1046-18-395   **Michael A. Shulman*** (`shulman@math.uchicago.edu`), University of Chicago, Department of Mathematics, 5734 S. University Ave., Chicago, IL 60637. *Limits, derived functors, and homotopical category theory.*

The correspondence between homotopy theory and higher category theory is now well-known, but some notions in homotopy theory, such as fibrant and cofibrant objects and derived functors, do not translate in an obvious way to category theory. We argue that derived functors are a canonical way to "make a construction categorical enough," such as by replacing functors with pseudofunctors, or sheaves with stacks. This can either be done by modifying the construction itself, or by applying it only to "flexible" objects—which is where cofibrancy comes in. We illustrate by comparing (enriched) homotopy limits to higher-categorical limits. (Received August 30, 2008)