

# A CHALLENGE

Valentin Goranko

Consider a well-known/natural/important/interesting logic  $L$  for which no complete axiomatization is known, or it is not known if it is decidable. The challenge is to design a (provably) sound and deduction-complete hybrid deduction system for  $L$ , which will thus provide a decision procedure (if -complete) or will at least provide, in particular, a complete system for deriving all validities of  $L$  (while, possibly refutation-incomplete).

Some candidates for such logics:

Medvedevs logic,

Modal logics of generalized transitivity, i.e.  $K$  + a reduction principle  $\diamond^n p \rightarrow \diamond^m p$ , for different  $n > 2$  and  $m > 1$ .

The basic Ockhamist branching-time logic, etc.