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The Science of Cute: What Makes Us Say "Aww!"

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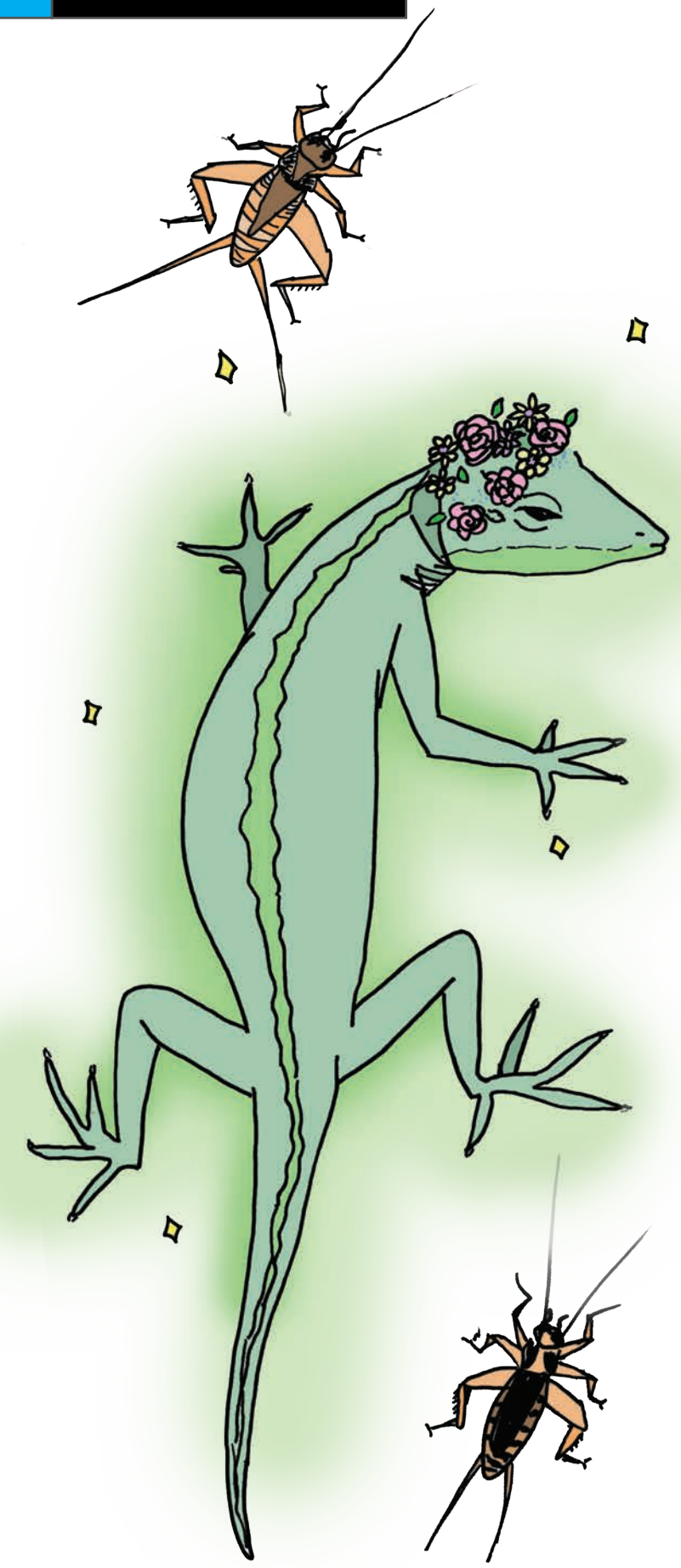

The Science of Cute

What Makes Us Say "Aww!"

Written by Allison Murphy
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What is so irresistible about "puppy dog eyes?" Why do babies' chubby cheeks and tiny noses make us say "aww?" Anyone who has spent hours watching videos of babies, kittens, and puppies on the internet would agree that it's because they're cute. However, the basis for cuteness goes much deeper than big eyes. Being adorable has a specific function in the animal kingdom. Over the years, our brains have adapted so that we have no choice but to obsess over all things cute.

The scientific study of cuteness (yes, this is real!) goes back to the 1940s, when German scientist Konrad Lorenz was deeply interested in features of babies that led to caring responses from their mothers. In a study now cited by cuteness scientists around the world, he found several important features that make a baby cute. He named these the "Kindchenschema," which translates to "baby schema." These traits include a big head, large eyes, round cheeks, small nose, and chubby body. When looking at pictures of infants, people rate images with enhanced Kindchenschema features as cuter and report a stronger caretaking urge. For example, a picture of a baby with enlarged eyes and rounder cheeks will create a better "cute" response than a picture of the same baby with minimized features.

These traits aren't just present in human infants; young animals such as ducklings, puppies, and kittens also share these features. Even though they're not a part of our our own species, their features still provoke the same response. In contrast, this also explains why animals such as moles or lizards, with their pointed features and small eyes, tend to get far less love. "Cute" endangered animals are often more likely to receive donations than that of other endangered species. Think about how popular pandas are with the public, with their fluffy bodies, stumbling gait, and big eyes. Despite the prevalence of less attractive animals who are much more at-risk, people feel more motivated to save cute animals. Long-running television commercials on television display continuous images of wide-eyed, trembling puppies, asking you to donate money to stop their abuse.

Our positive reactions to "cute" animals have even shaped many aspects of pop culture. The biologist Stephen Jay Gould famously wrote an essay detailing the "evolution" of Mickey Mouse, whose nose became shorter and eyes became larger over time. His features became more juvenile and therefore "cuter," making him appear more likeable. Additionally, as Gould

points out, these cute features can be changed in the opposite direction to produce a more negative response. Mickey's nemesis Mortimer has a smaller head, longer nose, and narrower eyes; many "evil" looking characters have similar facial features. It's clear that this formula sells. A glance at any cartoon character or mascot often reveals the same physical characteristics that make the characters cute and appealing. On toys, TVs, and cereal boxes, large-eyed characters smile back at us, inviting us to pay them our attention and money. There's something about these features that unconsciously drives us to become caring and sympathetic — but what is actually happening in our brains?

One study found that looking at pictures of babies with enhanced Kindchenschema features activated a host of special areas in the brain. Some areas are specifically involved in reward systems in our brains — areas that make us anticipate receiving rewards, motivate us to make certain decisions, and make us feel good for doing these things. This reward feeling reinforces the urges for holding, cuddling, and caretaking that we get when looking at an adorable baby or animal. Additionally, areas involved in altruistic behavior and social bonding are also activated when looking at the pictures, which explains the affectionate and loving feelings we associate with cuddly creatures. These effects all come with the increased presence of "feel-good" chemicals such as dopamine and oxytocin in the brain. Although people of all genders are susceptible to feeling the cute response, it seems that women are more likely to have a stronger caretaking urge when viewing pictures of babies. Even among women, increased presence of "female" hormones such as estrogen and progesterone lead to better performance in discriminating the difference in cuteness between images of babies, indicating that there may be a hormonal aspect to the cute response as well.

With these complex biological interactions, it seems that being adorable should serve some sort of evolutionary purpose. Lorenz concluded that cute features were a signal to a mother to take care of her young, enforcing a bond and ensuring survival of her child. The cuter the baby, the more likely it is that it will be taken care of. Based on our biological response to cute features, this makes sense as a possible cause for the evolution of cuteness. After all, a human baby is pretty much helpless; it can't walk, communicate, or feed itself. Its appearance works as a subconscious "help me!" sign that we can't help but follow. This fact becomes useful for babies without caretakers too; cuter infants are more likely to be adopted. Although it is possible that some component of our cute reaction is cultural rather than biological, studies have shown that babies just a few months old show a preference for cuter faces. From a young age, it seems that we're hardwired to be on the lookout for cuteness.

Our cute response extends to our pets as well — even adult dogs and cats are still the subject of awws and cuddles. Domestication creates interesting effects on animals, leading them to develop more juvenile features compared to their wild counterparts. During domestication, humans select and breed animals that are less aggressive and less fearful of humans. Genetically, they are choosing animals that have less adrenaline, a chemical involved in the "flight-or-fight" response. It turns out that selecting and breeding wild animals for their docility leads to changes in several other aspects of development, including floppier ears, a shorter nose, smaller teeth, white patches of fur, and more juvenile behavior. This so-called "domestication syndrome" is common across nearly all domesticated animals, indicating that the neural and chemical basis of aggressive behavior shares a genetic link with facial and brain development. Even though adult dogs have outgrown their puppy years, through domestication we've caused them to retain many of the features that make them cute.

When you find your heart melting as you hold a baby or can't help but watch and rewatch the video of golden retriever puppies that your friend shared on social media, remember that your reaction is the result of an ancient system that makes us say "aww." Cuteness is part of an old survival strategy, ensuring that helpless newborn animals are taken care of. "Puppy dog eyes" aren't just an adorable expression, but a biological trait with a long and successful evolutionary history.