

Dogs and Humans Memory, Brains, and a Shared Story

Luke Rimmo Loyi Lego



Image credit: Freepik

IMAGINE a small dog perched on a windswept mountaintop, surveying the world below. For thousands of years, they and human ancestors had climbed every mountain, both literal and metaphorical, together. Dogs were at our side at the dawn of civilisation 11,000 years ago, curled up next to early farmers by campfires. During that time, they have watched us grow cities, invent technology, and tell stories. But it turns out dogs have stories of their own locked in memory. Recent discoveries suggest a dog's mind may hold more in common with us than we ever realised.

Dogs remember faces, places, and even smells much longer than we thought. In one playful experiment, researchers taught five clever dogs a dozen new toy names and then hid those toys away for two years. When the toys finally reappeared, the dogs surprised everyone by fetching the correct toy almost half the time — far better than random chance. In another lab, dogs were trained to copy a human's action (like a jump) and then asked to do it one hour later. To everyone's amazement, the dogs still remembered the action and imitated it without any cue, showing the kind of event memory once thought to be uniquely human. Even simpler experiments hint at long memories: most dogs know the routines of their family, remember hiding spots of lost treats, and can recognise people from years gone by. Together, these

findings tell us that a dog's long-term memory for sights, sounds, and especially smells is far richer than we assumed.

Studies peeking inside the canine brain reveal why these memories exist. Dogs' brains contain all the same basic parts as ours — a cerebral cortex for thinking, a hippocampus for memory, an amygdala for emotions — just on a smaller scale. Scans show dogs have a “face area” in the visual part of their brain, much like we do, which helps them recognise the faces of humans and other dogs. They even have a powerful sense of smell wired into their gray matter: dogs devote about 2% of their tiny brains to olfaction (versus only 0.03% in humans), making scents unforgettable to them. In one study, scientists snuck samples of their own scent into an MRI machine for a dog to sniff. The dog's brain lit up in the reward centre at the smell of its owner, much more than at anything else. In fact, many dogs show more “joy” in their brain when they hear their name or get a friendly pat than when they get a treat. All this shows that dogs store memory in ways fitting their world: they “see” people with their eyes and their nose, and those memories stay vivid.

Researchers compare brain scans of dogs and humans and find a surprising overlap. For example, a Labrador Retriever's brain has the same major structures as our own — a cortex, cerebellum, brainstem, and hippocampus. The