

# Ekman's Paradox and the Quest for an Intensional Theory of Proofs

Peter Schroeder-Heister  
University of Tübingen  
psh@uni-tuebingen.de

## **Abstract**

I plead to give intensional considerations in proof theory, in particular the question of identity of proofs, a stronger stance than it is often given. A crucial aspect is what can be counted as a proper step of proof reduction, as this is what constitutes the identity of proofs. I discuss in particular Ekman's paradox, which is an interesting example of a derivation in intuitionistic propositional logic, which is non-normalizable given a (prima facie) plausible extension of the standard notion of reduction. In spite of its simplicity, Ekman's paradox points at fundamental issues of proof theory and proof-theoretic semantics. (Joint work with Luca Tranchini)