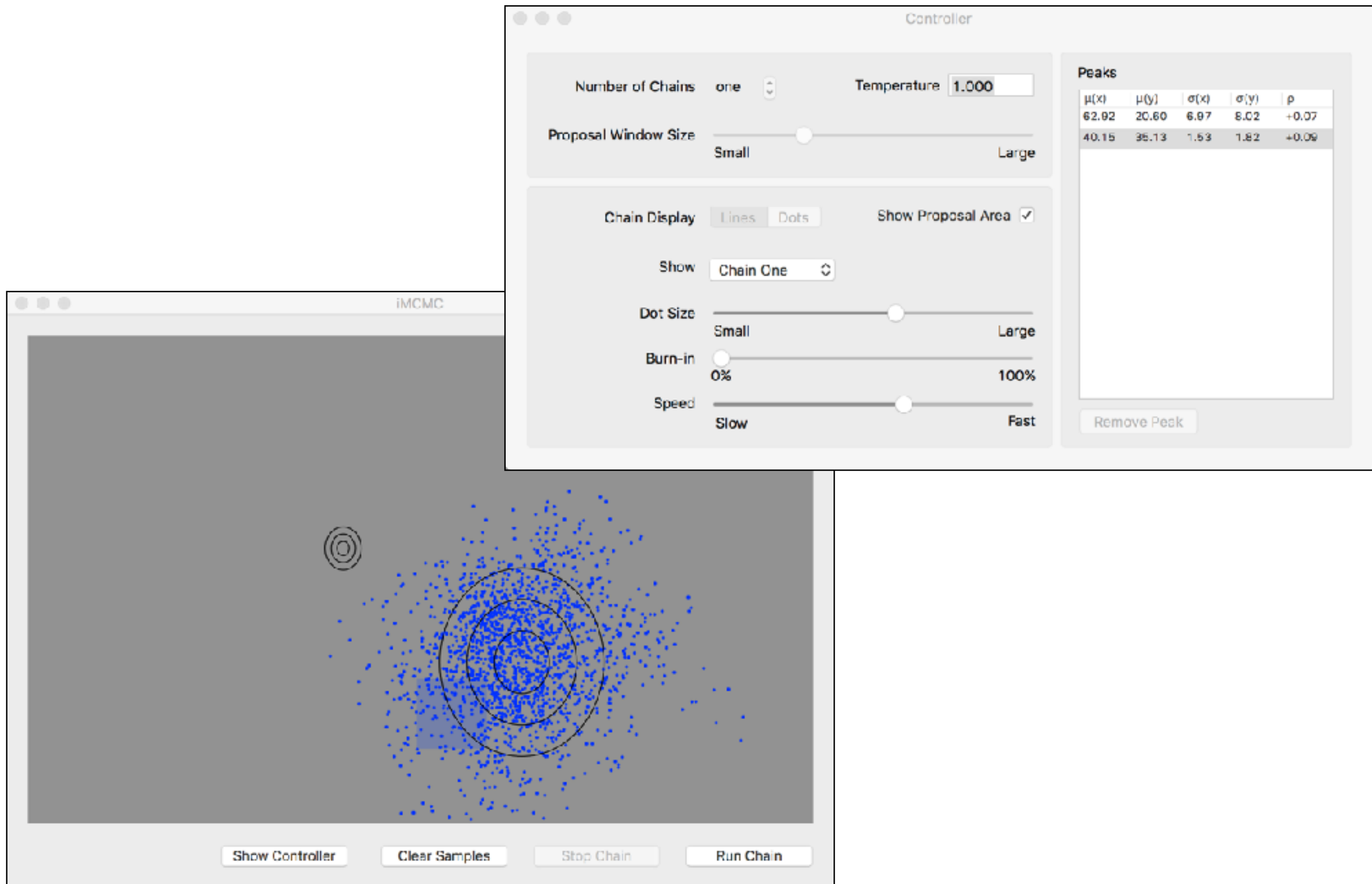


# Review of MCMC

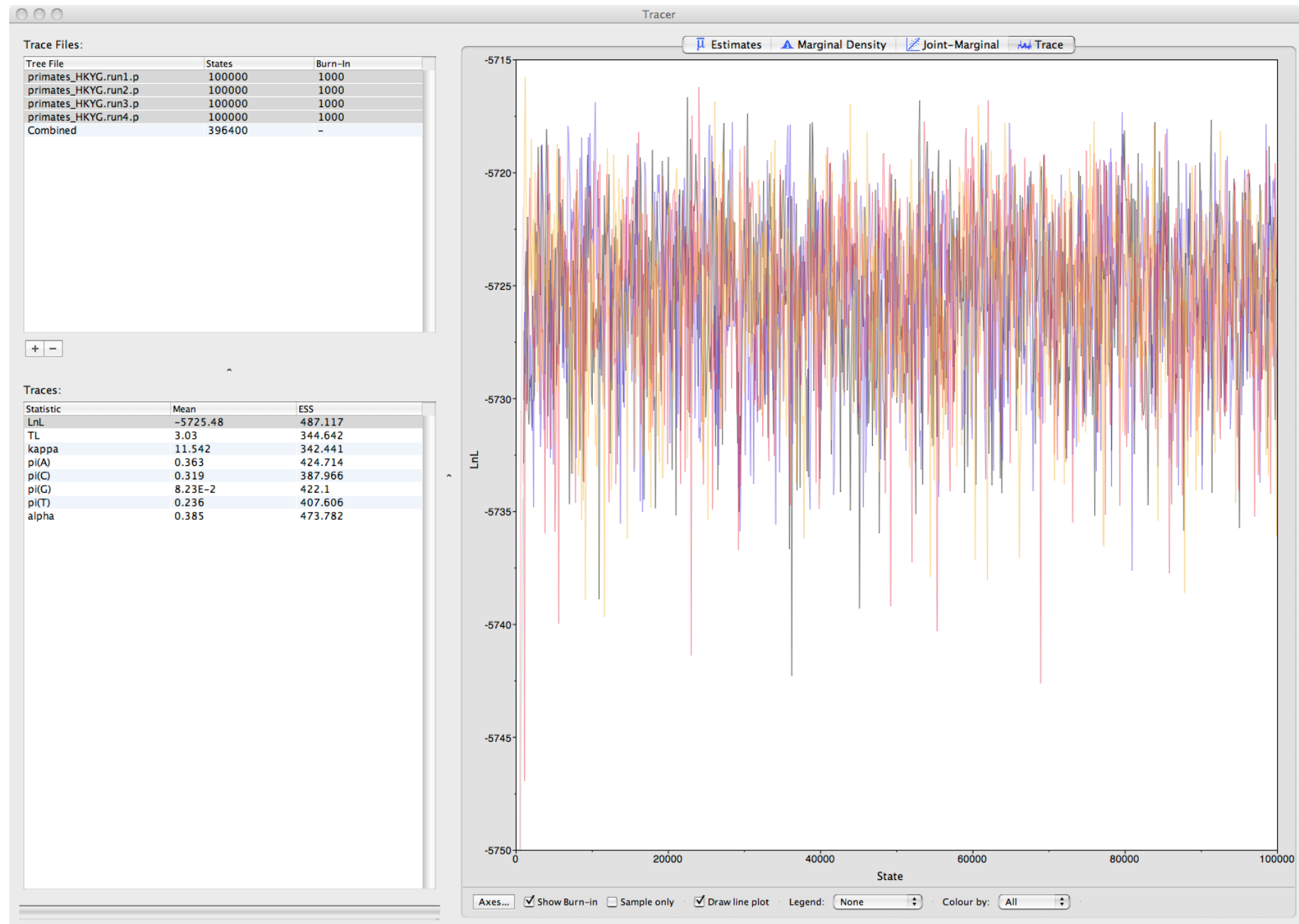
What happens when you change...

- The size of the proposal distribution
- The number of generations
- The burn-in

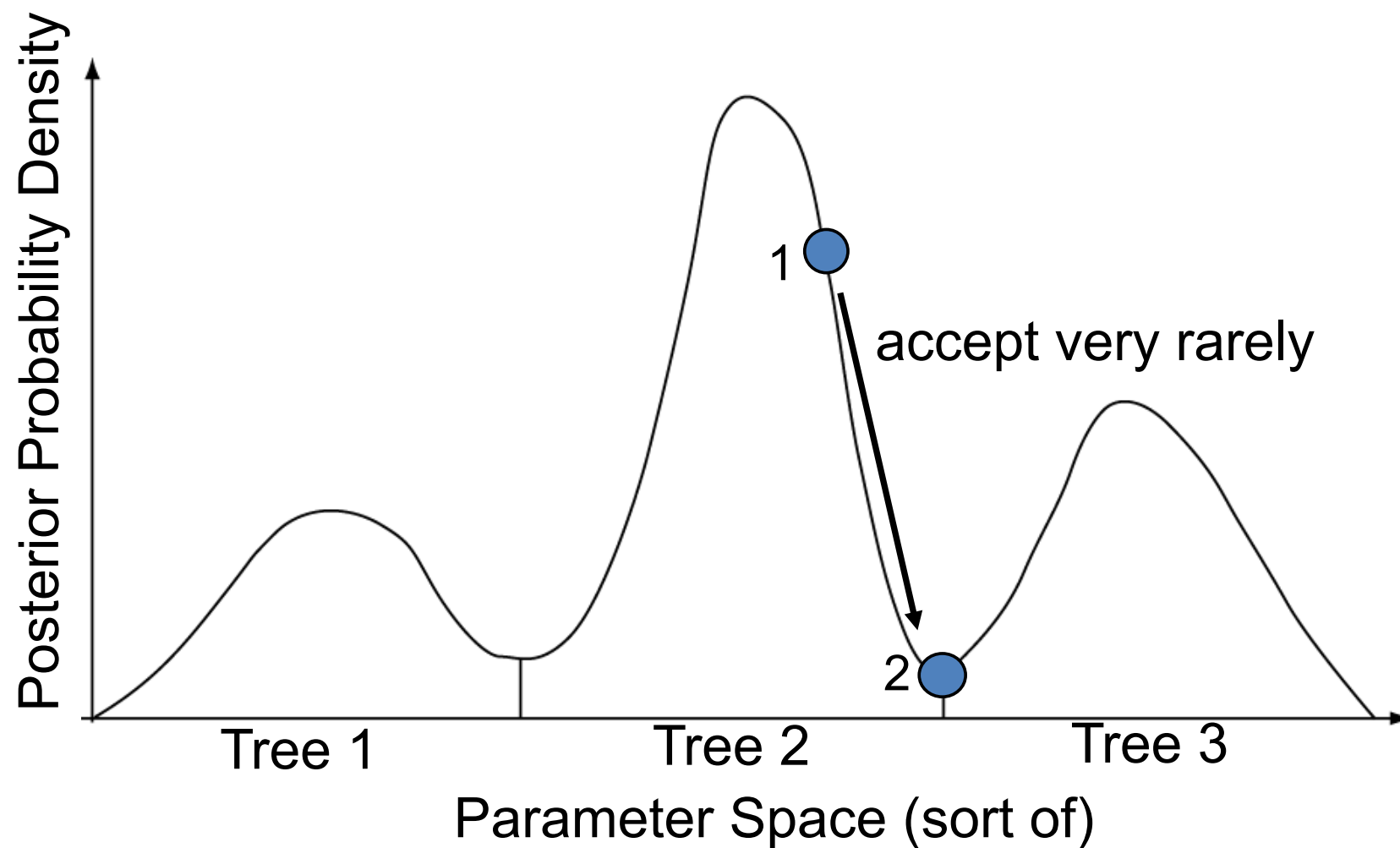
# iMCMC



# Convergence of Scalars - Tracer



# Metropolis Coupling

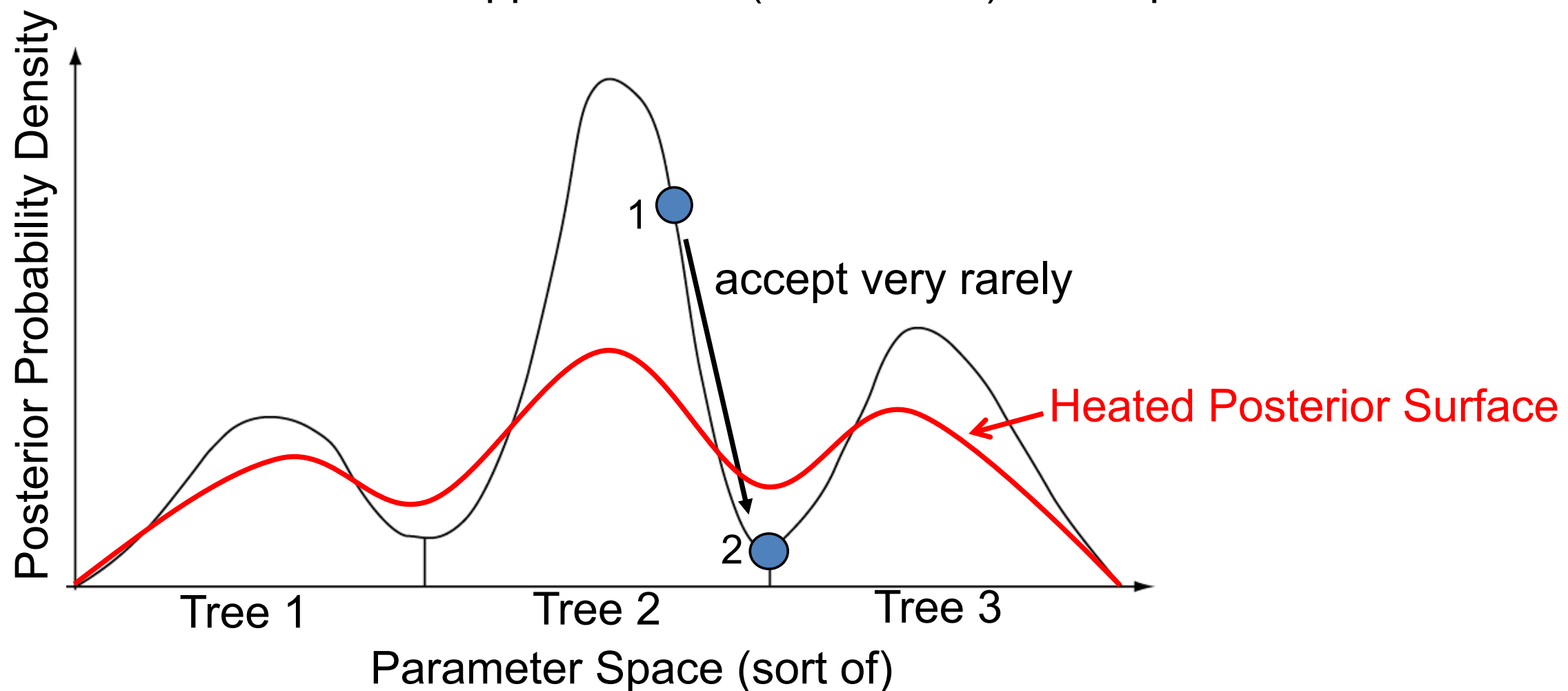


*This slide “borrowed” from F. Ronquist*

# Metropolis Coupling

- Same rules as regular MCMC, but now there are multiple chains with different ‘temperatures’.
- ‘Heated’ chains sample a ‘melted’ version of the posterior
- Only difference is that heated chains raise the ratio of posterior densities to  $(1-\text{temp})$  when deciding whether to accept a move.

$r^{(1-\text{temp})}$  approaches 1 (flat surface) as temp. increases

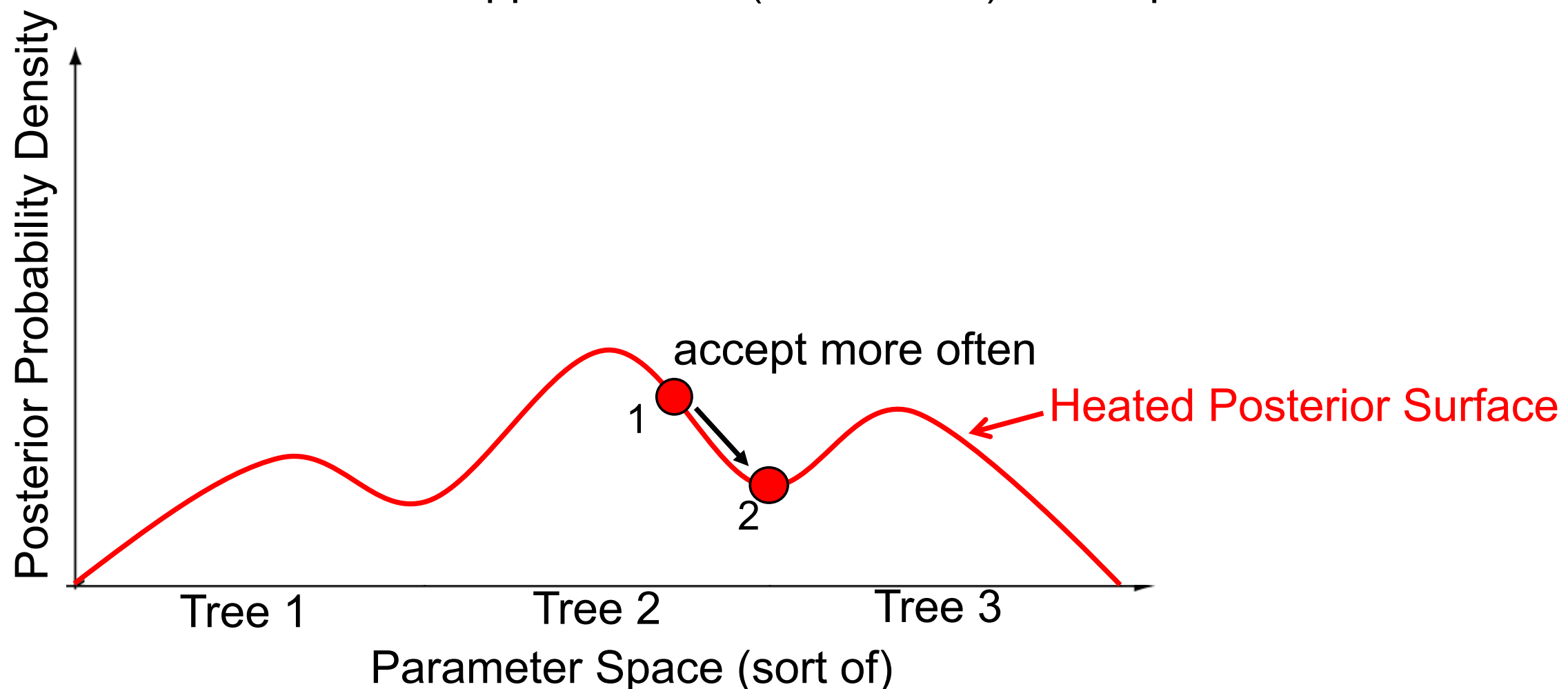


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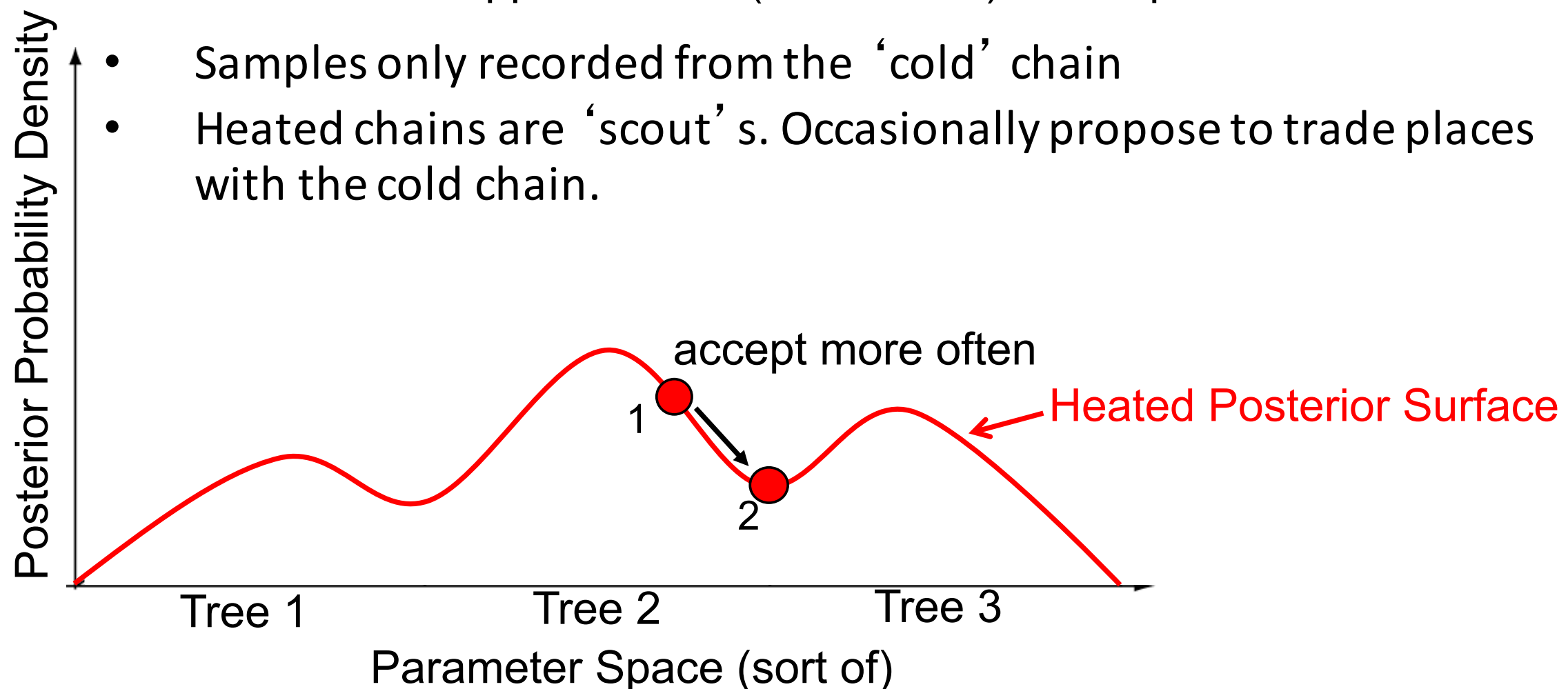
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- Samples only recorded from the ‘cold’ chain
- Heated chains are ‘scout’ s. Occasionally propose to trade places with the cold chain.



*This slide “borrowed” from F. Ronquist*