1103-18-72 **Michael Makkai*** (makkai@math.mcgill.ca), 805 Sherbrooke Street West, Montreal, Quebec H3A 0B9, Canada. *Pseudo-algebraic 2-categories of structured categories.* Preliminary report.

The 2-category of small pretoposes, functors preserving the pretopos operations up to isomorphism, and arbitrary natural transformations is a central example of what I call a pseudo-algebraic 2-category. The latter is defined as the 2-category of models in the 2-category of small categories, of a small finite-pseudo-limit sketch – subject to an important restriction given below –, with 1-cells pseudo-natural transformations, and arbitrary modifications as 2-cells. The restriction, roughly speaking, is the exclusion of specifying two different pairs of 1-cells in the sketch resulting in the same composite. The main result reported on is that a pseudo-algebraic 2-category has an underlying category that is dual-regular, that is, equivalent to the category of regular functors from a small regular category to the category of sets; in particular, the underlying category is accessible and has filtered colimits. The present work uses the author's earlier work on anafunctors and that on generalized sketches. The author wishes to thank John Bourke for his interest in this work, and for alerting the author to the fact that without the restriction mentioned above, the main result mentioned above would be false. (Received August 11, 2014)