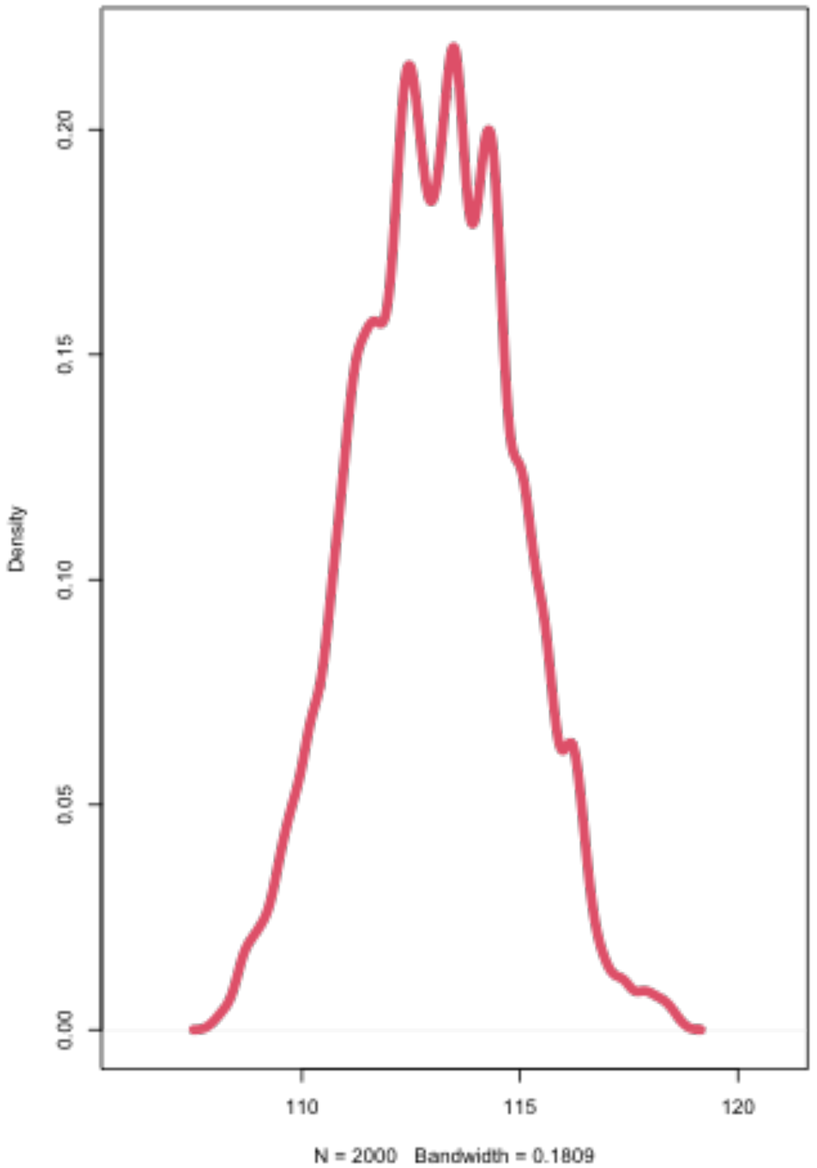
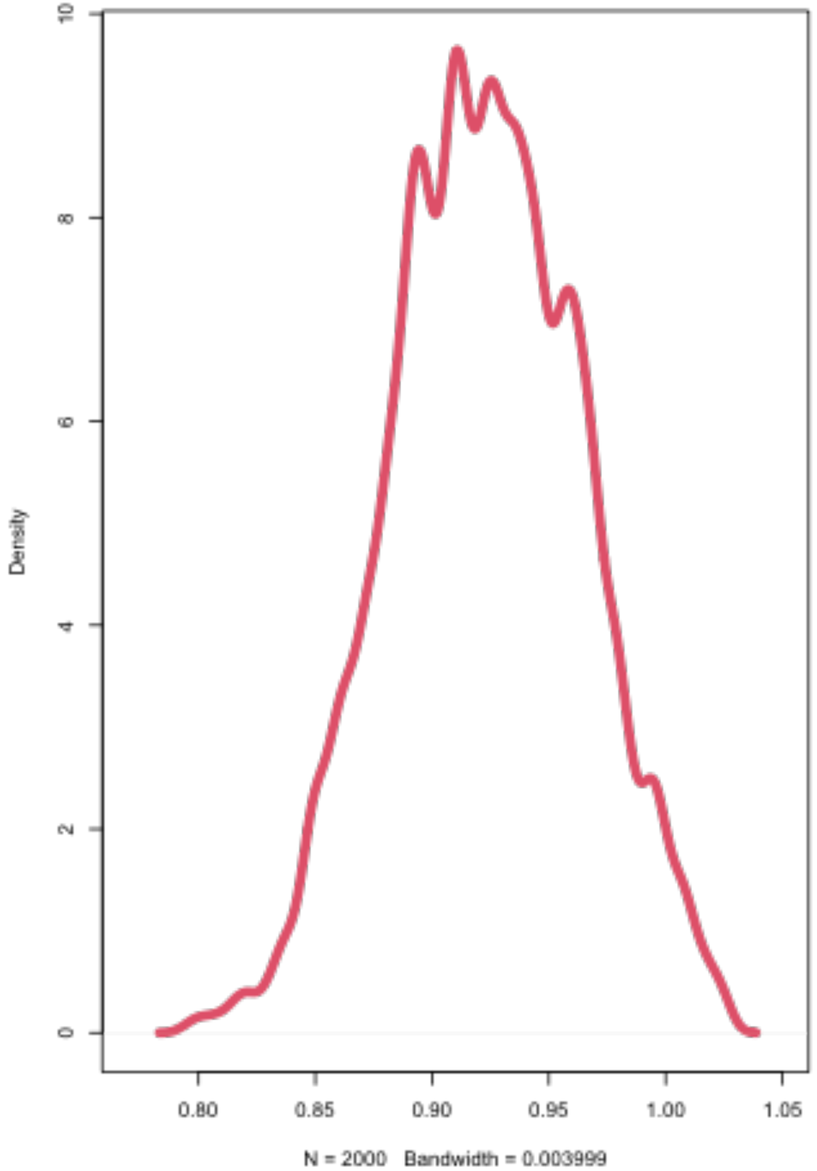
THE POSTERIOR PARAMETER DISTRIBUTION

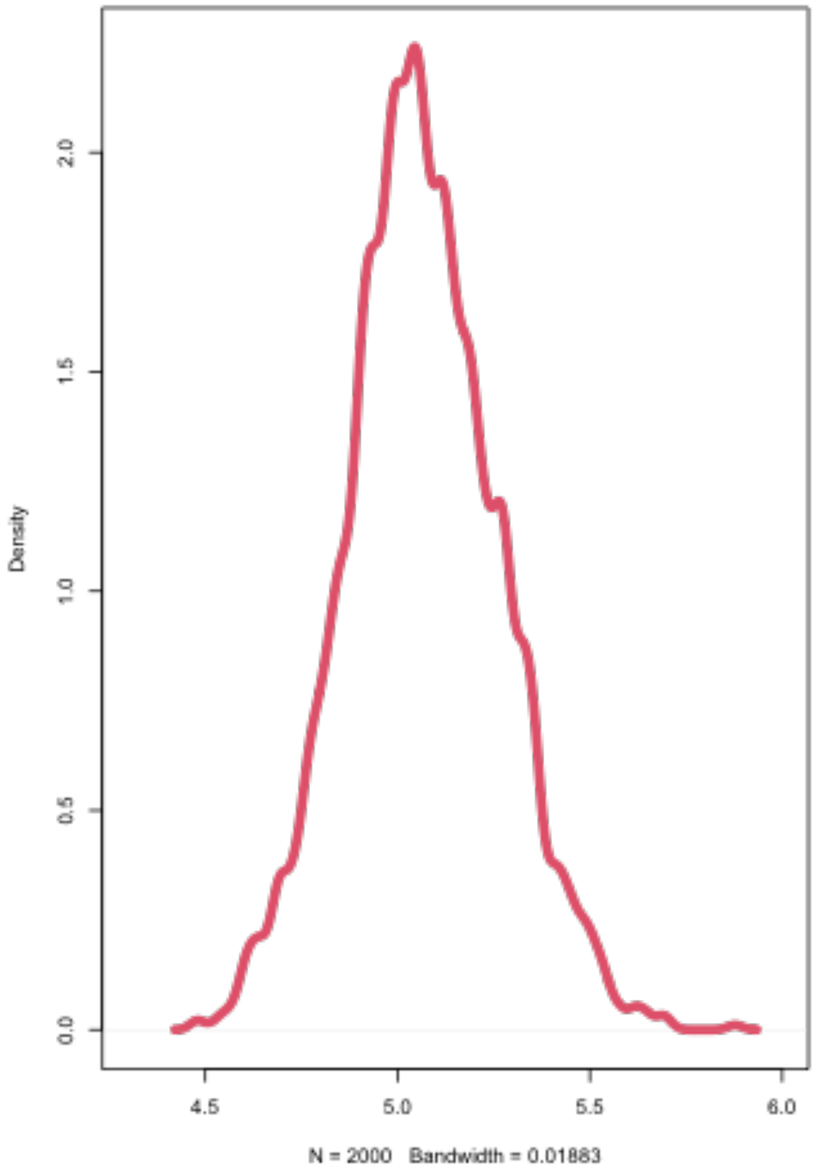
a


Density
0.00
0.05
0.10
0.15
0.20
110
115
120
N = 2000 Bandwidth = 0.1809

b


Density
0
2
4
6
8
10
0.80
0.85
0.90
0.95
1.00
1.05
N = 2000 Bandwidth = 0.003999

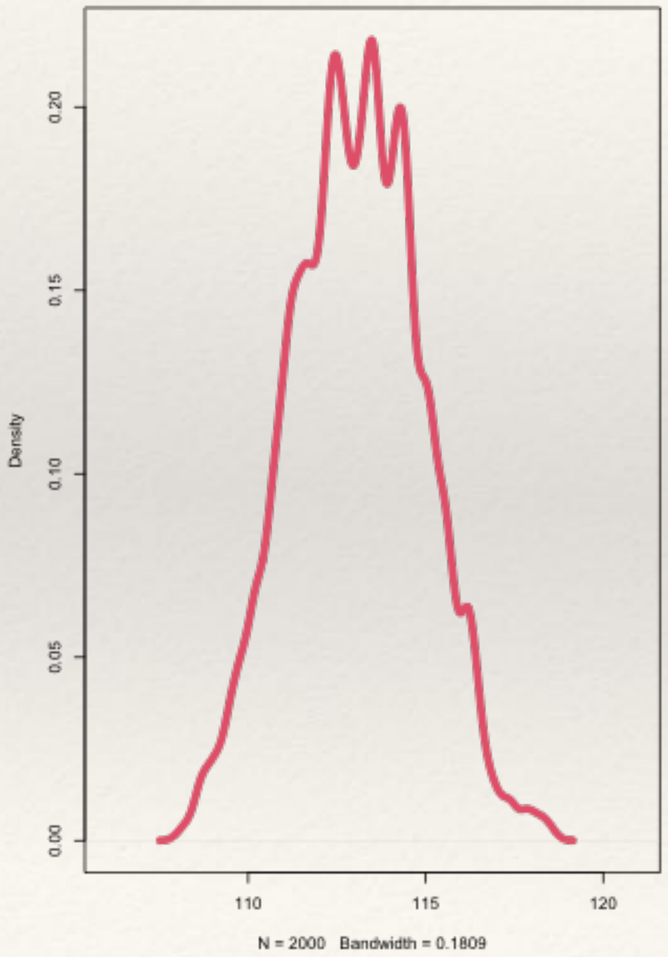
sigma


Density
0.0
0.5
1.0
1.5
2.0
4.5
5.0
5.5
6.0
N = 2000 Bandwidth = 0.01883

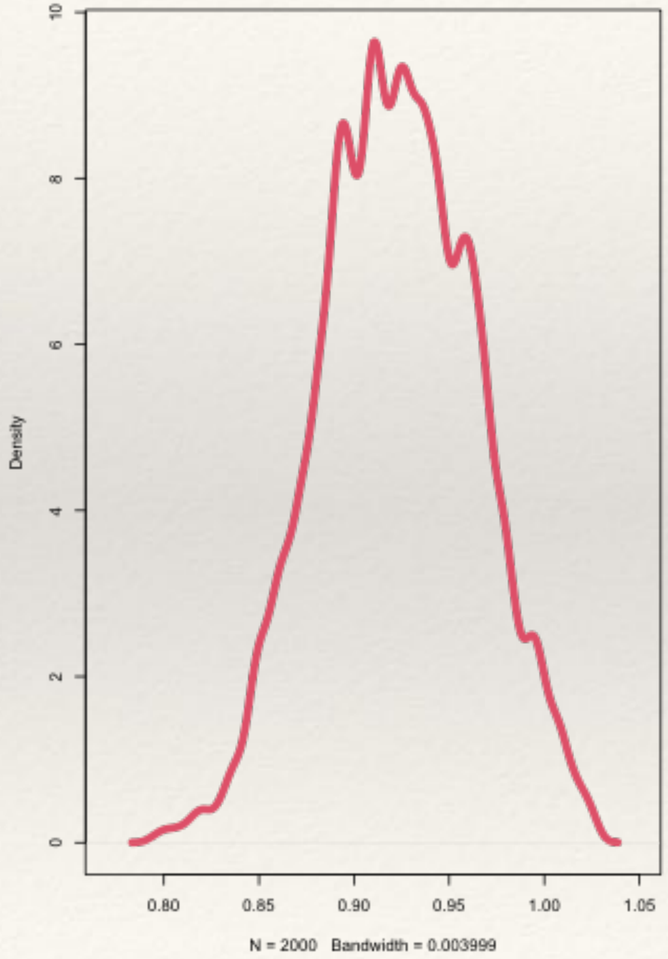
```
> samples
# A tibble: 2,000 × 3
          a           b     sigma
  <dbl[1d]> <dbl[1d]> <dbl[1d]>
 1      115.     0.889      4.78
 2      109.     1.02       5.30
 3      112.     0.928      5.07
 4      111.     0.949      5.30
 5      111.     0.955      5.04
 6      115.     0.872      5.19
 7      109.     1.01       5.13
 8      117.     0.844      5.00
 9      115.     0.882      4.94
10      112.     0.939      4.95
# … with 1,990 more rows
```

THE POSTERIOR PARAMETER DISTRIBUTION

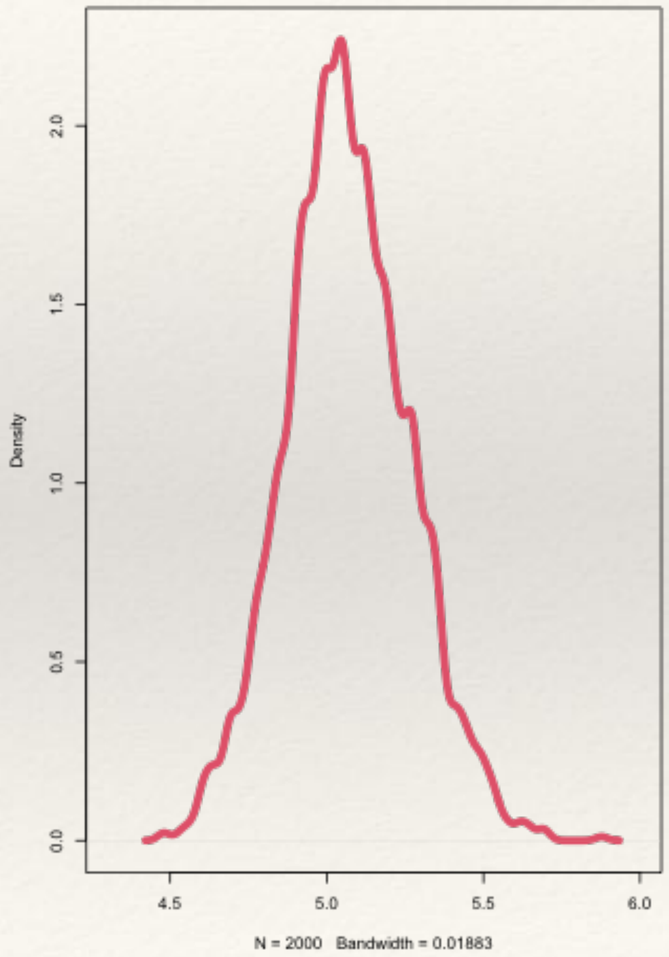
a



b



sigma




```
> samples
# A tibble: 2,000 × 3
       a     b sigma
   <dbl> <dbl> <dbl>
 1  115. 0.889  4.78
 2  109. 1.02   5.30
 3  112. 0.928  5.07
 4  111. 0.949  5.30
 5  111. 0.955  5.04
 6  115. 0.872  5.19
 7  109. 1.01   5.13
 8  117. 0.844  5.00
 9  115. 0.882  4.94
10  112. 0.939  4.95
# … with 1,990 more rows
```

CATEGORIAL PREDICTORS AND CONTRASTS

We can also use categorical predictors to estimate per-group averages.

- K_i: caloric content of milk in several monkey groups
- $CLADE$: categorical variable for the monkey groups

$$
\begin{aligned}
K_i &\sim Normal(\mu_i, \sigma) \\
\mu_i &= \alpha_{CLADE[i]} \\
\alpha_i &\sim Normal(0, 0.5) \\
\sigma &\sim Exponential(1)
\end{aligned}
$$