Generator functions of Lebesgue spaces by translations

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The main topic of this exposition is the study of the pairs (f, E) where f is a function of $L^p(\mathbb{R})$ and E is a set of translations parameters, such that the E-translates of f span topologically $L^p(\mathbb{R})$. We will discuss open problems related to Wiener's tauberian theorems (case $E = \mathbb{R}$) or more recents developments of the E discrete case. We will discuss connections of the last case with important problems of harmonic analysis (density of exponentials, spectral radius), complex analysis (Paley-Wiener spaces, theorems of Beurling-Malliavin), real variable (quasianalytic classes) and signal processing (frames theory).