedge \neg A$' only if there is a simple alternative B such that $A \equiv B$.

Schwarz and Wagner (2024) recently argued for an alternative solution for the symmetry problem that blocks an exhaustified meaning if it ends up equivalent to a simple alternative.

(4) BLOCKING (Schwarz and Wagner 2024)
S can mean '$S \wedge \neg A$' only if S has no simple alternative B such that $B \equiv S \wedge \neg A$

Both COMPLEXITY and BLOCKING rely on the difference in structural complexity between (1a) and (1b), but they solve the symmetry problem in different ways. For COMPLEXITY, *some* cannot mean '*some* ∧ ¬*not all*' because there is no simple alternative which is equivalent to *not all*, and consequently *not all* is not in F to begin with. For BLOCKING, *some* cannot mean '*some* ∧ ¬*not all*' because there is a simple alternative, *all*, which is equivalent to *some* ∧ ¬*not all*.

2 The simplex threats problem for COMPLEXITY

Schwarz and Wagner (2024) argue for BLOCKING over COMPLEXITY based on what they call 'simplex threats': cases where symmetry is broken even though the alternatives are all simple.[1,2] So-called 'indirect implicatures' present such a problem (Romoli 2012).

(5) Not all students are outside.
a. No students are outside.
b. Some students are outside.

Intuitively (5) can mean '(5) ∧¬ (5a)' ('some but not all students are outside') but not '(5) ∧¬ (5b)' ('no students are outside'). This is not immediately explained by COMPLEXITY, but it is explained by BLOCKING: The first reading is possible because it's not equivalent to any simple alternative of (5), but the second reading is equivalent to (5a) which is a simple alternative of (5), and is hence ruled out.

Some attempts to reconcile COMPLEXITY with these facts have been made (Trinh and Haida 2015), but Schwarz and Wagner (2024) point out that they all fail with variants of the same problem which do not involve negation (see also Buccola et al. 2022 who make the same point with color predicates). For instance, consider (6).

(6) Some students are inside.
a. All students are inside.
b. Some students are outside.

Note that the sentences in (6) are equivalent to their counterparts in (5), and that the problem that arises is completely parallel: (6) can mean '(6) ∧¬ (6a)' ('some but not all students are inside') but not '(6) ∧¬ (6b)' ('all students are inside'). However, no current analysis which assumes COMPLEXITY derives this observation, while BLOCKING does: The first reading is

[1] They also present an argument against COMPLEXITY based on examples where alternatives that are more complex seem to be available. See fn. 4.

[2] For a different recent challenge to COMPLEXITY, see Feinmann (2025).

not equivalent to any simple alternative of (6), but the second reading is equivalent to (6a) which is a simple alternative of (6).[3]

Our goal in this paper is to present an alternative account which relies on COMPLEXITY and is still able to break symmetry in the right way for cases of simplex threats. Specifically, we will propose an account of simplex threats which builds on the idea that a question should result in a partition when its members are exhaustified (Fox 2019, 2020), in conjunction with the generalization that a sentence is odd if it is contextually equivalent to one of its logically stronger alternatives (Magri 2009, a.o.). For simplicity, and given the close connection between the problem posed by (5) and that posed by (6), in what follows we will focus on the case of (6) which is a particularly recalcitrant manifestation of the problem of simplex threats, but our analysis will apply to both. Before we get to that, we will first discuss a reason to think that BLOCKING is insufficient and COMPLEXITY is still needed.

3 A problem for BLOCKING

Schmitt and Haslinger (2025) point out that BLOCKING fails to account for the observed interpretation in cases where both symmetric alternatives are logically independent from the sentence. For example, in a context where we care about the question in (7), (8) can mean '(8) $\wedge$ $\neg$(8a)' ('John but not Mary came') but not '(8) $\wedge$ $\neg$(8b)' ('John and Mary came').

(7) Who among John and Mary came?

(8) John came.
   a. Mary came
   b. Mary did not come

There is no simple alternative of (8) which is equivalent to (8) $\wedge$ $\neg$(8b). Thus, BLOCKING does not rule out '(8) $\wedge$ $\neg$(8b)' as a reading of (8) (see also Cremers et al. 2023 for discussion of the same problem, which they call 'anti-exhaustivity', for other accounts which do not assume COMPLEXITY). COMPLEXITY, on the other hand, does rule out '(8) $\wedge$ $\neg$(8b)' as a reading of (8), because there is no simple alternative of (8) that is equivalent to (8b).

[3] Schmitt and Haslinger (2025) point out that COMPLEXITY can explain symmetry breaking in examples like (i), which are very similar to (6), if *unavailable* is taken to be syntactically more complex than *available*:

(i) Some players are available.
   a. All players are available.
   b. Some players are unavailable.

This seems very plausible for (i), but, as they note, making this solution general enough would require stipulating for every pair of antonyms that one is more complex than the other (e.g., in the case of (6), that *outside* is more complex than *inside*). BLOCKING does not have to make this stipulation, and the alternative account we will propose doesn't either. And while this stipulation can work for antonyms like *inside/outside*, it won't help with predicates that cannot be restated as each other's negation. For instance, symmetry in cases like (ii), discussed by Buccola et al. (2022) (where there is symmetry under the assumption that the cards can only be red or black), would remain unexplained.

(ii) Some of the cards are red
   a. All of the cards are red.
   b. Some of the cards are black.

We thank Viola Schmitt for a discussion of this point. See also section 6, where we will consider cases similar to (ii) where there is no symmetry.

The fact that symmetry can only be broken in favor of the simple alternative in such cases as (8), where none of the symmetric alternatives stand in an entailment relation with the sentence, shows that COMPLEXITY is still needed. One may wonder whether the conclusion should be that we need both COMPLEXITY (for (8)) and BLOCKING (for simplex threats).[4] We will argue that COMPLEXITY suffices once it is combined with a requirement on questions resulting in a partition once exhaustified (Fox 2019, 2020) and a ban on alternatives being contextually equivalent (Magri 2009).

4 Partition by Exhaustification with questions and implicatures

Fox (2019, 2020) argues based on considerations that have to do with the semantics of questions that a question should partition the context set once exhaustification is applied to each member of the question, as in (9) (see also Katzir 2023 for the relevance of PbE to focus semantics). We will, following many works, symbolize the exhaustification of proposition p with respect to a set of alternatives Q as $exh(Q)(p)$, where we remain agnostic as to whether *exh* has syntactic reality or is a mnemonic device representing some post-syntactic (i.e. 'pragmatic') process.

(9) **Partition by Exhaustification** (PbE) for question semantics:
A question with denotation Q is acceptable given a context set C only if E_Q is a partition of C (where $E_Q = \{exh(Q)(p) | p \in Q\}$).

(10) E_Q is a partition of C iff all the following conditions hold:
a. **Non-Emptiness** (E_Q has no empty members): For all $S \in E_Q$: $S \cap C \neq \varnothing$
b. **Disjointness** (No two members of E_Q overlap):
For all $S_1, S_2 \in E_Q$: $S_1 \cap S_2 \cap C = \varnothing$
c. **Completeness** (E_Q covers C): $\bigcup\{S \cap C | S \in E_Q\} = C$

Since the set of alternatives for implicature computation can also be identified with a question, it is perhaps natural to expect a similar requirement to be made from the domain of exhaustification in implicature computation, and this idea has indeed been argued to have desired consequences for implicature computation (see Bar-Lev and Fox 2023, Enguehard 2023). However, the requirement as stated in (10) would be too strong for implicatures. Consider for instance the following standard set of alternatives:

[4] Notice that maintaining BLOCKING while rejecting COMPLEXITY also implies that the generation of alternatives is free, not confined to structures at most as complex as the prejacent. Schwarz and Wagner develop an argument that this is a welcome prediction which is attested in certain cases. If they are right and alternative generation is free in this way, that directly clashes with our argument for COMPLEXITY from (8). We will not aim to reconcile these conflicting arguments in this paper (see Schmitt and Haslinger 2025 for relevant discussion of Schwarz and Wagner's argument for free generation), as our main goal is to show that simplex threats are not necessarily a problem for COMPLEXITY. Roni Katzir (p.c.) however raises the further concern that a free-generation system predicts countless possible implicatures for every sentence; even if considerations of contextual salience can perhaps help explain why we usually don't notice most of these implicatures, they should still be able to surface if targeted by an explicit utterance (raising them to sufficient salience), and this doesn't seem right. For example, on the free-generation view the sentence 'John is happy' should have the implicature *John didn't vacuum yesterday*; however, targeting this implicature results in infelicity:

(i) A: John is happy.
B: #Are you saying that he didn't vacuum yesterday?

(11) $Q = \{\textit{some students came}, \textit{all students came}\}$

E_Q in this case is $\{\textit{some but not all students came}, \textit{all students came}\}$ and it does satisfy Non-Emptiness and Disjointness, but it does not necessarily satisfy Completeness: specifically, it doesn't if the context set contains worlds where no students came. Fox argues that the Completeness requirement has good consequences for question semantics; in particular, it explains the existence presupposition associated with questions. This would however arguably not be a welcome result for implicatures, since it would predict that a sentence like *some students came*, when its implicature is derived based on the set of alternatives in (11), presupposes that some students came; empirically, however, *some students came* is infelicitous when that is presupposed, as expected given that assertions are generally infelicitous if they are presupposed (Stalnaker 1978). This would be a general problem whenever a set of alternatives has a single weakest member: PbE would require this alternative to be presupposed, which would make it unassertable. One could consider maintaining PbE as in (9), but then in order to avoid the undesired presupposition one would have to add an alternative to the question in (11) which would cover the missing worlds. However, the structurally simplest candidate for such an alternative is *no students came*, which is arguably still more complex than the other alternatives (as it is composed of negation and an existential which are separable at LF; see Potts 2000, Penka 2011, Iatridou and Sichel 2011, a.o.), and given COMPLEXITY should not be derivable.

We take it then that if one wants to adopt a view based on COMPLEXITY and PbE for implicature computation, one has to adopt a weaker version of PbE which does not have the consequence that the weakest member of sets of alternatives which have a single weakest member should be unassertable. We therefore propose, for implicature computation, the weaker version of PbE in (12) (entertained by Enguehard 2023: fn. 23), which differs from PbE only in that it does not require E_Q to be a partition of C, but rather only of the intersection of C with the set of worlds that are in some member of Q, that is, $\bigcup Q$.[5]

(12) **Weak Partition by Exhaustification** (WPbE) for implicature computation
$exh(Q)(S)$ is acceptable given a context set C only if E_Q is a partition of $C \cap \bigcup Q$ (where $E_Q = \{exh(Q)(p) | p \in Q\}$).

Since $C \cap \bigcup Q$ is a subset of C, the requirement that E_Q partition the former rather than the latter can be met even if: (i) C contains worlds that are incompatible with the weakest member of Q, and (ii) the partition doesn't cover those worlds. This correctly allows for a sentence S that is the weakest member of Q to be parsed as $exh(Q)(S)$ while at the same time be assertable in

[5] This is not the only way to avoid the problem. Another way out of this issue is to assume that the input Q for implicature computation isn't itself subject to PbE, but rather Q has to be a subset of some QUD which is a partition of C (Bar-Lev and Fox 2023, ex. (24) and fn. 17). WPbE however makes assuming an extra question unnecessary. Note furthermore that for the purposes of the accounts that rely on PbE in Bar-Lev and Fox (2023), Katzir (2023), Enguehard (2023), it does not actually matter whether one assumes PbE or WPbE, whereas Bar-Lev and Fox's (weaker) requirement will not suffice at least for the data considered in Katzir (2023), and will also not be sufficient for our purposes.
Yet another option is to stipulate that for implicature calculation the set of alternatives also contains the tautology, i.e. to add $\top$ to (11) (see Enguehard 2023). Generally on this option the weakest member of the set of alternatives for *some* will not anymore be *some* itself but rather $\top$. This essentially achieves the same result as making the (more complex) negative quantifier one of the alternatives; in both cases, PbE will be satisfied without presupposing *some*. And like assuming that a negative quantifier is an alternative, assuming that the tautology is an alternative is at odds with standard assumptions about the generation of alternatives. We thank Émile Enguehard (p.c.) for pointing out this possibility to us.

a context C that doesn't entail it; simply put, it allows *some students came* to be exhaustified against the Q in (11) without presupposing that some students came.

5 Avoiding simplex threats with WPbE and Fatal Competition

With the WPbE requirement in (12) in mind, we can consider what should happen in the case of (13) (repeated from (6)) assuming COMPLEXITY.

(13) Some students are inside.
  a. All students are inside.
  b. Some students are outside.

First, consider the full set of formal alternatives F which COMPLEXITY would expect this sentence to have:

(14) $F = \{\textit{some inside}, \textit{all inside}, \textit{some outside}, \textit{all outside}\}$

Note that F cannot be the question used for implicature computation, because if $Q = F$ then WPbE is not satisfied: $exh(Q)(\textit{some inside})$, for instance, would either be a contradiction, entailing both $\neg$*all inside* and $\neg$*some outside* and violating Non-Emptiness (if one assumes that *exh* can derive logical contradictions, as in Chierchia 2013), or it would overlap with both $exh(Q)(\textit{all inside})$ and $exh(Q)(\textit{some outside})$, violating Disjointness (if one assumes a contradiction-sensitive *exh* as in Fox 2007). Either way, E_Q would not be a partition and WPbE won't be satisfied.

The actual Q would then have to be some subset of F in order for WPbE to stand a chance of being satisfied. What could that subset be? Let us consider two options: One which would make *some inside*, when exhaustified, mean *some inside* $\wedge\neg$ *all inside*, in (15a), and one which would make *some inside*, when exhaustified, mean *all inside*, in (15b):

(15) a. $Q_1 = \{\textit{some inside}, \textit{all inside}\}$
  b. $Q_2 = \{\textit{some inside}, \textit{some outside}\}$

To see how these questions fare with respect to WPbE we need to look at what E_Q looks like for both of them:

(16) a. $E_{Q_1} = \{exh(Q_1)(\textit{some inside}), exh(Q_1)(\textit{all inside})\} = \{\textit{some inside} \wedge \neg \textit{all inside}, \textit{all inside}\}$
  b. $E_{Q_2} = \{exh(Q_2)(\textit{some inside}), exh(Q_2)(\textit{some outside})\} = \{\textit{some inside} \wedge \neg \textit{some outside}, \textit{some outside} \wedge \neg \textit{some inside}\} = \{\textit{all inside}, \textit{all outside}\}$

What would C have to look like in order for WPbE to be satisfied, that is, in order for E_Q to partition $C \cap \bigcup Q$? No matter what C looks like, E_{Q_1} satisfies Disjointness (since its members are mutually exclusive) and Completeness (because $\bigcup E_{Q_1} = \bigcup Q_1$). It would also satisfy Non-emptiness if C contained worlds where each of the members of E_{Q_1} is true. So other than Non-Emptiness, no special requirements are placed on C. The case of E_{Q_2} is different: Here too Disjointness is guaranteed to be satisfied, but Completeness isn't: note that $\bigcup Q_2$ contains worlds where some but not all are inside, but those worlds are not in any member of E_{Q_2}. So in order to satisfy Completeness, C would have to have no such worlds. In other words, WPbE can only be satisfied if there is a 'homogeneity presupposition': That is, if C entails *all inside* $\vee$ *all outside*. Note that if C entails homogeneity, Q_1 is ruled out (because then *some inside* $\wedge$ $\neg$*all inside* would be contextually contradictory and Non-Emptiness would be violated). Q_1 then only satisfies WPbE if the context does not entail homogeneity, and Q_2 only satisfies WPbE if the context does entail homogeneity.

Now let us consider what would happen if C entails homogeneity, that is, if Q_2 is fine as far as WPbE is concerned. In that case, *some inside* ends up contextually equivalent to *all inside*. It is however known independently since Magri (2009) that a sentence with *some* is odd whenever it is contextually equivalent to its *all* alternative, as in (17):

(17) #Some Italians come from a warm country.

Following Bar-Lev and Fox (2023), we call Magri-type situations 'fatal competition':[6]

(18) **Fatal Competition**:
A sentence S is unacceptable in a context C whenever S has a formal alternative which is logically stronger but contextually equivalent to S given C.

Given WPbE and Fatal Competition, *some inside* can be exhaustified with respect to Q_1 (if the context does not entail homogeneity), but it cannot be exhaustified with respect to Q_2: If C does not entail homogeneity, WPbE isn't satisfied, as we have seen; and if C does entail homogeneity, then the sentence would be ruled out due to Fatal Competition; either way, $exh(Q_2)(\textit{some inside})$ would be ruled out. Nothing similar happens with Q_1: The WPbE requirement can be met without making any formal alternative equivalent to *some inside*.

Q_1 and Q_2 are of course not the only possible subsets of F, and one may consider others. However, any choice of $Q \subseteq F$ which contains both *some inside* and *some outside* would either be unable to satisfy WPbE for the same reasons F is unable to satisfy it, or will face the same issues that Q_2 does. Consequently, it will be impossible to strengthen *some inside* into *some inside* $\wedge\neg$ *some outside*, but it will be possible to strengthen it into *some inside* $\wedge\neg$ *all inside*, explaining the broken symmetry.

Note that there is a close connection between Fatal Competition and BLOCKING: Fatal Competition rules out a sentence when its non-exhaustified meaning is *contextually* equivalent to some simple alternative which is logically stronger, and BLOCKING rules out a sentence when its exhaustified meaning is *logically* equivalent to some simple alternative. What we have shown is that, with the aid of WPbE, the unavailability of Q_2 (and hence of an exhaustified meaning for *some inside* which is equivalent to *all inside*) is reduced to the independently established ban on Fatal Competition, and does not require assuming BLOCKING as an independent principle.

[6] Note that this characterization does not cover many cases that have been argued to be infelicitous for the same reasons as (17), but it suffices for our purposes. (18) is closely connected to the broader Logical Integrity generalization proposed by Anvari (2018):

(i) A sentence S is unacceptable in a context C whenever S has a formal alternative A such that S is not logically entailed by S but is contextually entailed by S given C.

For further discussion of Magri effects and how to derive them see Singh (2009), Schlenker (2012), Spector (2014), Bassi et al. (2021), Bar-Lev (2024), a.o.

6 A prediction

The account based on WPbE and Fatal Competition proposed above predicts a connection between whether a strengthened meaning is available and whether an appropriate context can be accommodated. This connection is not expected in the account based on BLOCKING proposed by Schwarz and Wagner (2024), which considers only logical equivalence between the relevant strengthened meaning and some formal alternative. Now, suppose we have a situation where A, B, and C are predicates such that *some* $A \wedge \neg$*some* $B \not\equiv$ *all* A, but *some* $A \wedge \neg$*some* $B \wedge \neg$*some* $C \equiv$ *all* A. Both the BLOCKING account and the WPbE/Fatal Competition account predict that *some* A cannot mean *some* $A \wedge\neg$*some* $B \wedge\neg$*some* C. They however make different predictions regarding whether it can mean *some* $A \wedge\neg$*some* B. The BLOCKING account predicts that this should be a possible reading because it results in no equivalence with a simple alternative. The prediction made by the WPbE/Fatal Competition account is more nuanced: *some* A can mean *some* $A \wedge\neg$*some* B provided $Q = \{$*some* A, *some* $B\}$, but for that Q to be a licit question the context set must contain only (i) worlds whether there are only A's, (ii) worlds where there are only B's, (iii) worlds where there are A's and C's but no B's, and (iv) worlds where there are B's and C's but no A's.

Let us consider such a case. Suppose A = 'red', B = 'blue', and C = 'yellow' (and imagine for simplicity that these are the only existing colors). The prediction is that *some cars are red* can mean '*some cars are red* $\wedge$ *no cars are blue*' only if the context set contains (i) worlds where all cars are red, (ii) worlds where all cars are blue, (iii) worlds where some cars are red and some cars are yellow but no cars are blue, and (iv) worlds where some cars are blue and some cars are yellow but no cars are red. The minimal presupposition one would need to accommodate for that to be the case is obviously quite hard, perhaps impossible, to accommodate: that if some of the cars are red then none of them are blue (but yellow cars are possible) and if some of them are blue then none of them are red (but yellow cars are possible). We then predict, correctly, that *some cars are red* cannot mean '*some cars are red* $\wedge$ *no cars are blue*', because that would require accommodating an implausible presupposition.[7] The WPbE/Fatal Competition account then has the advantage that it predicts that *some* A normally cannot mean *some* $A \wedge \neg$ *some* B, even when that isn't equivalent to *all* A.[8]

One may object that in order to get *some cars are red* to mean '*some cars are red* $\wedge$ *no cars are blue*' (without any inference about whether some cars are yellow), it is necessary to 'prune'

[7] One could entertain stronger presuppositions that would satisfy WPbE and that are perhaps more reasonable to accommodate, e.g., that either all the cars are red or all of them are blue; note however that accommodating this presupposition would lead to a violation of Fatal Competition: *some cars are red* would end up contextually equivalent to *all cars are red*.

[8] The attentive reader will notice that we further predict that in situations where the necessary presupposition is easy to accommodate, *some* A should be able to mean *some* $A \wedge \neg$ *some* B. Imagine that Americans are mediating a peace deal between Russians and Ukrainians. Suppose that a Ukrainian wants to enter the conference room, and a guard stops him, saying 'some people in the room are Russians'. We think that this sentence may be understood to say that no person in the room is Ukrainian, leaving it open whether there are Americans in the room. This however is not necessarily an argument for our view, because once the presupposition needed for WPbE is accommodated (namely that if some people in the room are Ukrainians then no one in the room is Russian, and vice versa), *some people in the room are Russians* ends up contextually equivalent to *some people in the room are Russians* $\wedge \neg$ *some people in the room are Ukrainians*. Once the presupposition is easy to accommodate, then, we can no longer tell whether *some* A means *some* $A \wedge \neg$ *some* B due to the plausible presupposition or due to exhaustification, which makes it difficult to draw any conclusions from this kind of example. We thank Roni Katzir for a discussion of this point.

(ignore) the alternative *some cars are yellow* from the set {*some cars are red*, *some cars are blue*, *some cars are yellow*}, and this pruning seems arbitrary and unmotivated in the absence of special contextual cues. On this objection (which is in principle available to a proponent of BLOCKING), the arbitrariness of pruning *some cars are yellow* may be sufficient to explain why *some cars are red* cannot mean simply '*some cars are red* $\wedge$ *no cars are blue*', thus nullifying the need to rely on our WPbE constraint. However, we think that this strategy is ultimately not successful, because even in the presence of special contextual cues which presumably should allow us to ignore yellow cars, it seems impossible to get the intended implicature. Consider:

(19) A: Are some of the cars blue?
B: #No, some of them are red.

Even in this discourse, which presumably raises to salience the set of alternatives {*some cars are red*, *some cars are blue*}, it seems impossible to use that set to strengthen B's utterance to '*some cars are red* $\wedge$ *no cars are blue*'. But this is explained assuming the WPbE constraint.

7 Loose ends: Pruning and Focus

An important issue we haven't discussed is how Q_1 and Q_2 from section 5 can be derived to begin with. One may consider two options: either they are derived by 'pruning' (ignoring) alternatives which are in F, or by narrow focus placement: Narrow focus on *some* in (13) would derive Q_1 and narrow focus on *inside* there would derive Q_2. Both of these options, pruning and narrow focus, raise some intricate issues which we will not be able to do full justice to in this short note, but we will nonetheless sketch some of the intricacies and some preliminary directions.

First, if Q_1 and Q_2 are derived by pruning, then one has to assume that pruning can break symmetry, something which is often taken to be impossible (see Katzir 2014, Crnič et al. 2015). On some views one may expect that pruning will be able to break symmetry sometimes, for instance if the only constraint on pruning is that relevant alternatives cannot be pruned (Magri 2009, Fox and Katzir 2011). This would however not help us here: It would indeed rule out Q_2 when C entails homogeneity, as desired: *some inside* and *all inside* will be contextually equivalent given C and thus the relevance of *some inside* would block pruning of *all inside*. Problematically, however, it would also rule out Q_1. This is because under standard assumptions about relevance (Lewis 1988), an alternative is relevant iff its negation is. And since the negation of *all inside* is equivalent to *some outside*, it should be impossible for *all inside* to be in Q_1 without *some outside* also being in Q_1. One way out of this could be to weaken the constraint on pruning so that it would make Q_1 a legitimate choice of pruning but not Q_2, but this would require diverging from common assumptions.[9]

[9] Here is one such possible divergence. Normally, the relevant propositions given a question are taken to be the propositions that are equivalent to a union of cells in the partition induced by the question, and the induced partition is taken to be the partition one derives by collecting all consistent assignments of truth and falsity to propositions in the question denotation. One can instead identify the induced partition with E_Q (if it is indeed a partition of $C \cap \bigcup Q$, that is, if WPbE is satisfied). This would make *some outside* irrelevant to Q_1, simply because it contains worlds which are not covered by Q_1 at all, but it would change nothing for Q_2 when C entails homogeneity. We refrain from committing ourselves to this new understanding of relevance, because working out its consequences (one of which is that a sentence can be relevant without its negation being so) will take us beyond the scope of this note.

Second, if Q_1 and Q_2 are derived by narrow focus (in which case one can maintain that pruning cannot break symmetry and still be able to derive Q_1), another issue arises that relates to a general problem with Fatal Competition accounts (Magri 2009, Bar-Lev and Fox 2023, a.o.): they do not explain why oddness due to Fatal Competition cannot be avoided by having narrow focus so that the contextually equivalent alternative (e.g., in the case of (17), *all Italians come from a warm country*) is not a formal alternative to begin with. Our story, which assumes that Q_2 is ruled out if *some inside* is contextually equivalent to *all inside* due to Fatal Competition, then crucially relies on the hope that a theory of Fatal Competition will eventually be able to explain why having narrow focus cannot rescue from violations of Fatal Competition.[10] Note that BLOCKING does not have an advantage in this regard: It similarly must make sure that *all inside* is an alternative that cannot be ignored for BLOCKING purposes when *some inside* has *some outside* as an alternative (as in Q_2); whatever may be the reason for this on the BLOCKING account would carry over to our account.

8 Summary

We presented an alternative to Schwarz and Wagner's BLOCKING account of simplex threats, showing that symmetry breaking with simplex threats can be derived from COMPLEXITY when taken together with Weak Partition by Exhaustification and Fatal Competition.

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[10] Singh (2009) argues that sentences with *all* are sometimes felicitous even when they are equivalent to their *some* counterpart due to the possibility of having narrow focus. It is not clear however why this should be impossible for sentences with *some*, which are always infelicitous in situations of Fatal Competition with *all*. See also Spector (2014), Bar-Lev and Fox (2023) for some relevant discussion of this asymmetry.

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