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Brainstorm: What Humans Can Learn From Monkeys

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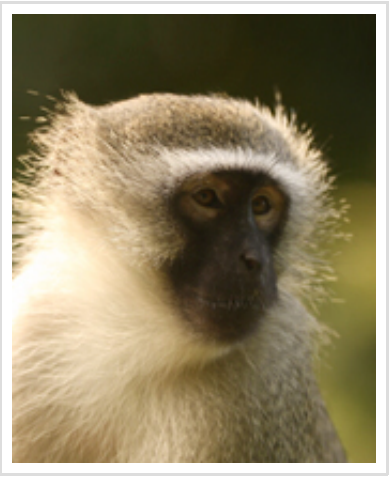
By: John Medina | Posted: January 3, 2012



We are exploring the sometimes frustrating, always fascinating distance between genes and behaviors. In this entry, I wish to illustrate a dramatic example of how nature and nurture interact, not by examining humans, but by looking at some genetic next-door neighbors of ours — vervet monkeys.

This is a great example of "Learn from your parents, it's good for you," without a human parent in sight.

Vervet monkeys have interesting predator vocalizations, and even something of a vocabulary. The animals appear to be born with the ability to vocalize them — there's our *nature*. As we shall see, however, the application requires some practice — and that's our *nurture*. This is easily seen in vervet monkey foraging behaviors, whether the animals are searching for food on the ground or in the trees.

For example, vervet monkeys have a vocalization for the warning "Run, quick! There's a snake on the ground! When an *adult* vocalizes this warning, the whole tribe runs into the trees, and everyone is safe. They have another word for "Take cover, quick! There's a predatory bird in the air." When an *adult*vocalizes this warning, the whole tribe dives to the ground, and everyone is safe one again.

Note that I italicized the word "adult" throughout the previous paragraph. That's because when the tribe hears a *youngster* vocalize either the snake or bird warning, the tribe doesn't do anything. The members wait until they hear an adult say it. Why do they pause? *Because the little ones often get the vocabulary mixed up*. They have not yet learned the correct application of their handy, otherwise genetically supplied, early-warning device.

The adults aren't trying to be obnoxious. They are trying to avoid a disaster. Imagine the tragedy if the whole tribe responded to a juvenile's call to hit the dirt when the little guy saw a snake. The funny cartoon version has him saying sheepishly "Oops. I meant, *trees,*" but the deadly real-world version is "No

more tribe." Little vervets may be born with the ability to warn others, but they have not yet been instructed on its proper use. They will eventually learn the correct behavior by persistent interactions with older members of the tribe, but the instruction set is not innate. They may have been born with pre-loaded vocalizing software. That doesn't mean they know how to use it.

A very similar situation between biological ability and social experience is observed with humans, examples of which we will explore in the next few entries. We may come into this world with some pretty sophisticated DNA, but, as with our primate cousins, there is no guarantee we know how to use it.

Comments

ONE COMMENT TO "WHAT HUMANS CAN LEARN FROM MONKEYS"

David Grebow says: January 3, 2012 at 9:14 am

Hi John,

I was just working on a blog post and looking up some facts in your Brain Rules book when I read this.

I thought the post was interesting and raised a question in my mind: When does the tribe know the juvenile monkey has graduated to become an adult? Is there a ceremonial rite of passage? A Vervet Ba Boon Mitzvah? A slight change in the tone or infection from teen to adult? And who decides?

Thanks for the post the site is awesome.