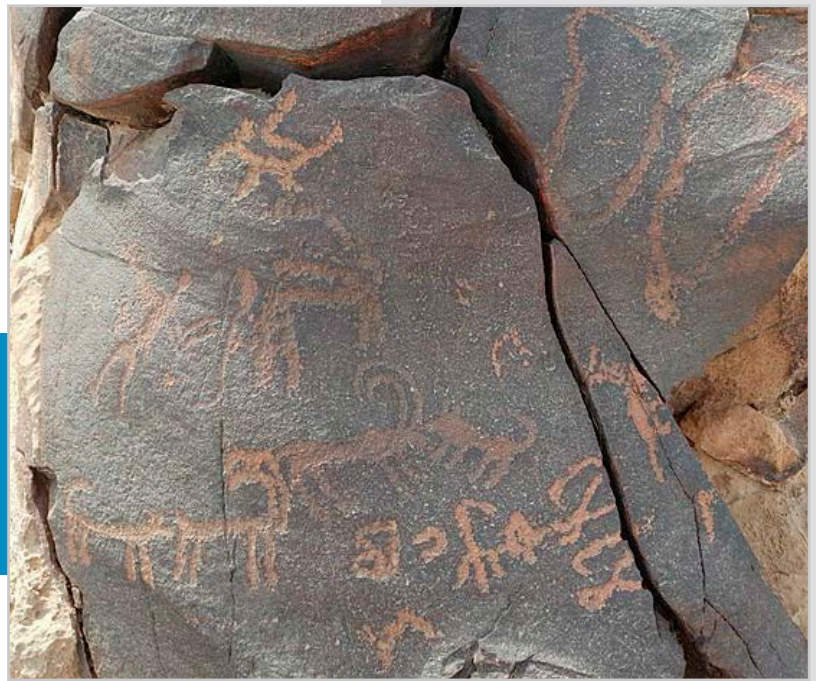


Best Friends Forever



Previously we talked about how early humans outcompeted Neanderthals. One big reason for their success might be sitting right next to you. I'm talking about *dogs*.

When humans arrived in Europe, they were at the top of the food chain, along with Neanderthals, big cats, bears—and wolves.

Archaeological records suggest that humans soon began to domesticate wolves, which quickly evolved into proto-dogs, and joined the hunt.

The dogs did what they did best—chasing large prey over distance, tiring and cornering them. Man stepped in with spears and arrows to close the deal, sparing dogs the dangerous part of the kill. Then they shared the meat.

Butchering sites for large animals like mammoth would have attracted other carnivores. Scientists believe early dogs also helped keep scavengers away.

Fossilized remains show early dogs were similar to huskies, but bigger. The skeletons show healed broken bones, suggesting a rough hunting life but also care afterward.

By contrast, Neanderthal sites show no evidence of a partnership with dogs.

Humans and dogs became such a dominant hunting force, researchers believe, that they simultaneously eliminated large prey *and* outcompeted not just Neanderthals but most other large predators.

So the next time you see a dog, give 'em a big “thank you” belly rub.

They were essential to human success. And with that, they guaranteed their own—and a friendship lasting 50,000 years.

A petroglyph portraying a hunting scene with a dog or wolf. Har Karkom Ridge, Israel.

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Background: Best Friends Forever

Synopsis: About 40,000 years ago, early humans migrated into Europe. As apex predators, they competed for prey with other carnivores, including Neanderthals, felines, and canines. Our ancestors apparently dominated the food chain with the help of capable accomplices: wolves.

- In Pleistocene Europe, humans, Neanderthals, canines, and felines were apex predators that competed to hunt and kill large mammals.
 - Mammoths, rhinos, bison, elk, deer, and other large herbivores roamed the area.
 - Hunters faced competition from saber-toothed cats, leopards, cave-lions, cave-bears, hyenas, wolves, and other carnivores and scavengers.
- The largest of the herbivorous mammals—mammoths—were huge.
 - Even medium-sized woolly mammoths were 9–12 ft tall and weighed 8 tons. The largest found was 17 ft tall, 30 ft long, and weighed 19 tons.
 - The prospect of bringing a mammoth down with spear and atlatl (spear throwers) or bow and arrow would have been daunting.
 - Tracking a wounded mammoth until it died was difficult and put hunters at great risk from other carnivores.
- Some researchers believe that around the time that humans entered Europe, they joined forces with wolves to hunt together.
 - This partnership made it possible to locate prey faster and to tire and kill larger game with less risk and effort.
 - The wolves did what they did best—chasing, harassing, and cornering game—while humans, who now did not need to expend energy wearing out their quarry, took on the more dangerous job of killing the prey with spears or arrows.
 - Humans and wolves shared the meat, and wolves helped to protect the kill from other carnivores like Neanderthals, lions, leopards, and hyenas.
- This partnership enabled humans and canines to dominate the carnivorous food chain, resulting in the eventual European disappearance of both prey (mammoths and bison) and competitors (cats and hyenas).
- Before *Homo sapiens* arrived in Europe, evidence of mammoth hunting was scarce, reflecting the comparative limitations of *Homo neanderthalensis* hunting practices.
 - Neanderthals lived and hunted in smaller, more isolated social groups.
 - Neanderthal men and women both participated in hunting big game, gambling that the hunt would pay off, while early humans used division of labor to both hunt and gather food, ensuring that the group ate even if the hunt failed.
 - Neanderthals disappeared within a couple thousand years of the arrival of *Homo sapiens*.
 - Neanderthal settlements show no evidence of relationships with canines, suggesting they did not take advantage of teaming up with dogs.
 - Neanderthals were stockier, with shorter lower limbs than humans, which may have limited their walking and running ability compared to that of humans.
 - As larger prey progressively disappeared from the tundra, the hunt for smaller, faster prey meant Neanderthals might have been disadvantaged.
- In Central and Eastern Europe are a series of archaeological sites known as “mammoth mega-sites” containing dozens to hundreds of mammoth skeletons.
 - Some have tent-shaped huts made of mammoth bone, indicating that humans built settlements near where they were butchering their kill.

References: Best Friends Forever

[How Hunting with Wolves Helped Humans Outsmart the Neanderthals | The Guardian](#)
[Did Dog-Human Alliance Drive Out the Neanderthals? | National Geographic](#)
[A New Origin Story for Dogs | The Atlantic](#)
[Paleolithic Dog | Wikipedia](#)
[Origin of the Domestic Dog | Wikipedia](#)

[Humans May Have Domesticated Dogs Tens of Thousands of Years Earlier Than Thought | Smithsonian](#)

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Background: Best Friends Forever

- Many proto-dog skeletons have been found buried in these mammoth mega-sites, often alongside human skeletons. At Předmostí, a 22,000–28,000-year-old archaeological site in the Czech Republic, some astounding Paleolithic dog discoveries have been made from skeletons.
 - The proto-dogs ranged from 4 to 8 years old and weighed about 75 lbs, standing 24 inches at the shoulder.
 - Their bones showed evidence of carrying heavy loads like meat, bones, tusks, and firewood. Some had fractures probably suffered while hunting.
 - Their skulls are shaped like those of a Siberian Husky, but their bodies were heavier than modern Huskies.
 - Their skulls showed evidence of perforations and brain removal, similar to ritualistic burials for humans, possibly to release the animal’s spirit.
 - One dog skull was found buried with what appears to be a mammoth bone placed in its mouth, possibly to accompany its spirit on its journey.
- Wolves were the first animal species to be domesticated by humans, starting a beautiful, reciprocal relationship that has lasted thousands of years.
- As wolves lived and worked with humans, they evolved.
 - They developed shorter snouts; wider jaws, palates, and brain cases; floppier ears; and smaller teeth and paws.
 - They became more docile and learned how to read human facial expressions, developing the capacity to distinguish happiness from anger.
- Domesticated wolf-dog fossils, with different head and jaw configurations than those of wolves, have been dated at up to 33,000 years old in Belgium and Russia.
- Wolf-dogs diverged from wolves into Paleolithic dogs (found on the Taimyr Peninsula of Russia) and then became extinct as their offspring evolved into modern dogs ranging from Chihuahuas to Poodles to Great Danes.
- Our long-lived ties to dogs may have changed human appearance, also.
 - Because of its oblong shape, a human eye has a uniquely visible sclera—“white of the eye”—compared to that of other primates. Wolves and dogs also have white sclerae.
 - White sclerae amplify gaze direction, making it easier to see what a person—or dog—is looking toward.
 - Nonverbal communication between humans and canines by simply looking toward something would have created a huge advantage for the hunters; successful wide-eyed hunters would have been more likely to breed and pass on this favorable trait to their offspring.

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