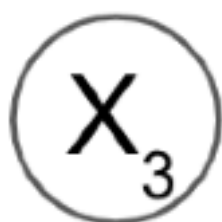


$p(x_1), p(x_2), p(x_3)$



$$p_{1,3,2}(\mathbf{x}) = p(x_1) p(x_3 | x_1) p(x_2 | x_1, x_3)$$



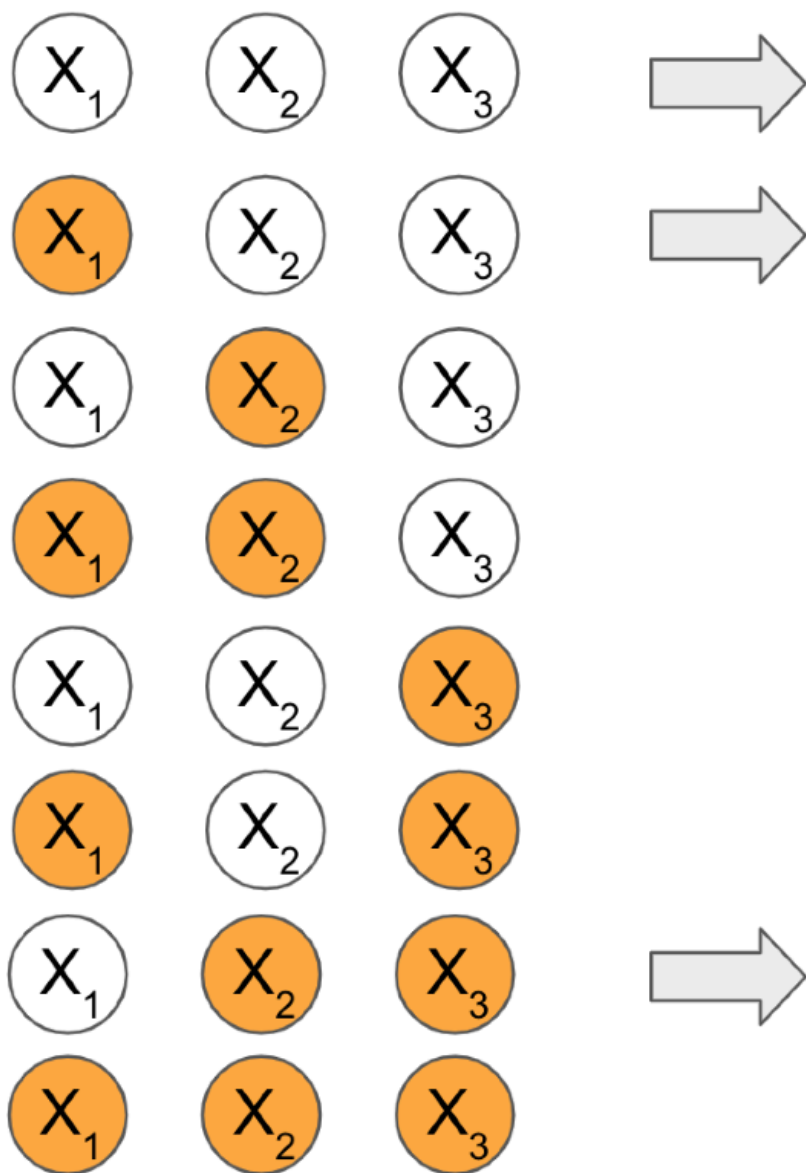
排列组合涂色问题所有问题的因子

# OrderlessNADE (Uria et al, 2013)

Sample an ordering (i.e. 1, 3, 2),  
then sample ancestrally

$$p_{1,3,2}(\mathbf{x}) = p(x_1) p(x_3 | x_1) p(x_2 | x_1, x_3)$$

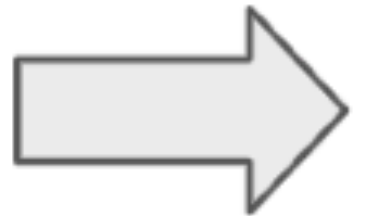
Train all orderings



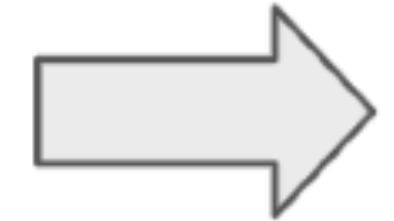
$$p(x_1), p(x_2), p(x_3)$$

$$p(x_3 | x_1), p(x_2 | x_1)$$

$$p(x_2 | x_1, x_3)$$



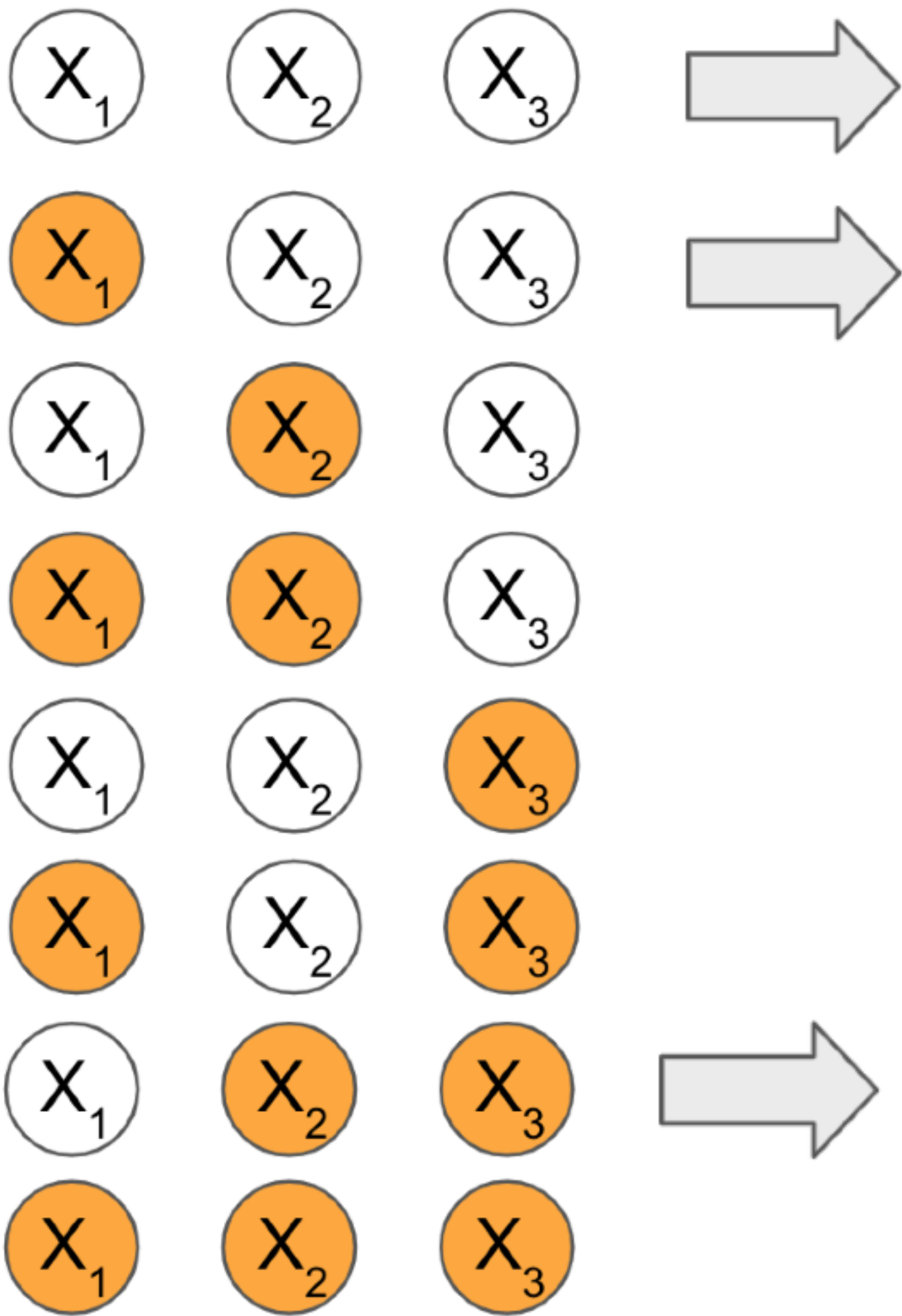
$$p(x_3 | x_1), p(x_2 | x_1)$$



$$p(x_2 | x_1, x_3)$$



排列组合涂白 学到所有 顺序的因子



$$p_{1,3,2}(\mathbf{x}) = p(x_1) p(x_3 | x_1) p(x_2 | x_1, x_3)$$

$$p(x_1), p(x_2), p(x_3)$$

$$p(x_3 | x_1), p(x_2 | x_1)$$

$$p(x_2 | x_1, x_3)$$



# 巴赫的和声对位转换成像素

Soprano

Alto

Tenor

Bass

