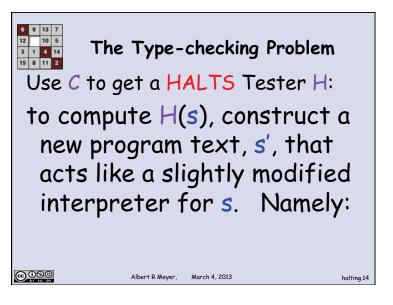


The Type-checking Problem

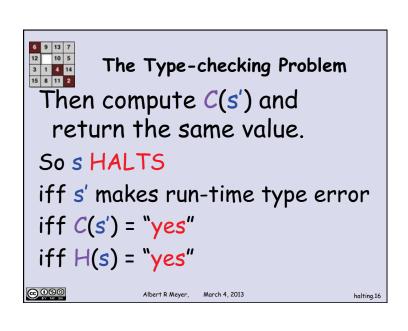
There is no string procedure that type-checks perfectly, because:

Suppose C was a type-checking procedure: for program text s

C(s) returns "yes" if s would cause a run-time type error returns "no" otherwise.



The Type-checking Problem
 s' skips any command that would cause s to make a run-time type error.
 s' purposely makes a type-error when it finds that s HALTS.





The Type-checking Problem

H solves the Halting
Problem, a contradiction.
So C must not error check correctly.

 $\bigcirc 0 \otimes 0$ 

Albert R Meyer,

March 4 2013

halting.18



No run-time properties are decidable

The same reasoning shows that there is no perfect checker for essentially any property of procedure outcomes.

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halting.19

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