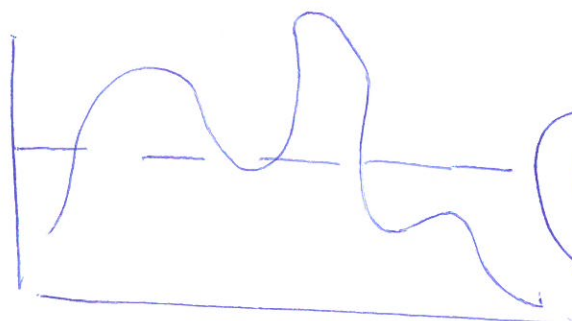
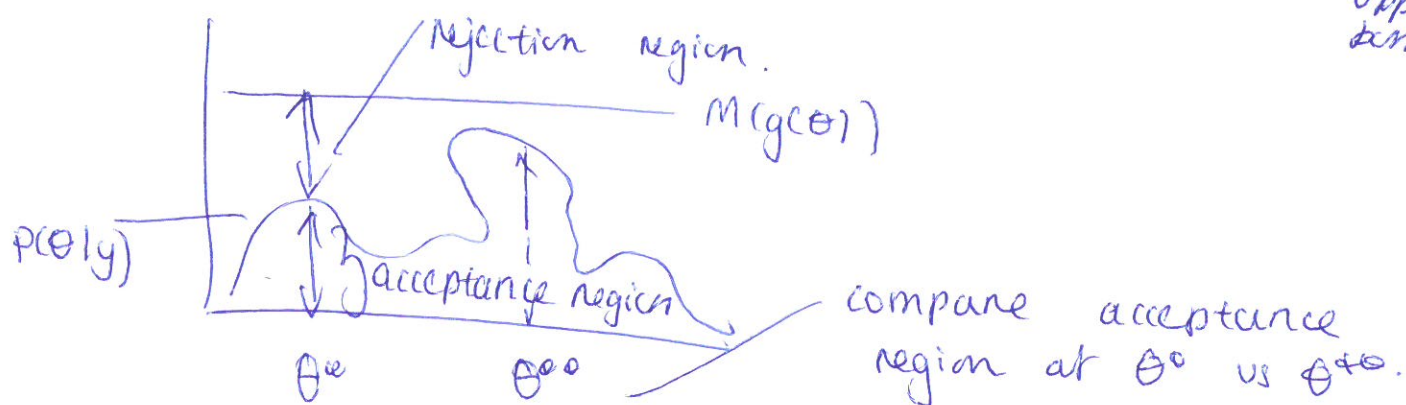


# Whiteboard Notes 15 Aug 2017

## Rejection Sampling

$g(\theta)$ : proposal density

Require  $\frac{p(\theta|y)}{g(\theta)} \leq M$  or in other words  $p(\theta|y) \leq \underbrace{Mg(\theta)}_{\text{upper bound}}$



$Mg(\theta)$

what will go wrong here on the rejection sampling algorithm?

Exercise (3) - logit model - rejection sampling.

Target density

$$p(\alpha, \beta | y) \propto p(\alpha) p(\beta) p(y | \alpha, \beta)$$

$$= t_4(0, 1^2) \times t_4(0, 1^2) \times \prod_{j=1}^{10} \text{invlogit}(\alpha + \beta x_j)^{y_j} \times (1 - \text{invlogit}(\alpha + \beta x_j))^{1-y_j}$$

$$\text{invlogit}(\alpha + \beta x_j) = \frac{e^{\alpha + \beta x_j}}{1 + e^{\alpha + \beta x_j}}$$