

# SOME CONSTRAINTS ON THE DERIVATION OF ALTERNATIVES

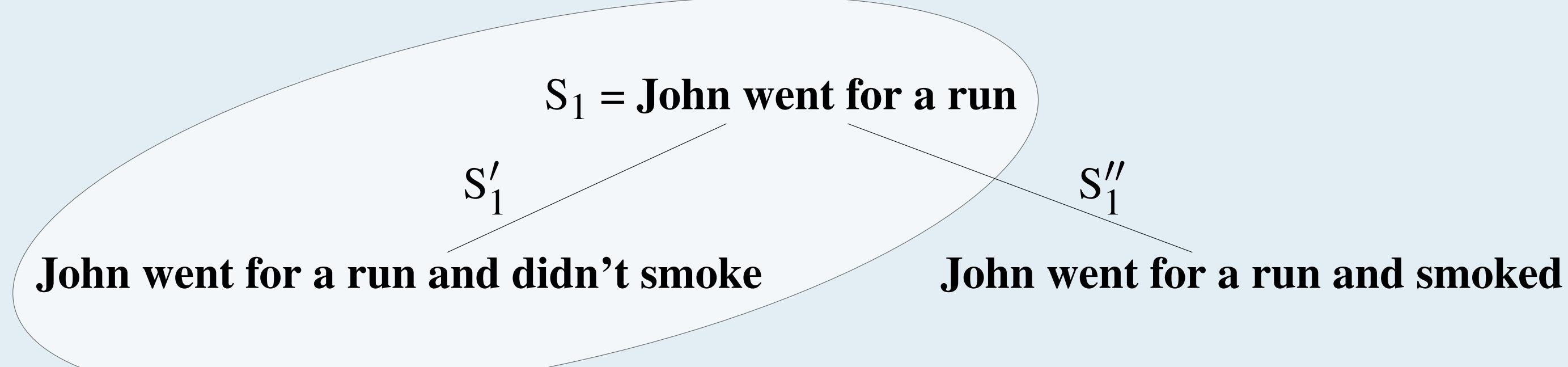
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Inferences that result from exhaustification of a sentence  $S$  depend on the set  $A$  of alternatives to  $S$ . The following inference pattern poses a challenge for how to characterize  $A$ .

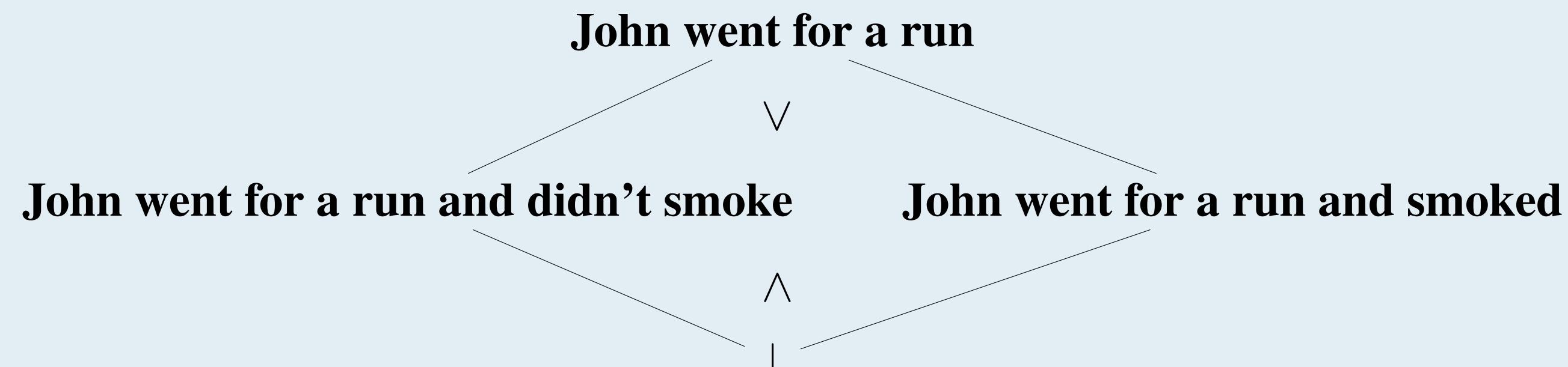
(1) Bill went for a run and didn't smoke. John (only) went for a run.  
Inference:  $\neg[\text{John went for a run and didn't smoke}]$

The sequence in (1) can imply that it is not the case that John went for a run and didn't smoke, i.e. that John smoked.



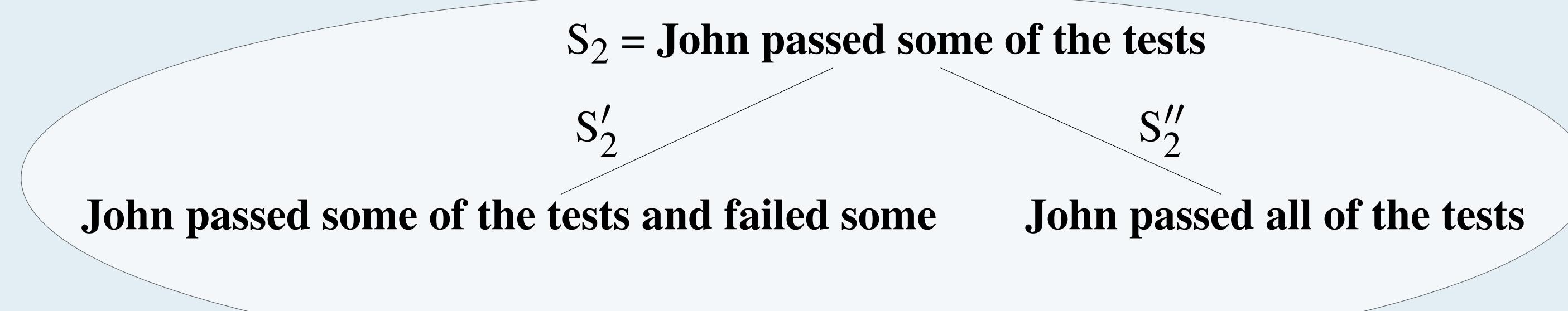
To derive the inference of (1),  $A$  must include  $S'_1$  – to derive the inference – and exclude  $S''_1$  so that the inference is not canceled out.

In both cases,  $S'_i$  and  $S''_i$  are symmetric alternatives to  $S_i$ :  $S'_i \wedge S''_i$  is a contradiction and  $S'_i \vee S''_i$  is equivalent to  $S_i$  (Fintel and Heim 1997):

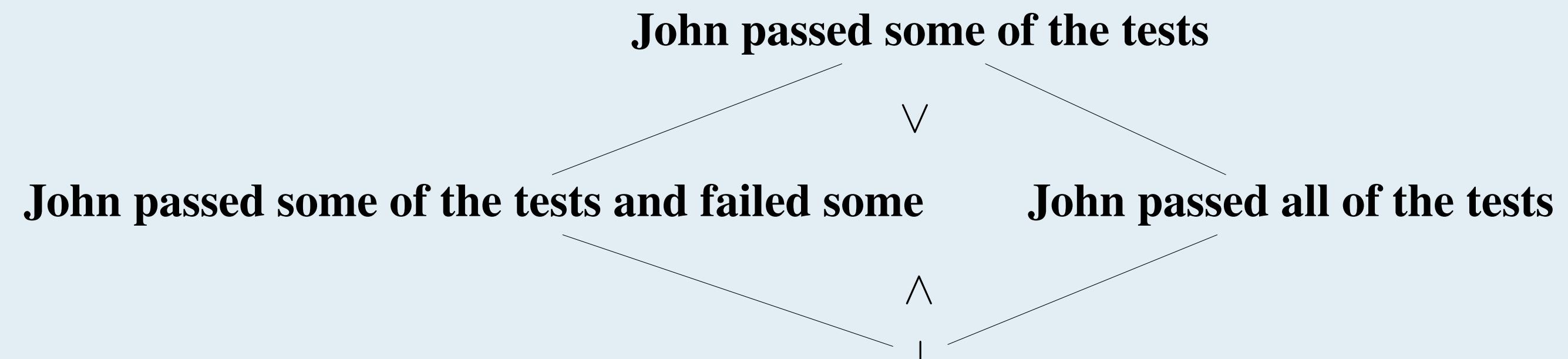


(2) Bill passed some of the tests and failed some. John (only) passed some of the tests.  
\*Inference:  $\neg[\text{John passed some of the tests and failed some}]$

The sequence in (2) cannot imply that it is not the case that John passed some of the tests and failed some, i.e. that John passed all of the tests.



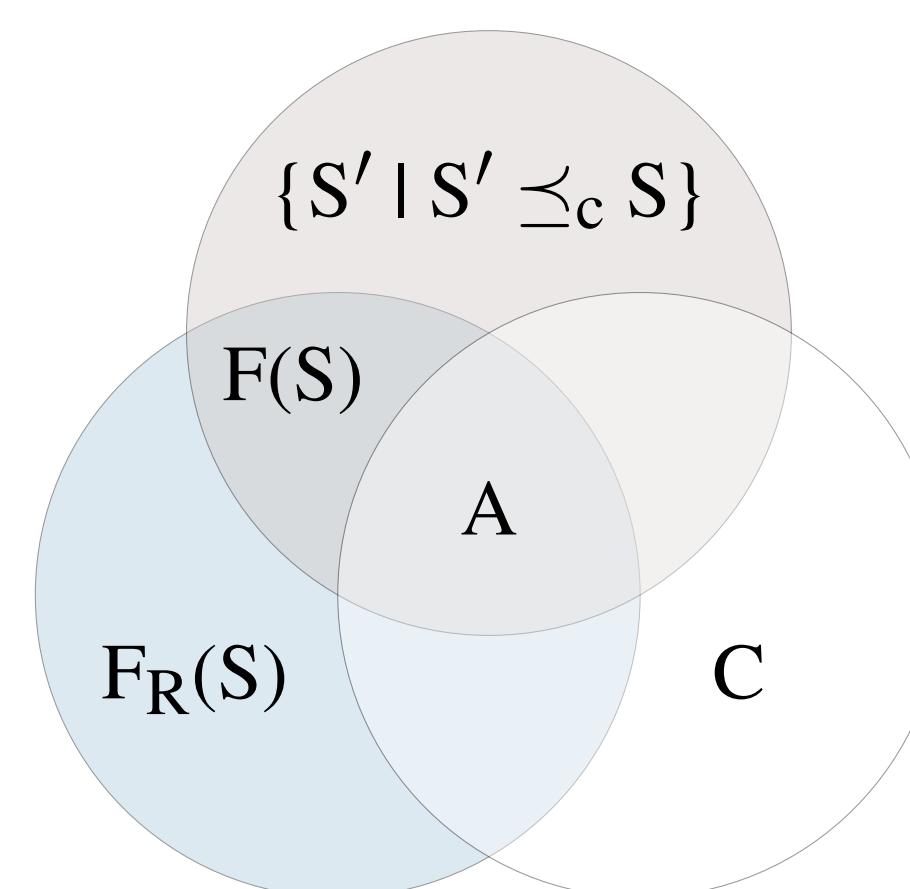
To explain the lack of an inference in the case of (2),  $A$  must include both  $S'_2$  and  $S''_2$  so that  $S'_2$  and  $S''_2$  cancel each other out:



Our theory must “break symmetry” in the case of (1) – i.e. define  $A$  in such a way that it can contain  $S'_1$  but not  $S''_1$  – without breaking symmetry in the case of (2). We follow Fox and Katzir (2011), henceforth F&K, in the assumptions below:

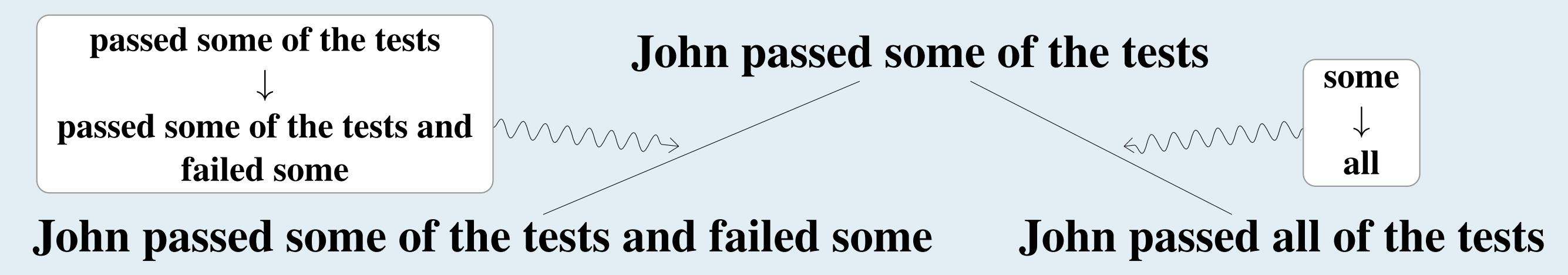
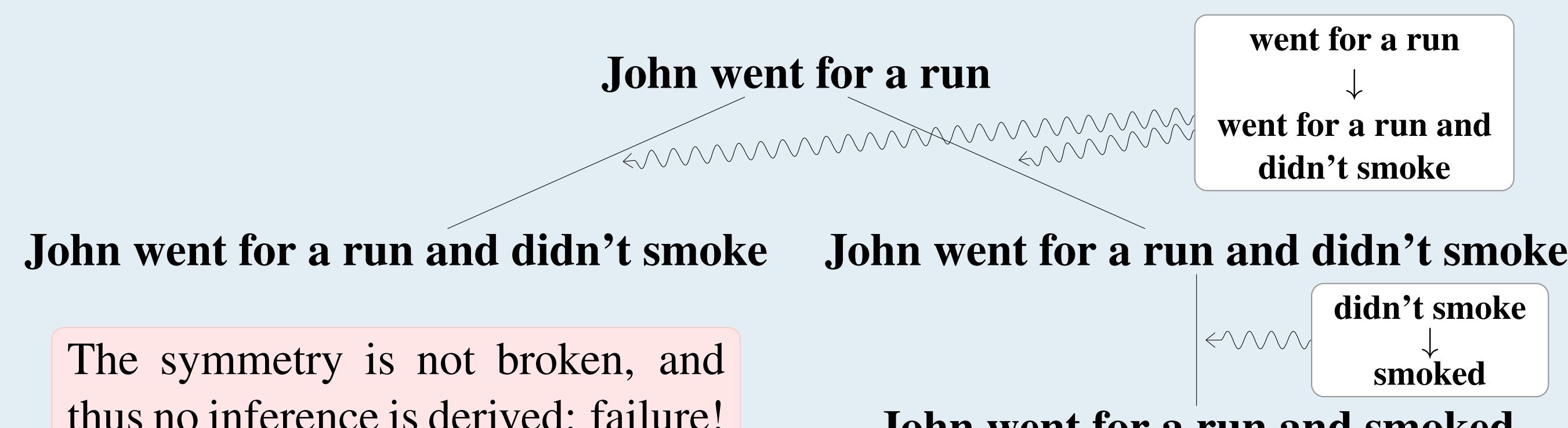
(3)  $A = F(S) \cap C$   
-  $F(S)$  is the set of formally defined alternatives of  $S$ , see (4)  
-  $C$  is a contextual restriction

(4)  $F(S) = F_R(S) \cap \{S' \mid S' \preceq_c S\}$   
-  $F_R(S)$  is the set of sentences derived from  $S$  by replacement of F-marked constituents with expressions of the same semantic type  
-  $\{S' \mid S' \preceq_c S\}$  is the set of sentences that are no more complex than  $S$  in discourse context  $c$ , see (5)



The relation ‘ $x \preceq_c y$ ’ is defined as follows:

(5) a.  $E' \preceq_c E$  if  $E' = T_n(\dots T_1(E)\dots)$ , where each  $T_i(x)$  is the result of replacing a constituent of  $x$  with an element of  $SS(E, c)$ , the substitution source of  $E$  in  $c$   
b.  $SS(E, c) = \{x \mid x \text{ is a lexical item}\} \cup \{x \mid x \text{ is a constituent uttered in } c\}$

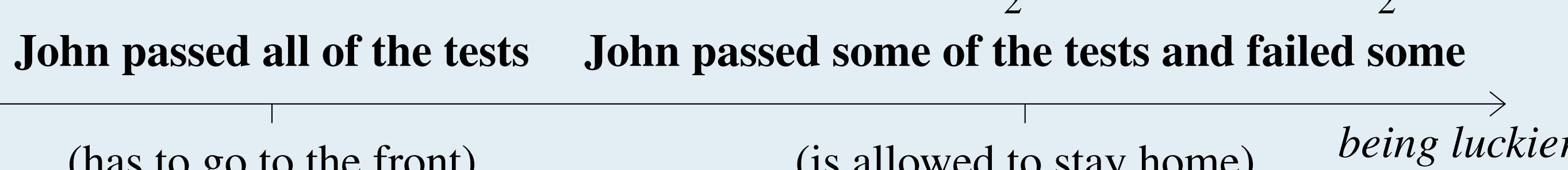


The implication of (1) for F&K’s theory of formal alternatives, then, is that symmetry may in some cases be broken in  $C$ . At first glance, a strategy to explain the contrast between (1) and (2) by breaking symmetry in  $C$  is to appeal to the notion of a “pragmatic scale” (cf. Klinedinst 2004):

There is a salient evaluative scale on which  $S''_1$  is ranked lower than  $S'_1$ :



It is less easy to construct a scale on which  $S''_2$  ranks lower than  $S'_2$ . However, a draft dodging context makes available – and salient – a scale on which  $S''_2$  ranks lower than  $S'_2$ :



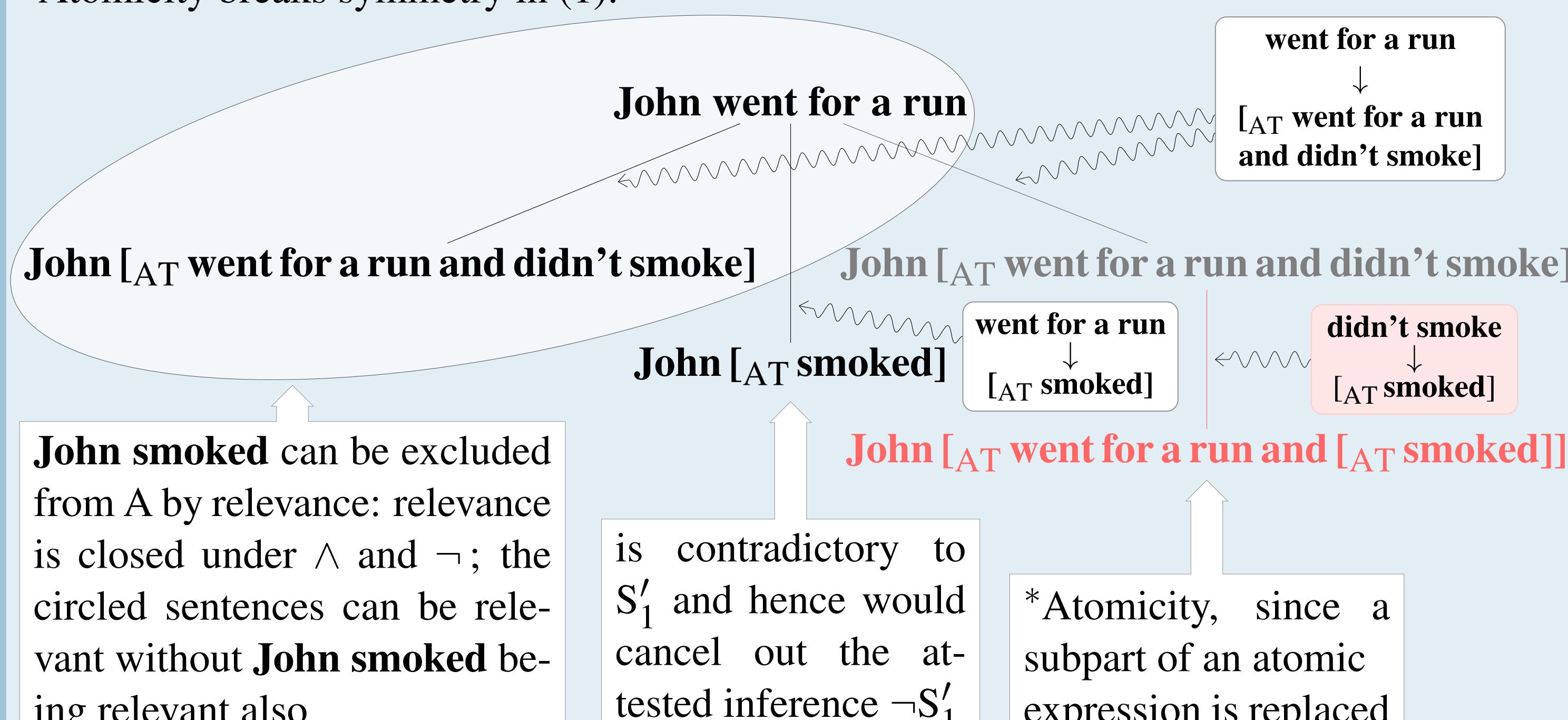
But even this context cannot support the relevant inference for (2):

(6) In the draft for the Korean war, Bill had more luck than John. He passed some of the military fitness tests and failed some, while John (only) passed some of the tests.  
\*Inference:  $\neg[\text{John passed some of the tests and failed some}]$

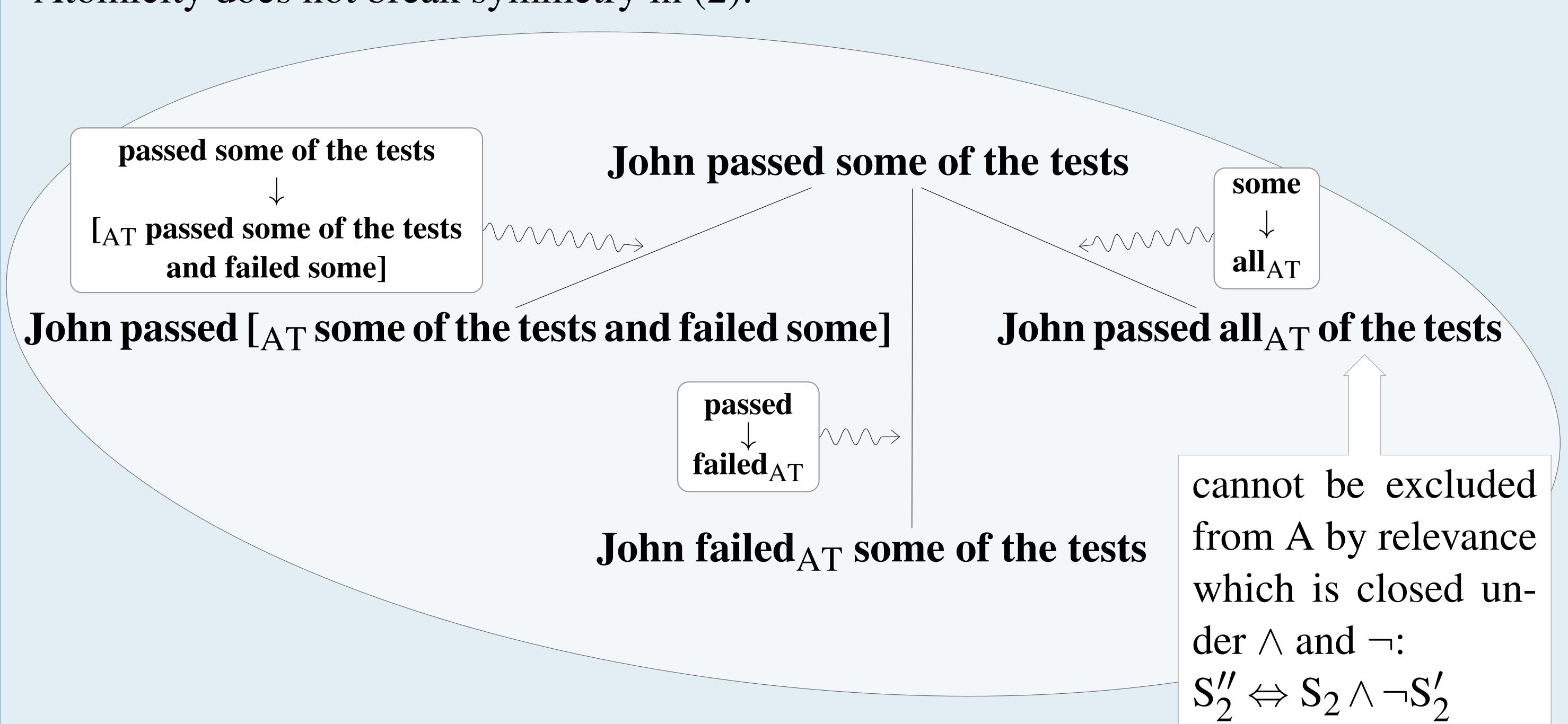
⇒ The pragmatic-scale approach is not tenable. Instead, we propose to impose the constraint in (7) on F&K’s concept of  $F(S)$ .

(7) *Atomicity*: Expressions in the substitution source are syntactically atomic

Atomicity breaks symmetry in (1):



Atomicity does not break symmetry in (2):



References: Fox, Katzir (2011) On the characterization of alternatives. NaLS. Fintel, Heim (1997) Pragmatics in Linguistic Theory. MIT classnotes. Klinedinst (2004) Only scalar only. Handout.