

# Complex Choice

Nikolos Gurney



John Miller

How do adaptive agents,  
i. e. people, accomplish  
complex choices?



# Rugged Landscapes Metaphor

- Introduced [in biology] by Wright in 1932
  - Used to visualize the fitness value of interacting genetic traits
  - Fitness = height on a landscape
  - Evolution moves toward higher ground
- Ruggedness of landscape is key: More rugged implies more complexity
- Search is on a foggy landscape: No overall map, only local information
- General result: More complex landscapes are more difficult to search




# The Experiment

# Interface

- Two tunable dials
  - A-X settings on each
- Can query the system for each setting's payoff
  - Must query at least once
  - No limit on number of queries
- Full search history is always available
- Final query is submitted as landscape choice

Choice #1 of 9.




Evaluate Dial Settings

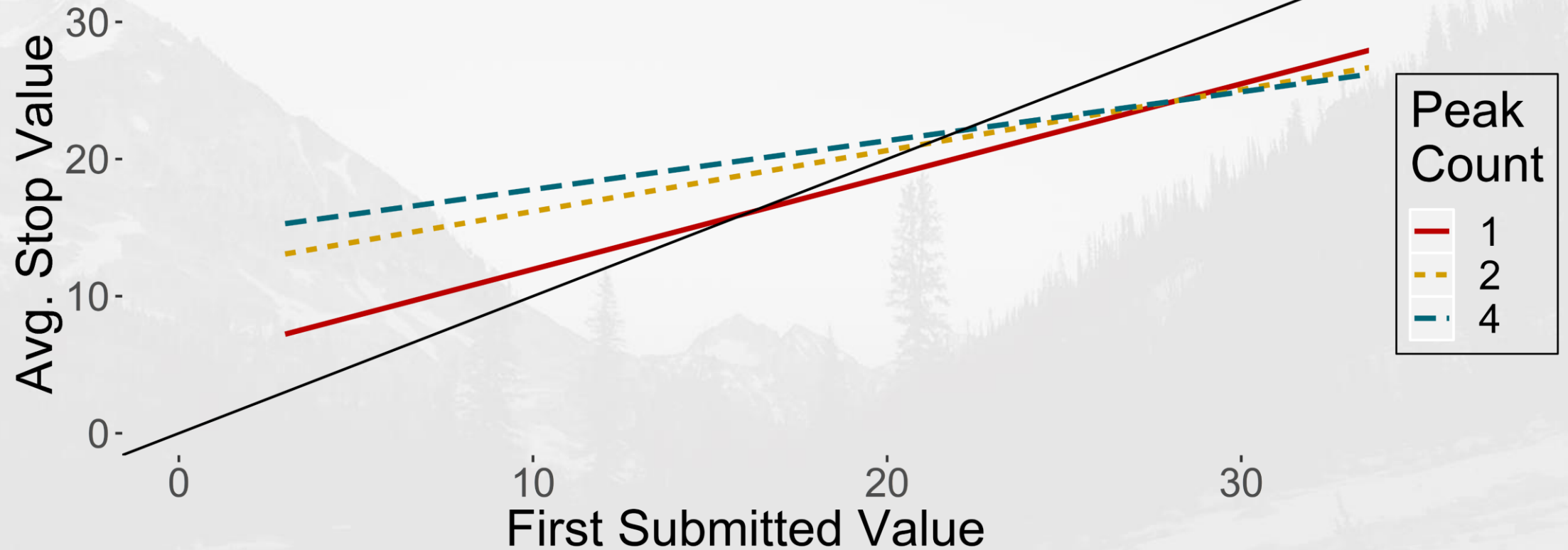
The current setting has a value of 15 lottery tickets and a possible bonus of 15 cents.

Your setting history is:  
AF 15

# Experimental Results

The background of the slide is a faded, grayscale image of a mountainous landscape. It features several mountain peaks, some with patches of snow or light-colored rock. The slopes are covered with dense evergreen forests. The overall scene is misty or overcast, giving it a soft, atmospheric quality. The text 'Experimental Results' is centered over this background.

# Participants Anchor on Their First Submitted Value



# Landscape and Exploration Predict Participants' Anchors







# Thanks!

Nikolos Gurney



John Miller

