

# Real-world human locomotion as a platform for cumulative and societally impactful computational cognitive science

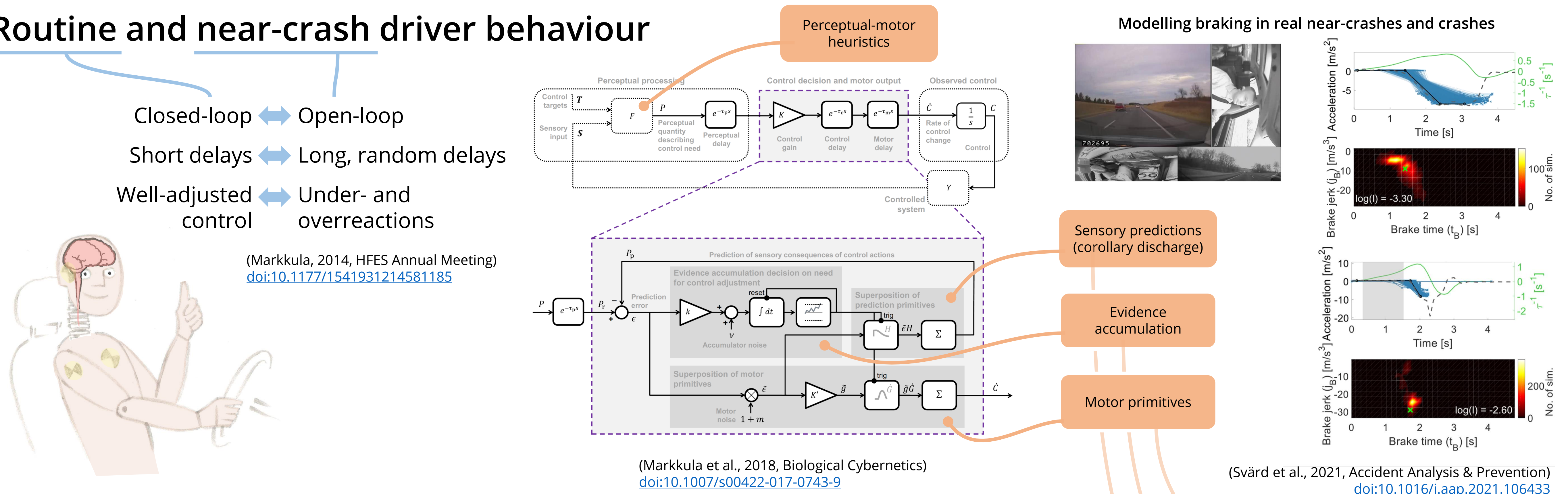
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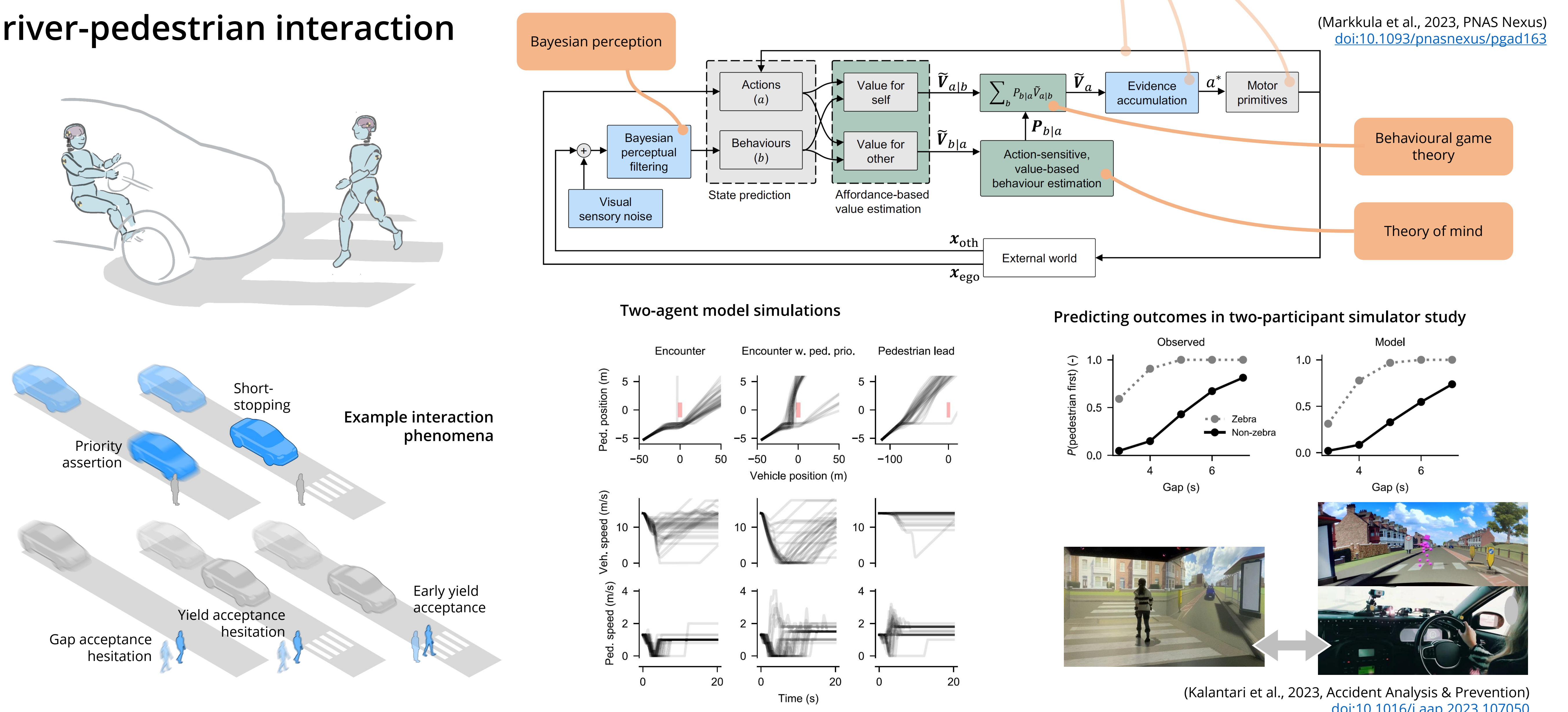
## Background

- Recurring calls for **cumulative theory-building** in psychological/cognitive sciences
  - One suggested approach: model **real-world human behaviour** → requires **integration of theory**
  - Most applied human behaviour modelling is **ad hoc engineering models** or **black box machine-learning**
- Here: **Integration of computational cognitive theory** to model human driving/walking

## Routine and near-crash driver behaviour



## Driver-pedestrian interaction



## Outlook

- Real-world locomotion is a **microcosm of human cognition** → good platform for **integrating models**
- In general many **benefits** of developing **applied human behaviour models** based on **fundamental theory**

**Applied researchers** get models that can be:

- Explained and understood
- Used to guide interventions
- Extended as fundamental science progresses

**Fundamental researchers** get:

- Cumulative theory-building
- Real-world impact of their models
- Ideas/steer on research directions

