Steps for each component (h)

1) Find scores for $\mathbf{Y}$ ($\mathbf{u_h}$)

2) Use $\mathbf{u_h}$ to find the loadings for $\mathbf{X}$ ($\mathbf{p_h}$)

3) Use $\mathbf{p_h}$ to find scores for $\mathbf{X}$ ($\mathbf{t_h}$)

4) Use $\mathbf{t_h}$ to find $\mathbf{Y}$ loadings ($\mathbf{q_h}$)

5) Use $\mathbf{q_h}$ to calculate $\mathbf{u_h}$

Repeat until get convergence
The scores vectors are related by:

$$\mathbf{u_h} = b_h\mathbf{t_h} \quad (\mathbf{U=TB})$$

This allows us to relate $\mathbf{X}$ and $\mathbf{Y}$:

$$\mathbf{Y = TBQ^t + F}$$

Projection of observation i

Eriksson, et al. <u>Multi- and Megavariate Data Analysis</u> 2006