

16/11/09

PMR: LOCAL MARKOV PROPERTY

$$\begin{aligned}
 p(x_a | \text{rest}) &= \frac{p(x)}{p(\text{rest})} \\
 &= \frac{\prod_c \psi_c(x_c)}{\sum_a \prod_c \psi_c(x_c)}
 \end{aligned}$$

$$= \frac{\prod_{c: c \cap a \neq \emptyset} \psi_c(x_c)}{\sum_{x_a} \prod_{c: c \cap a \neq \emptyset} \psi_c(x_c)}$$

i.e. cancel  
cliques that  
don't contain  $x_a$ .

If  $c \cap a \neq \emptyset$  then it is contained in  $a \cup \partial a$   
so RHS of the equation is a function of  $x_{a \cup \partial a}$ .