

Play, inventions, and adaptability

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Background

Biologists debate about the evolutionary function of play:

- **F1:** Expending surplus energy.
- **F2:** Practising for typical behaviours.
- **F3:** Developing adaptive flexibility.

Whether **F3** is the evolutionary explanation of play or a by-product, play seems to be linked with adaptability.

- **Cognition:** Play may foster a more adaptable brain and a more flexible mind.
- **Behaviour:** Playful behaviours may constitute a reservoir of adaptive variability, promoting inventions in changing environments.

Challenges

- Lack of empirical data linking play, inventions, and adaptability.
- No consensus on the definition of invention and no consistency in the vocabulary, hindering data correlation.



Photograph: Alecia Carter

Does play develop adaptive inventiveness?

Objective

Investigate the link between play, inventiveness, and adaptability

Conceptual goals

- **G1.** Operational definition of invention.
- **G2.** Typology of play activities across species & Hypotheses on their link with adaptability.

Empirical goals

Case study : wild chacma baboons

- **G3.** Repertoire of inventive behaviours exhibited during play.
- **G4.** Experiment testing the link between playful inventiveness and adaptability.



Photograph: Alecia Carter

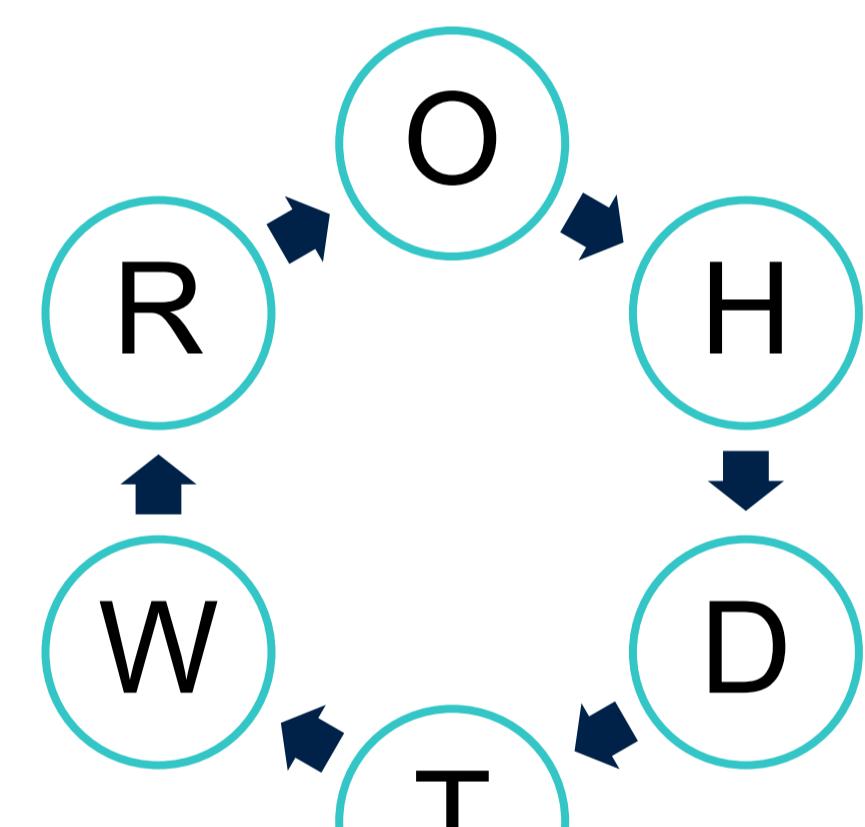
Methodology

Cross-disciplinarity

(1) Theory (G1-G2).

Philosophical methodology:

- Reading [R]
- Organising the data [O]
- Formulate hypotheses [H]
- Discussing with colleagues [D]
- Thinking [T]
- Writing [W]



(2) Observation (G3)

- Analysis of the existing data base (TBP)
- Data collection
 - Focal animal sampling
 - *Ad libitum* sampling of inventions during play
- Report



(3) Experimentation (G4)

- Stage 1
 - Presenting baboons with a new “toy”
 - Data collection
- Stage 2
 - Foraging task involving the “toy”
 - Data collection
- Interpretation

Expected results

- Foundations for cross-disciplinary research on invention and play in non-human animals.
- Insights into the adaptive value of play across species.
- New data on play in chacma baboons.
- Empirical data linking play, inventions, and adaptability.

REFERENCES

