

## How Dogs Became Our Best Friends





There's about 7.4 billion people on Earth today ...and over 200 million dogs. So exactly where, when, and why did warm-hearted wolves join our pack? And who trained who?

So... Cat person? Or dog person?

Me? I'm totally impartial. No matter where you sit – siiiiiiit, it's plain to see that the histories of dogs and humans are intertwined... maybe like no other two species. If we take domestication out of the human equation, it's estimated just 1 or 2 million of us would be around today. And of all those animal alliances, our relationship with dogs is the oldest. But figuring out why, where, and when domestic dogs first originated is still a bone of contention. Why? Is the easiest to answer. Every



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continent is home to wild canids – like Africa's painted dogs or Asia's doles, but thanks to genetic research we know modern pups didn't descend from those local species. Today's domestic dogs all trace their DNA back to ancient wolves. You may have heard that wolves and ancient people were hunting buddies that used teamwork to run down bigger prey. That's a nice story, but wolf packs can hunt just fine on their own – and usually aren't too big on sharing. Plus, early humans tended to kill off most carnivorous competition. It's most likely that humans didn't adopt dogs. Dogs adopted us. Any "wolves gone mild" that were tolerant of humans could have scrounged our scraps. They didn't need us, but our leftovers could have made their lives easier. Today, about 85 percent of domestic dogs still survive on our waste - no matter how many times we tell them "STAY OUT OF THE TRASH". But a tame wolf isn't a dog, and scientists are still trying to figure out when and where that change occurred.

Studying living wolves tells us the line that led to our pups is extinct today, but we can still find their footprints in modern dog genomes. Looking at DNA in mitochondria tells us dogs split from their wolf ancestors somewhere in Europe between 19 and 32 thousand years ago, but whole genomes from dozens of living dogs put the split somewhere in South Asia around 33,000 years ago. It's tough to pin down because dog genes have mixed so much. Fossils don't tell the whole story either, because bones alone can't tell us when the thing that looked like a wolf started to act like a dog. But combining the two, fossils and DNA, could give us some hints. DNA extracted from ancient dog fossils has suggested a new story: the domestication split happened in two places, at least 12,000 years ago. And then at some point, Eastern dogs followed people west, and became the dominant ancestor of our canine compadres. Dogs became useful herders, sled pullers, and guards – against predators and neighboring human tribes. And in a pinch, they could have served as an emergency food supply. Dogs probably saved us more times than we can count.





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We're paying them back – pups now have access to insurance, healthcare, some even have more instagram followers than you and me. From a wolf mold, we've crafted 340 or so dog breeds, even a few weird ones. It's hard to believe every domestic dog is still part of the same species, one whose story is so tightly wound to our own, that we still can't quite tell where it begins.

Stay! Staaaay. Curious.