William C Abram (wabram@hillsdale.edu), Dept. of Mathematics and Computer Science, Hillsdale College, Hillsdale, MI 49252-1205, and Jeffrey C Lagarias* (lagarias@umich.edu), Dept. of Mathematics, Univ. of Michigan, 530 Church Street, Ann Arbor, MI 48109-1043. A totally disconnected thread: some p-adic fractals.

Starting from a problem of Erdős, we are led to problems of estimating Hausdorff dimensions of sets arising in 3-adic dynamics. Generalizing the question then led to study of $p$-adic arithmetic operations acting on a class of fractal sets that we call $p$-adic path set fractals. These operations produce many interesting examples. These examples suggest new unsolved problems. The original motivating problem remains unsolved, too. (Received August 30, 2014)