1026-52-51 **Imre Bárány*** (barany@renyi.hu), Renyi Institute, PoB 127, Budapest, 1364, Hungary, and **Alfredo Hubard** and **Jerónimo Jesus**. *Slicing convex sets and measures by a hyperplane.*

Convex bodies $K_1 \dots, K_d \subset R^d$ are said to be well separated if $\mathrm{aff}\{x_1, \dots, x_d\}$ is a nondegenerate hyperplane for every $x_1 \in K_1, \dots, x_d \in K_d$. The main result in this talk says that if $K_1 \dots, K_d$ are well separated convex bodies in R^d and $\alpha_1, \dots, \alpha_d \in [0, 1]$, then there exists a unique oriented halfspace, H, such that $|H \cap K_i| = \alpha_i |K_i|$ for every i, where $|K|$ denotes the volume of the convex body K. The result is extended from convex bodies to measures. (Received January 31, 2007)