

# Input filtering vs output blocking\*

Tue Trinh

12/02/2026, Humboldt-Universität zu Berlin

## 1 Introduction

### 1.1 Symmetry

Sentences are routinely strengthened. Strengthening is skewed.

- (1) some students left
  - a. some students left  $\wedge$  some students stayed
  - b. #some students left  $\wedge$  no students stayed

The problem of getting strengthening to skew in the right direction is the ‘symmetry problem’. The problem is solved by ‘breaking symmetry’.

### 1.2 Breaking symmetry by input filtering

A common way to represent the strengthened meaning of a sentence  $S$  is  $\text{exh}(Q)(S)$ , where  $Q$  is a set of alternatives of  $S$  and  $\text{exh}$  an exhaustification operator akin to ‘only’.<sup>1</sup> This representation is grounded in the view that symmetry should be broken by restrictions on  $Q$ .

- (2)  $\text{exh}(Q)(\text{some students left})$ 
  - a.  $Q = \{\text{some students left, all students left}\}$
  - b.  $\#Q = \{\text{some students left, some students stayed}\}$

A natural way to think about  $Q$  and  $\text{exh}(Q)(S)$  is that  $Q$  is a question and  $\text{exh}(Q)(S)$  is a response to  $Q$  (Grice 1967, Groenendijk and Stokhof 1984, Roberts 2012).

- (3) INPUT (first version, to be revised)  
 $\text{exh}(Q)(S)$  is blocked if  $Q$  is not a good question

### 1.3 Breaking symmetry by output blocking

A very different perspective on strengthening is proposed by Schwarz and Wagner (2024).

- (4) OUTPUT (first version, to be revised)  
 $\text{exh}(Q)(S)$  is blocked if there is a sentence  $S'$  such that (i)  $S'$  is no more complex than  $S$  and (ii)  $S' = \text{exh}(Q)(S)$

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\* This talk is based on joint work with Moshe E. Barlev and Itai Bassi (Trinh et al. 2026).

<sup>1</sup> Specifically,  $\text{exh}$  maps  $Q$  and  $S$  to true iff  $S$  is true and the innocently excludable elements of  $Q$  given  $S$  are false, where  $S'$  is an innocently excludable element of  $Q$  given  $S$  iff  $S'$  is an element of every maximal subset  $Q'$  of  $Q$  such that  $\{S\} \cup \{-S'' : S'' \in Q'\}$  is consistent (Fox 2007).

- (5) some students left
  - a. some students left  $\wedge$  some students stayed
  - b.  $\#$ some students left  $\wedge$  no students stayed  $\rightarrow$  blocked by ‘all students left’

OUTPUT imposes no condition on Q. What it says is that strengthening is possible only if necessary: if the same meaning can be expressed literally, without strengthening, by an equally simple sentence, then it must be so expressed.

#### 1.4 What this paper is about

There seems to be no need for Schwarz and Wagner to represent the strengthened meaning of S as  $\text{exh}(Q)(S)$ .

- (6) An alternative formulation of OUTPUT  
S cannot be strengthened to  $S \wedge A$  if there is an  $S'$  such that (i)  $S'$  is no more complex than S, and (ii)  $S' = S \wedge A$ .

However, take the fact that these authors do represent the strengthened meaning of S as  $\text{exh}(Q)(S)$  to be a reason for remaining agnostic about whether they think constraints on Q are required in addition to OUTPUT. In other words, we remain agnostic as to whether Schwarz and Wagner’s claim is (7a) or (7b).

- (7) a. OUTPUT alone is needed to solve the symmetry problem.
- b. Both INPUT and OUTPUT are needed to solve the symmetry problem.

The aim of this paper is to show that neither (7a) nor (7b) is correct. Specifically, we will argue INPUT is all that is needed to break symmetry. The basis of our argument consists in two main considerations: (i) the ingredients for spelling out the notion of a good question are independently motivated, and (ii) there are facts which INPUT can but OUTPUT cannot account for.

## 2 Fleshing out ‘good question’

### 2.1 Q must be a Hamblin question

Let us try to make precise what ‘good question’ means in (3). We start with (8), which incorporates an idea borrowed crucially from Hirsch and Schwarz (2025).

- (8) INPUT (second version, to be revised)  
 $\text{exh}(Q)(S)$  is blocked if Q is not a Hamblin question

A Hamblin question consists of ‘congruent answers’ (Hamblin 1973). Congruent answers are constrained by the syntax of the question.<sup>2</sup>

- (9) Question = who left
  - a. congruent answers: John left, Mary left, both left
  - b. relevant answers: John left, Mary left, both left, John left  $\wedge$   $\neg$ Mary left,  $\square$ (John left  $\wedge$   $\neg$ Mary left), John left  $\wedge$   $\diamond$ (Mary left), etc.<sup>3</sup>

<sup>2</sup> The idea that the set of alternatives must be a formally constrained subset of the set of relevant sentences lies at the core of the Neo-Gricean approach to strengthened meanings (‘implicatures’). For supporting arguments see Horn (1972), Sauerland (2004), Katzir (2007), Fox and Katzir (2011), Trinh and Haida (2015), among many others.

<sup>3</sup> We assume that relevance is closed under Boolean operations (Lewis 1988) and, also, under speaker’s belief (Fox 2016, Buccola and Haida 2019, 2020, Trinh 2024).

- (10) A: Who left?  
 B: John left.  
 (i) John left  $\wedge$   $\neg$ Mary left  
 (ii) #Both left  
 (iii) #John left and I'm not ruling out the possibility that Mary left too
- (11) question = who left  
 a. congruent answers: some students left, all students left left<sup>4</sup>  
 b. relevant answers: some students left, all students left,  $\neg$ some students left,  $\neg$ all students left,  $\square$  $\neg$ all students left, etc.
- (12) A: Who left?  
 B: Some students left.  
 (i) some students left  $\wedge$  some students stayed  
 (ii) #all students left  
 (iii) #some students left and I'm not ruling out the possibility that all of them did

It is not clear to us how OUTPUT would deal with the observations above.

## 2.2 Q must be a felicitous question

The disjunctive question in (13) would induce 'both left' as strengthened meaning of 'John left'.<sup>5</sup>

(13) #Did John leave or did Mary stay?

Similarly, the disjunctive question in (14) would induce 'all left' as strengthened meaning of 'some left'.

(14) #Did some students leave or did some of them stay?

But (13) and (14) are both infelicitous. We update INPUT as follows.

(15) INPUT (third version, to be revised)  
 exh(Q)(S) is blocked if Q is not a felicitous Hamblin question

But why are these questions infelicitous?

### 2.2.1 Partition by Exhaustification & Fatal Competition

The first ingredient for explaining the infelicity of (13) and (14) is Partition by Exhaustification (PbE), proposed by Fox (2019, 2020).

(16) Partition by Exhaustification (first version, to be updated)  
 A question Q is felicitous in a context C only if elements of Q, once exhaustified with respect to Q, partition C

To illustrate how PbE works, consider the question in (17).

(17) Question: which girl left  
 a. answers: Mary left, Sue left, Anne left  
 b.  $C \Rightarrow$  exactly one girl left

The second ingredient for explaining the infelicity of (13) is the constraint which goes by the name of Fatal Competition (FC), proposed by Bar-Lev and Fox (2023).

<sup>4</sup> We assume that 'who' can also range over upward monotone quantifiers (Spector 2008, Fox 2018, Xiang 2021, Hirsch and Schwarz 2025), we assume that 'who' can also range over upward monotone quantifiers.

<sup>5</sup> We assume that the congruent answers to a disjunctive question are the individual disjuncts.

(18) Fatal Competition (FC)

The use of a sentence  $S$  in a context  $C$  is infelicitous if there is an  $S'$  such that (i)  $S'$  is no more complex than  $S$ , (ii)  $S' \subset S$ , and (iii)  $S =_C S'$

To illustrate how FC works, consider the (19) in the realistic context where Italians come from the same country (Magri 2009).

(19) #Some Italians come from a warm country

We are now in the position to explain the infelicity of (13) and (14).

Given PbE, the context  $C$  required for (13) to be felicitous must be such that for every world  $w$  in  $C$ , either both left in  $w$  or both stayed in  $w$ . In such a context, 'John left' would be equivalent to 'both left' and 'Mary stayed' would be equivalent 'both stayed'.

The infelicity of (14) follows from PbE and FC in the same way. Given PbE, the context  $C$  required for (14) to be felicitous must be such that for every world  $w$  in  $C$ , either all students left in  $w$  or all students stayed in  $w$ . In this 'homogeneous' context, 'some students left' would be equivalent to 'all students left' and 'some students stayed' would be equivalent to 'all students stayed'.

### 2.3 Two side notes

#### 2.3.1 Deflection

Speakers can and do respond to a question  $Q$  with an answer  $A'$  that actually addresses a (slightly) different question  $Q'$  which must then be accommodated.

(20) A: Who left?

B: Mary stayed.

(i) who left and who stayed = {John left, John stayed, Mary left, Mary stayed, both left, both stayed}

(ii) who stayed = {John stayed, Mary stayed, both stayed}

#### 2.3.2 Context

There might be an impression that OUTPUT can be minimally revised to do the work of FC.

(21) OUTPUT (second version, to be revised)

exh(Q)(S) is blocked if there is an  $S'$  such that (i)  $S'$  is no more complex than  $S$ , and (ii)  $S' =_C$  exh(Q)(S)

However, (21) would only predict the infelicity of (19) under the assumption that this sentence must be strengthened to 'all Italians come from a warm country'. And there is no reason to think that such strengthening is required.<sup>6</sup>

## 3 Blocking literal meaning

The intuition behind OUTPUT is that being literal is better than being suggestive. But consider (22).

(22) Only some students left

a. some but not all students left

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<sup>6</sup> In fact, Magri himself explains the infelicity of (19) by claiming that it must be strengthened in the opposite direction, namely to 'some but not all Italians come from a warm country' (Magri 2009).

- b. #all students left

Assuming that ‘only’ is, basically, the overt counterpart of *exh*, all of the arguments we provided about *exh*(Q)(S) in section 2 can be transferred to *only*(Q)(S), provided we revise INPUT slightly.

(23) INPUT (final version)

OP(Q)(S) is blocked if Q is not a felicitous Hamblin question (where OP is *exh* or ‘only’)

OUTPUT, we believe, has nothing to say about (22).<sup>7</sup> Why should a literal meaning be blocked?

## 4 Reformulating PbE

### 4.1 Maximize Presupposition

There is, however, a difference between *exh* and ‘only’, in that the former asserts while the latter presupposes the prejacent (Horn 1969).

- (24) a. I’ve always known that there were students among the people who left. Today I learned that only some students left.  
b. #I’ve always known that there were students among the people who left. Today I learned that some students left.

Given the local context of the second sentence established by the first, MP militates against *exh* in favor of ‘only’ (Heim 1991, Sauerland 2008).<sup>8</sup>

### 4.2 A challenge

Both (25a) and (25b) seem fine as answers to (25).<sup>9</sup>

- (25) Did some students leave, or did all of them leave?  
= {*exh*(who left)(some students left), all students left}  
a. Only some students left.  
b. Some students left.

Given PbE, (25) should presuppose that some students left. Why does MP not militate against (25b)?

### 4.3 Meeting the challenge

We provide a reformulation of PbE which is more differentiated than the version presented in (16). Let  $C_Q$  be  $C \cap \bigcup Q$ , i.e. the intersection of C with the union of Q.

(26) Partition by Exhaustification (final version)

- (i) A question Q is felicitous in a context C only if elements of Q, once exhaustified with respect to Q, partition  $C_Q$   
(ii) Q is strongly felicitous in C only if Q is felicitous in C and C entails that at least one exhaustified answer to Q is true

<sup>7</sup> As acknowledged by Schwarz and Wagner themselves (Schwarz and Wagner 2025: 7, footnote 8). Note that the same can be said about ‘only John left’.

<sup>8</sup> The contrast in (24) could also be explained by assuming the version of *exh* proposed in Bassi et al. (2021), called ‘*peX*’, together with the requirement that sentences must be informative after presupposition accommodation.

<sup>9</sup> The first disjunct of (25) is strengthened with respect to ‘who left’ = {‘some students left’, ‘all students left’} to circumvent a violation of Hurford’s Constraint (Hurford 1974, Chierchia et al. 2012). Note that it cannot be strengthened with respect to (25) itself, as that would incur an infinite regress.

- (27) Claims
- a. Questions as domains of exh must be felicitous
  - b. Matrix questions must be strongly felicitous

We claim that (25b) represents a case of ‘deflection’: it answers a slightly different question, (28) which does not presuppose that some students left.

- (28) Did no students leave, some students leave, or all of them leave?  
 = {no students left, exh(who left)(some students left), all students left}

## 5 Solving Feinmann’s puzzle

Feinmann (2025) notes that exhaustification is sometimes blocked even if there is no symmetry.<sup>10</sup>

- (29) John only bought shoes  
 $\not\rightarrow$  John bought shoes  $\wedge$   $\neg$ John bought sneakers

We can account for this observation. The question that would induce the unattested reading is (30).

- (30) {John bought shoes, John bought sneakers}

Assuming that exh is blind to encyclopedic knowledge (Magri 2009), the set of exhaustified answers would be {‘John bought shoes but not sneakers’, ‘John bought sneakers but not shoes’}. As the second sentence is a contextual contradiction, the question violates PbE.

We do not see how OUTPUT would deal with Feinmann’s puzzle: there is no sentence which is no more complex than ‘John bought shoes’ and means ‘John bought shoes that are not sneakers’.<sup>11</sup>

## 6 An attempt to save OUTPUT

The reader may wonder whether our formulation of OUTPUT in (21) is still too uncharitable. Suppose we liberalize Schwarz and Wagner’s (2024) condition to such an extent that it includes not only the context but also ‘only’. Specifically, suppose we reformulate the principle as in (31).

- (31) OUTPUT (final version)  
 OP(Q)(S) is blocked if there is an  $S'$  such that (i)  $S'$  is no more complex than S and (ii)  $S' =_C$  OP(Q)(S) (where OP is exh or ‘only’)

As it turns out, even this version of OUTPUT, which no longer reflects the intuition that being literal is better than being suggestive, still loses against INPUT. Consider (24a) again, reproduced below.

- (24a) I’ve always known that there were students among the people who left. Today I learned that only some students left.

It is clear that the sentence ‘only some students left’ in (24a), in the relevant context, can mean ‘some students left and some students stayed’. INPUT predicts this meaning to be possible: the domain of ‘only’ is ‘who left’ = {‘some students left’, ‘all students left’}, which is a felicitous Hamblin question. OUTPUT, as formulated in (31), blocks this reading. The reason is that ‘some students left and some

<sup>10</sup> Feinmann’s examples involve exh, not ‘only’, but the point remains, assuming exh, for the purposes at hand, can be considered a covert variant of ‘only’.

<sup>11</sup> Nina Haslinger pointed out to us that the sentence ‘John only has an MA’ can and does naturally mean John does not have a PhD. The set of alternatives is thus {MA, PhD}. Given that having a PhD requires having an MA, this example poses a problem for our explanation of Feinmann’s puzzle. We must leave this problem for future research

students stayed’, in this context, is equivalent to ‘some students stayed’, which is no more complex than ‘some students left’.

We believe that the failure of such an extensive reformulation of OUTPUT as (31) to account for this simple data point reveals a deep problem with an approach to strengthening which seeks to constrain its output instead of its input.

## 7 Conclusion

We have argued that the domain of exhaustification must be a felicitous Hamblin question (following Hirsch and Schwarz 2025). The felicity conditions involved in our explanation of the facts are Partition by Exhaustification and Fatal Competition. We showed that this approach to strengthened meaning, which seeks to constrain the input to exhaustification, is empirically more adequate than the approach proposed by Schwarz and Wagner (2024), which seeks to constrain the output of exhaustification.

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