

Dogs Developed from Wolves -- But How?

Where did dogs come from? Well, let's begin with what we know. All dogs in the world arose from a population of wolves about 10,000 years ago. And that fact poses a fascinating scientific problem: how did this original wolf population give rise to the diversity of dogs that we see today?

Some scientists say humans made it happen by capturing wolves, taming them, and gradually breeding them toward "dogginess." According to biologists such as John Searle, that's how the dog was first created. Searle argues, "We have evidence that hunter-people in different parts of the world have captured and tamed young wild animals and then brought them home, keeping them as pets. The same might have happened with baby wolves. Perhaps our ancient ancestors would find a wolf pup and bring it home to raise as a pet. That could be a first step on the journey to dog. The next step would be to allow only the tamest pet wolves breed. If you kept that up generation after generation, in theory you would create an animal fundamentally different from wolves -- the dog. From there, humans went on to develop various breeds of dogs.

According to Searle, that's essentially how the dog was first created --

10,000 or more years ago. This theory argues that dogs are easily created from wolves, because wolves have bodies and social organizations fitting well into human society. Other scientists think the idea you can get a dog by adopting a wolf is wrong.

But how might the biological journey from wolves to dogs -- sled dogs, poodles, pit bulls, retrievers, collies, and all the other diverse forms dogs take -- have begun?

The idea that Stone Age people could train and then breed dogs from wolves is unlikely, as far as scientist Ray Coppinger is concerned. But what is an alternative theory? He worked to develop such a theory, and so he started thinking about the problem from the wolves' point of view. Mr. Coppinger concluded that wolves *chose* domestication, and that they did so because of the easy food available in Stone Age dumps. In a dump, an animal has a better chance of finding food and surviving.

“Imagine 10,000 years ago, when people first get the idea of living in a village. They settle down, they build permanent houses, and around those houses, all the waste products of their economies build up -- especially waste food. Now there's a whole set of animals that move in on that waste: house mice, cockroaches, pigeons -- all kinds of animals living off the human waste. One of them might have been the wolf. If wolves move into that kind of a setting, it's great for the animals. They don't have to chase and kill prey. It's less work! They just wait; people dump it in front of them.

Not every animal can take advantage of this resource. Most wild animals run away when humans approach. The few that don't have a real advantage. They're going to get most of the food, and that means their offspring are more likely to survive. Each new generation becomes increasingly tame.

The ones that run away the first time anybody shows up -- those are the ones that are going to be selected against; they're going to go out, have to make an honest living out in the wild. They're not going to be able to get enough out of that dump. They will remain wolves. The dump lives -- they will gradually change into dogs. So here's natural selection in action. Any one wolf that's a little tamer than the other, who can stay there longer and get more food -- he's the one that's going to develop toward "dogginess." It is, according to Coppinger, the best way to explain many of the physical differences between dogs and wolves.

Look at a wolf's mouth: it's big and it's got large, dagger-like teeth, and you can see him out there killing things. The dog has little teeth, by comparison. The wolf has a big brain; the dog's got a little brain compared to the wolf. Well, who in the world has little brains? Animals that don't need brains. And the dog -- a scavenger -- doesn't need a brain like the wolf brain. It doesn't take a lot of brain power to figure out where a rotten tomato is. You basically have to be there when somebody throws the tomato away. That's how dogs developed from wolves, and became the first domesticated

terrestrial (living on the land) mammals.

Which theory is correct? Did human cave people adopt some wolves, breeding generations of wolves into tamed dogs? Or did wolves develop naturally into dogs by living in human garbage dumps? This is an open question, a question that scientists will work to answer in the coming years.

Which theory of dog evolution do *you* support?

Now Answer the 15 Questions on the Following Pages

Match the letters to the numbered order of events to show the steps in dog development, *according to John Searle*

- | | |
|-----------------|--|
| 1. First event | a. Dogs came to have a great diversity of types and breeds. |
| 2. Second event | b. Humans bred tame wolf pets, but did not breed wilder wolf pets. |
| 3. Third event | c. Humans adopted wild wolf pups as pets. |
| 4. Fourth event | d. The first dogs came to exist -- from wolves. |

5. According to scientists, when did dogs develop from wolves?

- a. 1,000 years ago b. 10,000 years ago c. 100,000 years ago
d. 1,000,000 years ago e. 10,000,000 years ago

6. What does John Searle say about wolf development toward the dog?

- a. Wolves were adopted and bred for tameness by people
b. Dogs developed from wolves hanging around garbage dumps, scavenging.
c. Dogs existed from the earliest time when humans existed
d. God created dogs to serve humankind.

7. Dogs are a. terrestrial animals b. aquatic animals c. vegetarian

8. According to Coppinger what was the first step in dog development?

- a. humans inventing hunting
- b. adoption
- c. inventing dog breeding
- d. humans creating garbage dumps

9. According to Coppinger what was the second step in dog development?

- a. adoption of wolves
- b. wolves in garbage dumps
- c. breeding wolves
- d. hunting all garbage eating wolves.

10. According to Coppinger what was the third step in dog development?

- a. adoption
- b. breeding
- c. hunting in a competitive way.
- d. tame garbag-dump wolves have more babies than wolves who are afraid of humans.
- e. cute wolves are more likely to be bred by humans than unattractive ones.

11. According to Coppinger what was the fourth step in dog evolution?

- a. Only the strongest wolves survive in the humans' garbage dumps
- b. The hunting wolves kill off the dump-living wolves around the dumps
- c. The dump-living wolves kill off the hunting wolves
- d. Dump living wolves develop smaller brains and smaller teeth and less fear of humans -- becoming dogs.
- e. Better fed wolves gradually develop into different kinds of dogs, depending upon what kind food eat and what kind of dump they're in.

12. Identify two important differences between dogs and wolves.

- a. Dogs have large brains and large teeth while wolves have small brains and small teeth
- b. Wolves have large brains and large teeth while dogs have small brains and small teeth.
- c. Dogs are friendly and intelligent while wolves are unfriendly and unintelligent.
- d. Dogs have rounded claws and hair while wolves have sharp claws and Fur.

13. The thesis of this essay is

- a. Humans bred dogs from wolves using garbage as a reward.
- b. Scientists agree that dogs undoubtedly developed gradually and naturally as they lived, reproduced, and evolved in garbage dumps.
- c. Scientists are involved in a lively argument between those who claim that humans intentionally bred wolves and scientists who argue that wolves developed spontaneously from living and reproducing in human garbage dumps.
- d. Some scientists think that, although wolves are stronger and smarter than dogs, dogs are friendlier and more diverse than wolves.

14. This essay about wolves and dogs is an example of

- a. fiction
- b. non-fiction
- c. biography
- d. epic

15. This essay about wolves and dogs ...

- a. presents the one important scientific theory about dog evolution.
- b. explains--but leaves open--two scientific theories about dog evolution.
- c. decides which of two theories about dog evolution is the correct one.
- d. hints at three unproven scientific ideas about dog evolution.