

ANBI 159: Biological and cultural perspectives on intelligence

Lecture 2: Making sense of differences & data

Speaking of intelligence ... On Monday 2/16 I am scheduled to lecture on ontogeny & epigenesis. It will be lonely; that's Presidents' Day. I will try to trim the week's content to fit into 2 lectures (reading stays the same)

<http://weber.ucsd.edu/~jmoore/courses/>

MODULE I: Concepts

To study intelligence, need to ...

- *observe behavior* (that's what is "intelligent", or not...)
- *formally analyze observations* (otherwise, it's just arguing about opinions)

How do we interpret behavior?

**Descartes (17<sup>th</sup> cent.):** Dualism, mind and body separate, mind sets us apart from animals, which have no mental experience - just machines driven by instinct.

**Darwin (1860s):** Humans evolved; if physical continuity, what about mental?

**George Romanes:** Compiled anecdotes about animals behaving "intelligently" - *Animal Intelligence* (1882).

So, some anecdotes...



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We saw ravens, elephants and mongooses "being intelligent". But do you think they were?

How about one without a narrator?



How about this?



## How do we interpret behavior?

William of Occam's Razor (mediaeval philosopher): make **no more assumptions than necessary** (*parsimony*).

C. Lloyd Morgan's Canon (1898): Animal behavior interpreted in terms of lowest possible psychological mechanism.

Edward Thorndike (1898) *Animal Intelligence: An experimental study of the associative process in animals*

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**The previous history of the animal in question is not known** -- Don't know how behavior was acquired.