

Proximate vs. Ultimate Causes of Behavior Name:

The "Hows and Whys" of Animal Behavior

In the space below distinguish the difference between a proximate and ultimate cause.

Proximate Cause –

Ultimate Cause-

Video Clips

1. Lion Fight (https://www.youtube.com/watch?v=f_KPmxBcb1c)

Proximate Cause:

Ultimate Cause:

2. Clownfish (<https://www.youtube.com/watch?v=2rPtMrwMhJU>)

Proximate Cause:

Ultimate Cause:

Directions: Each of the statements below is a hypothesis. For each statement, fill in **(P) for proximate** hypothesis and **(U) for ultimate** hypothesis.

1. We observe that a 2008 Honda CRV sport utility vehicle accelerates as it moves from the ramp to the US 60 Superstition Freeway. For each of the five following explanations for the car's behavior, indicate (a) for proximate hypothesis, and (b) for ultimate hypothesis. Your answers should be based on the definitions for proximate and ultimate that we have employed in class.
 - a) _____ The car accelerates because its driver is fearful of being squashed by a fast moving Wal-mart truck coming up from behind.
 - b) _____ The car accelerates because the driver puts his foot down more firmly on the accelerator.
 - c) _____ The car accelerates because underpowered, slow-to-accelerate Hondas have not sold well in the past.
 - d) _____ The car accelerates because the robots that assembled the Honda connected the accelerator pedal to the engine.
 - e) _____ The car accelerates because this ability reduces the likelihood of an accident.

12. I say that a white-crowned sparrow sings a distinctive dialect because its genes influenced how its song system was assembled, which in turn makes dialect learning possible. You say that it sings the song because of the operation of the robust nucleus of the archistriatum, which sends signals to the bird's vocal control apparatus, the syrinx. Who is correct?

- a. I am wrong because learning is environmentally determined, not determined by the bird's genes.
- b. You are wrong because the bird's vocal apparatus is called the larynx, not the syrinx.
- c. We both could be right because our two hypotheses offer two different proximate levels of analysis of dialect singing.
- d. We both could be right because our two hypotheses offer two complementary levels of analysis, one proximate and the other ultimate.

Explain your answer:

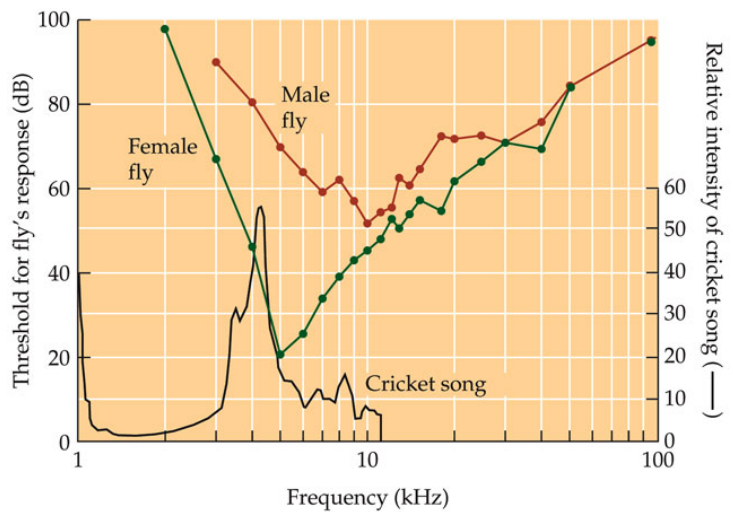
Refer to the figure to the right of a tuning curve for a fly species that parasitizes calling crickets.

23. What sound frequency (kHz) are the male flies *least* sensitive to?

- a. 2
- b. 5
- c. 10
- d. 20
- e. 40

24. The reaction of the fly to sounds of _____ kHz best illustrates the concept of stimulus filtering.

- a. 2
- b. 5
- c. 10
- d. 20
- e. 4



Why might the ears of males and females of this species of fly have different tuning curves?

Designate (a) for a proximate and (b) for an ultimate explanation.

Proximate:

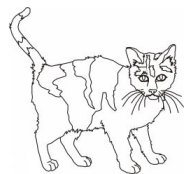
Ultimate:

Scenario 1: You come home and just settle down in your favorite chair with some tunes and maybe a glass of prune juice when suddenly this huge lump descends on your lap. A loud noise is coming from the throat of the beast and it seems to want to be petted. For those of you who don't have one this is a favorite activity in cats. What is a proximate and an ultimate cause for this condition?

What is the cat doing?

Proximate:

Ultimate:



Scenario 2: Even though it makes your mom crazy your dog, Spunky, always wants to sleep on your bed. What is a proximate and an ultimate cause for this condition?

What is Spunky doing?

Proximate:

Ultimate:

Scenario 3: When a new lion takes over a pride he often will kill the young cubs of his predecessor. Describe a proximate and an ultimate cause for this condition.

Proximate:

Ultimate:



Scenario 4: In silverback gorillas the males will hoot and pound their chests when other animals enter their territory. Describe a proximate and an ultimate cause for this condition.

Proximate:

Ultimate:

