Around Riesz products and hypercontractivity

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In 1970 in my thesis, prepared under the supervision of Yves Meyer at Orsay, I gave the hypercontractivity inequalities for the hypercube. At the same period, similar inequalities were found independently by Nelson in the Gaussian case. This type of inequalities has played, and continues to play, a role in many areas, including statistics and learning theory, for instance. I will give some examples and speak in particular of KKL Theorem (Kahn, Kalai, Linial). I will try to give some hint on the notion of influence, inspired by systems of elections, which is involved in the statement of this theorem. I will sketch its proof. I will also speak of Riesz products on the torus and the role they had in my first works as well as in a recent joint work with Latała, Nayar and Tkocz.