

ECOLOGY & ETHOLOGY

INTRODUCTION

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Animal Behavior -- Ethology

From the Greek: Ethos (character) and logia (the study of).



Ethology: Definition

- Study of animal behavior in their natural environment.
- Ethology is biological study of animal behavior.



Behavior is the response of an animal to environmental stimuli

The study of behavior is called **ethology**

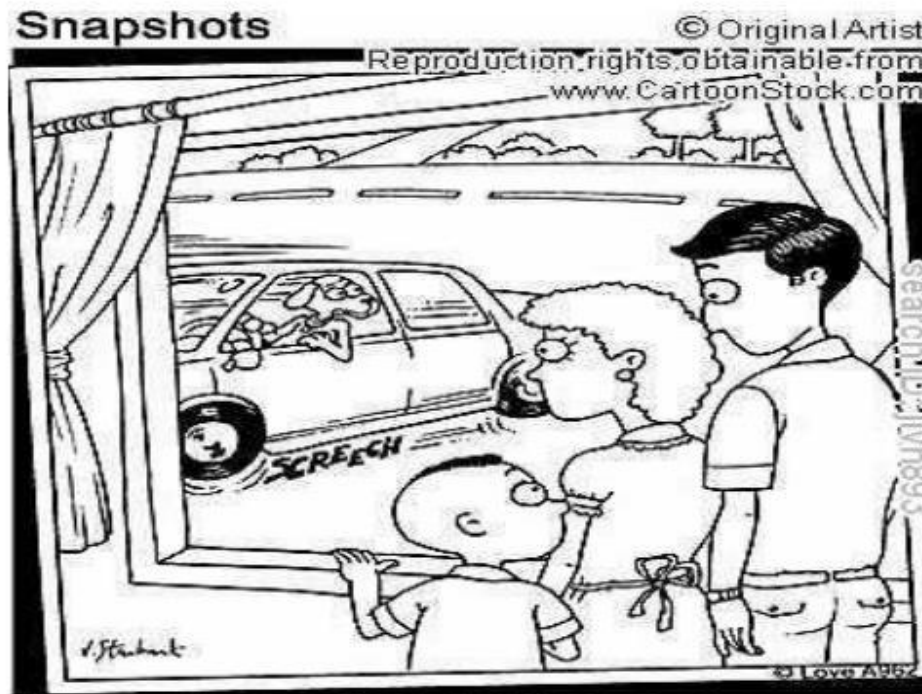


► Branches of ethology

- Ecoethology
- Behavioral physiology
 - Neuroethology
 - Ethoendocrinology
- Ethogenetics
- Human ethology
- Sociobiology
- Bioacoustics

ANIMAL BEHAVIOR

**Behavior...anything an animal does
in response to a stimulus**



They say that animal behavior can warn us about impending danger.

WHAT IS BEHAVIOR?

- A response to a stimulus
 - Stimulus – a signal

WHY BEHAVE?

- Behavior is *adaptive*, because it helps an organism survive and reproduce.
- Behavior *maintains* homeostasis, which helps the organisms support the conditions it needs to live.

Functions of Behaviour

Behaviour patterns are usually adaptive. They help the animal survive and/or reproduce.

Examples of Behaviours based on function.

1. Territorial
2. Aggressive
3. Submissive
4. Reproductive
5. Appetitive

MAJOR TYPES OF ANIMAL BEHAVIOR

- Sexual
- Maternal
- Communicative
- Social
- Feeding
- Eliminative
- Shelter-Seeking
- Investigative
- Allelomimetic-contagious behavior

TYPES OF BEHAVIORS

- *Innate Behavior*

- A behavior with which the organism is born

- *Learned Behavior*

- A change in behavior due to experience

INNATE VS LEARNED BEHAVIOR

Innate Behaviors	Learned Behaviors
Inborn behavior Genetically Based	Based on Experience
Not modified by the individual	Modified by the individual by trial and error
Generally uniform Low variation in population	High variation in population
Unaffected by the environment	Highly affected by the environment
Beneficial behavior Survival and reproduction	Capacity to learn may be product of natural selection

INNATE VS LEARNED BEHAVIOR

Innate Behavior

Examples:

- Suckling in newborns
- Migration
- Hunting instincts



Learned Behaviors

Examples:

- Language acquisition
- Social Skills
- Domesticated behavior in pets
- Trained dolphins



Types of innate behavior

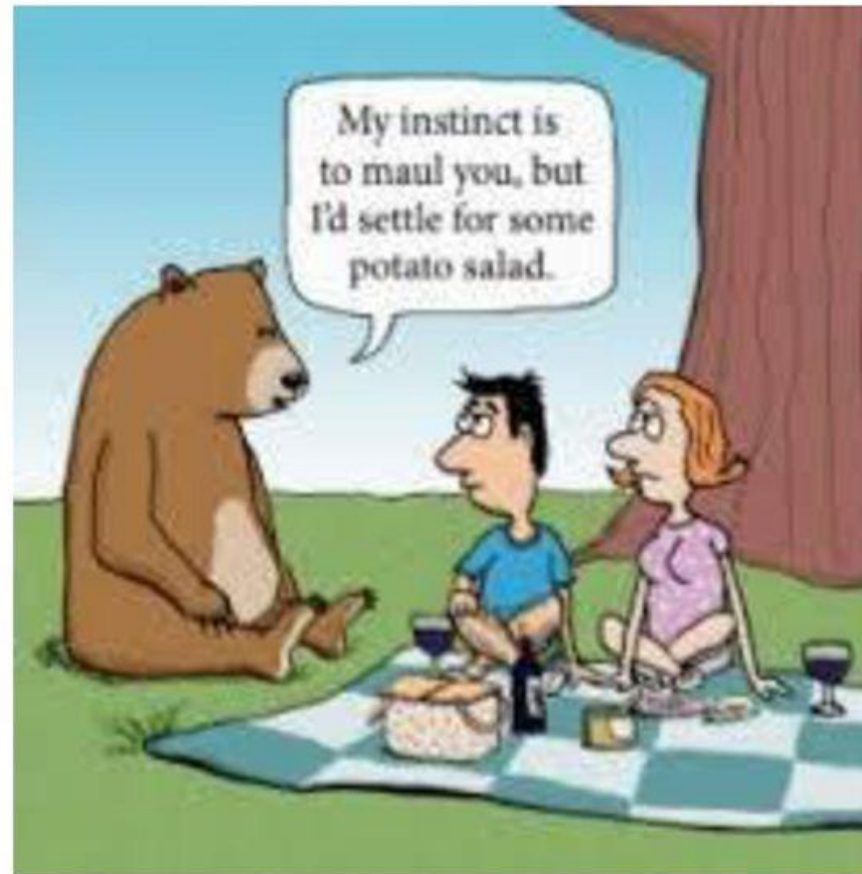
- 1:irratibity
- 2:tropisam
- 3:nasties
- 4:taxes
- 5:kinesisi
- 6:reflex action
- 7:instinct
- 8:motivation
- let study detail

TYPES OF LEARNED BEHAVIOR

1. Habituation
2. Observational Learning
3. Conditioning
4. Play
5. Insight

Learned Behavior

- Behaviors that are shaped by experience.





**Ethograms:
Measuring Behavior**

What is an ethogram?

a catalog of an animal's
behavioral repertoire, detailing the
different forms of behavior that
are displayed by an animal

Ethogram: A tool for measuring behavior

- A **qualitative** description of an animal's normal behavior becomes **quantitative** data.
- An inventory of an animal's behavior.
- Requires time spent watching animals and taking notes.



Ethograms

Catalog of behaviors and postures (ie., of action patterns)

- Name (short, descriptive, but “non -judgmental”)
- Description (only relevant ones need be included)
 - Form
 - Velocity
 - Duration
 - Amplitude
 - Orientation
- Drawings

