Gottschalk's surjunctivity conjecture: a survey

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The Gottschalk's surjunctivity conjecture, stated in 1973, suggests that if G is a (discrete, countable) group and A is a finite set with discrete topology, then the shift system A^G admits no proper subshift isomorphic to it. As of time of writing, the conjecture is still open. The main advance belongs to Gromov who established the conjecture for the class of sofic groups G, introduced by him namely for this purpose. (And it is also unknown whether every group is sofic.) We will survey the present state of the conjecture and a number of related concepts and results, up to and including the recent work by Ceccerini-Zilbertstein and Coornaert on expansive group actions on uniform spaces.