Tool use

Definitions and their problems

Definitions of learning, social learning, etc.

Discussion can be endless – what to do?
• Maybe there is no good definition
• Concentrate on the phenomenon
• Decide what your question is: mechanism, evol. function, ecol. consequences
• Be careful not to imply a mechanism if the mechanism is not known

Tool use

and what it means (?)

video 1
video 2
### Tool use in birds

- Chimpanzees: several different tool use traditions
- Other primates & apes
- Birds: crows, ravens, woodpecker finches, green herons, keas, egyptian vultures...
- Insects? Ants?

### Tool use in other animals

- Mechanism: could be innate, learned by trial & error, socially acquired (by copying or just stimulus facilitation etc.), or strategy arrived at by ‘insight’ (= ‘causal reasoning’) – or a combination
- Ecological/evolutionary consequences:
  - complex food extraction skills; if learned, adaptability to new niches; fine motor skills become more important; evolution of large brains?

### Examples

- Chimpanzees: several different tool use traditions
- Other primates & apes
- Birds: crows, ravens, woodpecker finches, green herons, keas, egyptian vultures...
- Insects? Ants?

### Summary

- Clearly some cases of tool use that are likely innate, evolved strategies
- Clearly some tool use that is learnt & improved with experience
- Some tool use is learnt better in the presence of demonstrators
- Tool use can cause differences in foraging methods (and success?) between groups
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<th>Questions</th>
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<td><strong>Tool use</strong></td>
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<td>• Is this different from associative learning?</td>
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<td>• Does a tool-using animal 'understand' why the tool works?</td>
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<td>• What would it mean if only parrots and primates were capable of such 'insight'?</td>
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<td>• Does using materials/objects to achieve a goal enable animals to conquer more niches?</td>
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