1103-18-196 **Michael Shulman*** (`shulman@sandiego.edu`). *Univalent FOLDS.* Preliminary report.

The "equivalence principle" of higher category theory says that "meaningful" statements should be invariant under equivalence. First-Order Logic with Dependent Sorts (FOLDS) was introduced by Makkai as a language for describing higher-categorical structures in which this principle would always be true, because there is no "equality" that can distinguish equivalent structures. More recently, Homotopy Type Theory (HoTT) is a foundation for mathematics based on ∞-groupoids, in which Voevodsky's Univalence Axiom (UA) enforces the equivalence principle for ∞-groupoids by essentially *defining* "equal" to mean "equivalent".

In previous work, by "relativizing" UA, we defined a notion of "univalent" or "saturated" 1-category in HoTT that satisfies the equivalence principle. We now extend this to other higher-categorical structures by defining them a la FOLDS inside HoTT. Any FOLDS-signature comes with a canonical notion of "univalence" for its structures in HoTT, and such "univalent structures" satisfy the equivalence principle. Interesting examples include n-categories, †-categories, and double categories.

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