

# Plane trees and higher categories

Ross Street

This is joint work with Michael Batanin on consequences of his construction, in terms of plane trees, of the free strict omega-category on a globular set. The generated monad  $M$  on globular sets shares many of the properties of the word monad on sets. Benabou's construction [Lecture Notes in Math. 1488 (Springer, 1991) pages 28-29] of the algebraic simplicial category (finite ordinals) from the word monad can be copied for  $M$  to yield a globular category which is our main object of study. There is a universal property corresponding to Lawvere's universal property of finite ordinals and there is an alternative description related to Joyal's approach to weak omega-categories.