

Modelling Handedness as a Function of Cooperation and Competition

Or: How I Learned to Bow Down to My Left-Handed Overlords

Meridith Bartley John Ensley

Department of Statistics
The Pennsylvania State University

STAT 590 Presentation, December 4, 2014

Outline

Introduction

History of Handedness

Building the Model

Comparing Model to Baseball Data

Another Subsection

History of Handedness

- ▶ 10% of population is left-handed.
- ▶ Why hasn't this percentage reached equilibrium in populations at either:
 - ▶ 50%-50% between left and right-handedness
 - ▶ 100% either left or right handed
 - ▶ Some other handedness ratio
- ▶ This paper proposes that hand preference may be influenced by costs and benefits of cooperation and competition during human evolution.

Building the Model

Block Title

You can also highlight sections of your presentation in a block, with it's own title

Theorem

There are separate environments for theorems, examples, definitions and proofs.

Example

Here is an example of an example block.

Video

Using Athletics Data

Ideally

Want to compare predicted equilibria of eq (1) to animal population data where cooperation is present.

- Quantification of cooperation and available data very depending on task

Proxy Situation

Within athletics, data on handedness and cooperation are readily available.

Baseball Rank Equation

$$l_r = \frac{1}{2} \frac{l_{bg} N \operatorname{erfc}(\hat{s}_r - \Delta \hat{s})}{r}$$

Visualizations

Summary

- ▶ The **first main message** of your talk in one or two lines.
- ▶ The **second main message** of your talk in one or two lines.
- ▶ Perhaps a **third message**, but not more than that.
- ▶ Outlook
 - ▶ Something you haven't solved.
 - ▶ Something else you haven't solved.

For Further Reading I



A. Author.

Handbook of Everything.

Some Press, 1990.



S. Someone.

On this and that.

Journal of This and That, 2(1):50–100, 2000.