Our approach builds on Structural EM, the extension of the EM algorithm for learning combinatorial

constructs (Friedman, 1997).

As with all EM-type algorithms, we use an expected value of the likelihood, computed using suffcient statistics, which are collected from the data.

The basic EM theorem states that improving this expected log likelihood implies an increase in the likelihood itself (Dempster *et al.*, 1977).