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Terrence M Adams* (tma4321@gmail.com). *Dorothy Maharam's "On orbits under ergodic measure preserving transformations"*.

In 1965, the Transactions of the AMS published the article "On orbits under ergodic measure preserving transformations" by Dorothy Maharam. In this paper, Dr. Maharam introduced the notions of D-sequence and E-sequence. She also showed that an E-sequence on the unit interval determines a unique ergodic Lebesgue measure preserving transformation (e.m.p.t.), and that almost every orbit of an e.m.p.t. is an E-sequence. This raises the question of how well we can learn an e.m.p.t., or in statistical terms, a stationary ergodic process from observing its samples. This continues to be a difficult problem with increasing relevance in a number of scientific disciplines. We will give a survey of some recent results in this area while drawing connections to Dr. Maharam's original result. (Received September 11, 2016)