962-11-740 **Jeffrey C. Lagarias*** (jcl@research.att.com), Room C235, AT&T Labs, 180 Park Avenue, Building 103, Florham Park, NJ 07932-0971. *On the Normality of Arithmetical Constants.*

David Bailey and Richard E. Crandall recently formulated a "Hypothesis A" as a general principle to explain the (conjectured) normality of the binary expansion of arithmetical constants like pi and log 2. These constants arise from special values of zeta functions and other functions of polylogarithmic type. We discuss the basic mechanism behind their hypothesis as a relation between single orbits of two dynamical systems. We observe a relation between the class of arithmetical constants they consider and special values of G-functions, and also note an analogy of "Hypothesis A" with Furstenberg's conjecture on measures on [0,1] invariant and ergodic under the joint action of ax (mod 1) and bx (mod 1) for multiplicatively independent integers a and b. (Received September 24, 2000)