Does the study of animal behavior have anything to say about human behavior?

“In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history.”

Charles Darwin, *The Origin of Species*, 1859

Humans vs. Other Animals

What is similar?

What is different?

Sociobiology

coined in 1975 by E.O. Wilson

= the study of the biological basis of social behavior

E.O. Wilson

Most of the book was about social behavior in non-human animals. Chapter 27 about humans.

Quotes from *Sociobiology: The New Synthesis* (1975), mainly Chapter 27

“The organism is only DNA's way of making more DNA.”

“Artistic impulses are by no means limited to man... Music of a kind is also produced by animals...”

“Deception and hypocrisy are neither absolute evils that virtuous men suppress to a minimum level nor residual animal traits waiting to be erased by further human evolution. They are very human devices for conducting the complex daily business of social life.”

“The spread of genes has always been of paramount importance [as a motivation for human warfare]...” [quoting Moses in Numbers 31 in Old Testament:] “Now kill every male dependent, and kill every woman who has had intercourse with a man, but spare for yourselves every woman among them who has not had intercourse.”

Wilson's remarks polarized academic community. Inspiration to some, villain to others.

Spoke to packed houses, but picketed by people holding signs bearing swastikas.

Given rousing ovations, but had pitcher of ice water dumped on him at a scientific meeting.
"The enduring paradox of religion is that so much of its substance is demonstrably false, yet it remains a force in all societies. Men would rather believe than know."

E.O. Wilson:
- Raised as a Baptist and taught to believe in creationism as a child
- Considers atheism unprovable and agnosticism a ‘copout’
- Defines himself as a provision deist
- Proposes that religious belief is an adaptation
- Has turned life’s work to biological diversity

The essence of humanity’s spiritual dilemma is that we evolved genetically to accept one truth and discovered another. — E.O. Wilson

Sociobiology

Adopts an evolutionary perspective

Relies upon a comparative approach to account for social behavior in ALL animal species, including humans

Reciprocity in Primates

Cotton-top tamarins give food preferentially to those who give to them

Procedure:
1. Train ‘actor’ tamarin to always pull food toward companion (= cooperator)
2. Train another ‘actor’ to never pull food toward companion (= defector)
3. Pair test monkey with one of above types.
4. Test monkey later given opportunity to pull food towards one or other companion.
Reciprocity in Humans

Reciprocity is an important component of non-human primate social interactions. And a huge force in human society.

Humans exercise a special kind of reciprocity, termed indirect reciprocity.

Indirect reciprocity

Indirect reciprocity involves observers of acts of altruism and cooperation, and a system of ‘image scoring’ that builds reputations.

Favors are paid to someone in relation to their reputation.

No known examples of indirect reciprocity in non-human animals, perhaps because it requires sophisticated cognitive abilities.

But in 2007, a report of generalized reciprocity in rats.

Indirect reciprocity can also account for the occurrence of… spite!

Spite has not been documented in non-human animals, but is fairly common in humans.
**Evolutionary Psychology**

Emerged in early 90's

= the study of the adaptive nature of human behavior

Adopts a functional perspective on human behavior:

Assumes that natural selection has molded human behavior and seeks to define how.

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**Functional approach to human mating behavior**

Human females receptive for a short time. Hence, operational sex ratio is heavily male biased.

Expect:

- keen male-male competition
- strong degree of female choice
- but due to paternal care, also strong degree of male choice

And... males and females should give different weight to different kinds of choices.

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**Prediction**

Both sexes will give weight to 'good looks' and good care-giving. BUT...

Females will give more weight to partners who provide good care-giving (males with wealth, experience, status).

Males will give more weight to partners who are young (and fertile) and have 'good looks' which indicate 'good genes' for health and child-bearing.

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**Sex Differences in Jealousy in Humans**

For men: female's sexual infidelity risks parental investment in another male's offspring.

For women: male's emotional involvement with another woman risks lost parental resources.

Expect evolved sex difference in jealous mind:

- male should respond primarily to cues of sexual infidelity.
- female should respond primarily to cues of extra-pair emotional involvement.

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"Individuals will sometimes attack opponents likely to defeat and inflict costs on them, simply in order to gain reputation benefits."

-- Johnstone & Bshary 2003
In humans, cultural evolution is far more important than in other animals.

Cultural Evolution
A process of non-genetic change caused by social learning (esp. teaching and imitation).

Similarity to Biological Evolution:
Cultural evolution often leads to behavior of high fitness, because people generally learn to do what benefits them to do.

Evidence:
The phenomenally rapid increase in human population size in historical times is due to cultural evolution.

Differences from Biological Evolution:
1. Cultural evolution can occur rapidly, within a generation.
   e.g., ‘cougars’ (= older women of high status who prefer young men) is a recent culturally-evolved role reversal that coincides with women being allowed to achieve wealth and status.

2. Cultural evolution prone to arbitrary or even maladaptive traits that arise, spread and usually vanish. (= fads).
   e.g., the Shakers, an American religious sect in 1800’s that banned sex and eventually went extinct.

"The most terrifying fact about the universe is not that it is hostile but that it is indifferent, but if we can come to terms with this indifference, then our existence as a species can have genuine meaning. However vast the darkness, we must supply our own light."

-- Stanley Kubrick

Scene from 2001: A Space Odyssey