

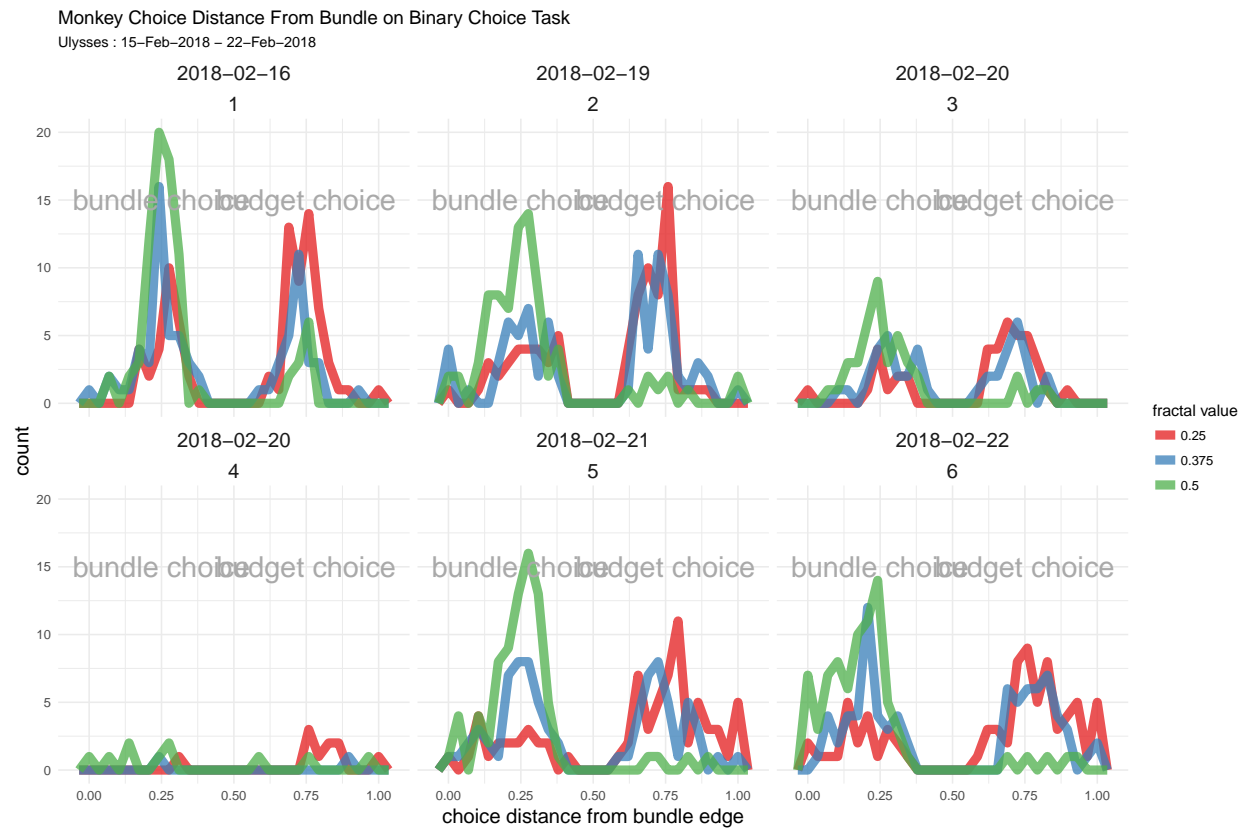
# Binary Choice Analysis

*Robert Hickman*

*22 February 2018*

```
monkey <- "Ulysses"  
today <- "22-Feb-2018"  
look_back <- "15-Feb-2018"
```

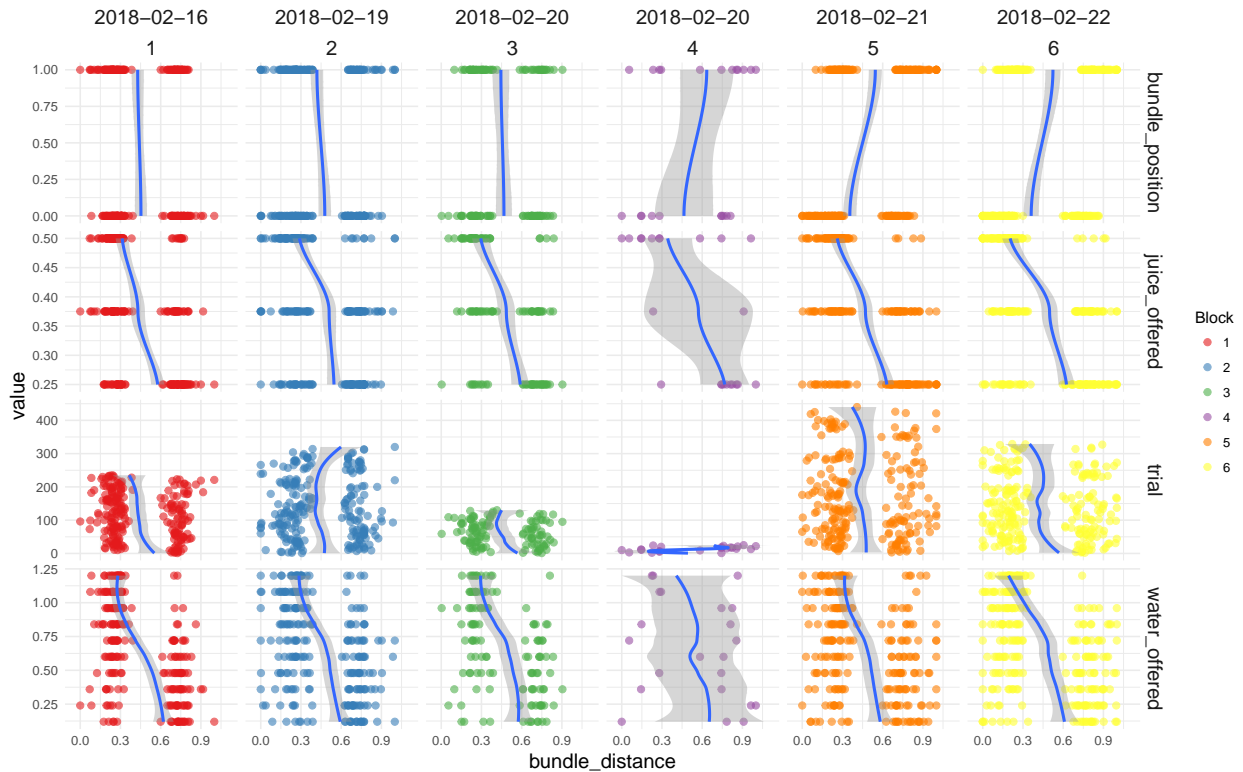
p1



p2

# Monkey Choice Distance From Bundle on Binary Choice Task

Ulysses : 15-Feb-2018 – 22-Feb-2018



*#generate a model of likelihood to choice for the fractal dependent on it's position,  
#value and associated water*

```
model <- glm(data = task_data,
             fractal_choice ~ bundle_position + water_offered + juice_offered + trial + date,
             family = "binomial")
```

*#summarise the parameters*

```
summary(model)
```

```
##
## Call:
## glm(formula = fractal_choice ~ bundle_position + water_offered +
##     juice_offered + trial + date, family = "binomial", data = task_data)
##
## Deviance Residuals:
##      Min       1Q   Median       3Q      Max
## -3.5852  -0.5284   0.1480   0.5704   2.9650
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)   9.180e+02  7.291e+02  1.259  0.208014
## bundle_position -2.060e-01  1.755e-01 -1.174  0.240436
## water_offered   5.229e+00  3.551e-01 14.726 < 2e-16 ***
## juice_offered   1.795e+01  1.179e+00 15.220 < 2e-16 ***
## trial          3.184e-03  9.339e-04  3.409  0.000651 ***
## date          -5.278e-02  4.147e-02 -1.272  0.203205
## ---
```

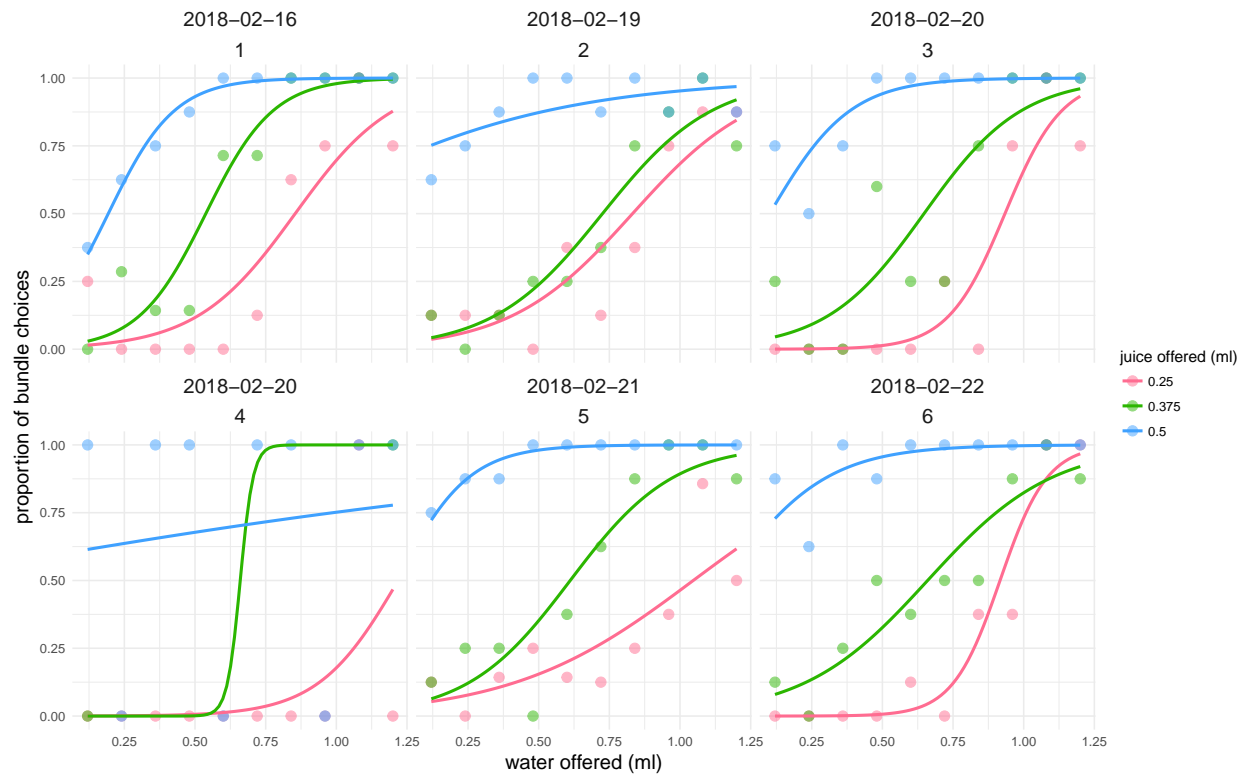
```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##    Null deviance: 1484.25  on 1090  degrees of freedom
## Residual deviance:  820.09  on 1085  degrees of freedom
##    (422 observations deleted due to missingness)
## AIC: 832.09
##
## Number of Fisher Scoring iterations: 6
```

p3



p4

Monkey Bundle Choice Binoimial Curves  
 Ulysses : 15-Feb-2018 – 22-Feb-2018



p5

## Today's Monkey Bundle Choice Binoimial Curves

Ulysses : 22-Feb-2018

