

### Some (in)valid arguments

(1) is a valid argument: whenever the premises are true, the conclusion must also be true.

- (1) i. Every man is mortal.
- ii. Socrates is a man.
- iii. /Therefore Socrates is mortal.

(2) is also a valid argument.

- (2) i. Socrates is smarter than every modern philosopher.
- ii. Frege is a modern philosopher.
- iii. /Therefore Socrates is smarter than Frege.

Intuitively, the arguments are valid because of the relation between ‘universal claims’ using quantificational phrases like *every NP* and ‘particular claims’ where *every NP* is replaced by some individual-denoting expression, but everything else stays the same. If this is right, then it seems like we should be able to find a uniform characterization for the validity arguments like (1) and (2), even though they differ in the syntactic position of the quantificational expression *every NP*.

For example, we might hypothesize that arguments that have the form in (3) are valid, where 1) NP stands for the sister of *every* (the noun plus any modifiers/complements); 2) S is the minimal sentence dominating *every NP*; 3)  $\Delta$  is a constituent whose denotation is of type *e*; and 4)  $S^{[\Delta/very]}$  is the result of replacing *every NP* in S with  $\Delta$ .

- (3) i. [S ... [every NP] ... ]
- ii.  $\Delta$  is a NP.
- iii. /Therefore,  $S^{[\Delta/very]}$ .

**A.** Show that this assumption is incorrect by coming up with an invalid argument (true premises + false conclusion) that has the form in (3).

**B.** Is there a way of refining (3) that still allows us to state the relevant generalization in terms of syntactic representations? What does this suggest about the mapping from syntactic representations to truth conditions?