

- ▶ NICOLA GAMBINO, *Homotopy-initial W-types*.

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Over the past few years, there has been significant progress in developing a dictionary relating type theory and homotopy theory. For example, Martin-Löf's rules for identity types have been shown to be intimately related to Bousfield's notion of a weak factorisation system. One of the most interesting aspects of these advances is that they allow us to use homotopy-theoretic intuition when working within type theory, as demonstrated by the development of Voevodsky's Univalent Foundations programme. I will illustrate this idea by introducing the notion of a homotopy-initial algebra within type theory and showing how it allows us to give a characterization of a weakening of the familiar rules for types of wellfounded trees, or W-types. This is joint work with Steve Awodey and Kristina Sojakova.