Billiards and approximation

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I will speak on asymptotic properties (topological transitivity, ergodicity, weak-mixing) of billiards in generic polygons and generic smooth domains. Such properties are established by studying asymptotic properties of the billiard in tables of special form (rational polygons or Bunimovich type billiards). One can then deduce asymptotic properties for billiards in tables which are sufficiently well approximable by the special ones.