

1056-M5-1015 **Jeff Buechner*** (buechner@rci.rutgers.edu). *Mathematical practice and the philosophy of mathematics*. Preliminary report.

If the philosophy of mathematics had never existed, would contemporary mathematical practice be different from what it now is? I'll argue that it would be quite different in several respects, some of which are hardly controversial, having to do with (i) the developments in set theory that were a reaction to the discovery of the set-theoretic paradoxes and (ii) with the intuitionistic critique of classical mathematics. There are also respects in which it would not be different, and these respects are important, since they underscore a point that philosophers of mathematics need to explain: there are properties, structures and objects in mathematics that are immune to philosophical questioning of the foundations of mathematics. The question is why this is so. I'll attempt an explanation that develops an analogy between natural kind terms in the empirical sciences and mathematical inscriptions, although the analogy breaks down at a certain point, which (I claim) characterizes the difference between the empirical sciences and mathematics. (Received September 19, 2009)