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Optimally Topologically Transitive Orbits of the Bernoulli Shift Map.

We present a refinement of the notion of subset density for orbits of a discrete-time dynamical system on a metric space, which we think of as a measure of an orbit's *approach* to density. We consider first a motivating example: the family of rigid rotations $R_\theta : [0, 1) \rightarrow [0, 1)$ ($\theta \in (0, 1)$) defined by $R_\theta(x) = (x + \theta) \bmod 1$. We then explore this notion for Bernoulli shifts on sequences over a finite alphabet, which leads to a connection to (infinite) de Bruijn sequences. (Received September 10, 2013)