

Social learning

Social learning

Examples

The collage contains four images: a chimpanzee sitting and eating, two birds on a beach, a spider on a surface, and a fly on a green surface.

Social learning

Different approaches

- **Biology:** why and when is socially acquired information used by animals? What are the adaptive benefits?
- **Psychology:** what goes on in the brain if an animal copies the behavior of another?

Social learning

Definition of social learning

- **Biology:** Learning something by observing a conspecific that would be learned more slowly if by itself
- **Psychology:** matching the behavior of a demonstrator in order to achieve what the demonstrator achieved (?) → this is now called **Imitation**

Social learning - mechanisms

Definitions

- **Mimicry, contagion, response facilitation:** a social stimulus serves as releaser for a fixed behavior → no learning
- **Social facilitation:** presence or activity of another animal serve to increase motivation or activity level → improved individual trial-and-error learning
- **Local/stimulus enhancement:** attention is directed towards a place/object that another animal is interacting with → improved individual learning

Social learning - mechanisms

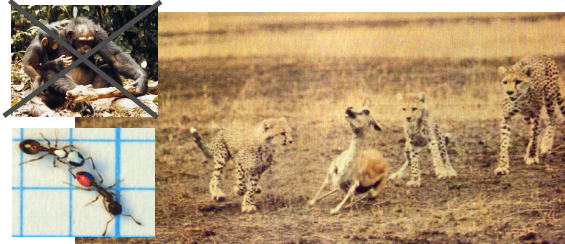
Definitions

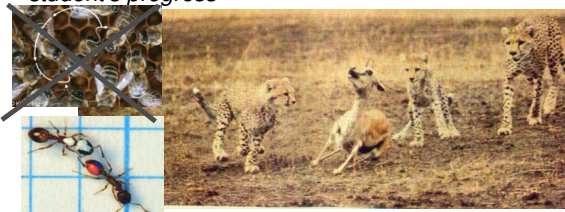
- **Imprinting:** a case of response facilitation in which the form of the releaser is learnt (without reward)
- **Observational conditioning:** just observing a stimulus paired with food, even if the food is not obtained, may lead to associative learning
- **Stimulus matching:** a desired result is observed and then the mechanism matched
- **Imitation:** matching the behavior of a demonstrator in order to achieve what the demonstrator achieved

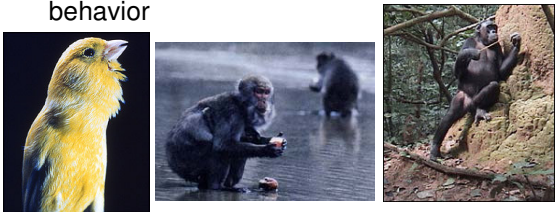
Social learning - mechanisms	
Mechanism	Example
Response facilitation	Reaction to alarm pheromone or other signal
Social facilitation	Increased activity around active conspecifics
Local/stimulus enhancement	Attention focus on object in possession of conspecific
Observational conditioning	Viewing termite extraction from mound
Stimulus matching	Learning bird song
Imitation	?

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Social learning - evolution
<p>When to use social information</p> <ul style="list-style-type: none"> In all of the previous cases is some sort of social information used Giraldeau et al.: bird flocks – scroungers & producers: frequency dependent strategies Costs and benefits vary: social information useful if own acquisition costly and scrounging is often successful

Social learning
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<p>Teaching</p> <p>Definition: display of costly behavior with the sole function of enabling student learning while also modifying behavior dependent on student's progress</p> 

Social learning
<p>Culture</p> <ul style="list-style-type: none"> Definition: socially transmitted behavior across generations Creates population differences in behavior 

Teaching and Culture:

Although both imply social transfer of information, 'imitation' need not be involved

Open questions

- When is socially acquired information used by receivers?
- When will demonstrators tolerate/support this?
- What goes on in the brain if an animal copies the behavior of another?
- What is the function of 'culture'?