- Technique for simultaneously displaying row and column data
- Invented by K. Gabriel (see also papers by Gower)

Given data matrix X, write

$$\underset{(n\times p)}{X} = \underset{(n\times p)}{U}\ \underset{(p\times p)}{S}\ \underset{(p\times p)}{V^T}$$

$$\tilde{X}_k = U S^* T$$ (K-dimensional approximation to X)

reduce $\tilde{X}$ to a product

$$\tilde{X} = GH^T$$

where $G = U(S^*)^\alpha$ (row effects) $\quad H^T = (S^*)^{1-\alpha} V^T$ (column effects)

if $\alpha = 1$, PCs are "sphered"