

The Nose Knows

Can cadaver dogs really sniff out 30-year-old remains?

By Katy Waldman, April 2012

Police on Thursday revived their search for Etan Patz, a 6-year-old who disappeared in 1979 en route to a New York City bus stop, after a cadaver-sniffing dog recently detected the odor of human remains in a basement near Patz's SoHo home. Can dogs really smell 33-year-old remains?

Yes, if you have the right dog. Genetics matter: beagles, bloodhounds, German shepherds, and Labrador retrievers are best, although many breeds are appropriate as long as the dogs prove smart and eager to please. Education is also crucial. At coaching centers for "canine law enforcement officers," there's a rigorous training during which the pooch is exposed either to human remains (bits of bone, blood, or nail clippings) or to "pseudoscents" that simulate the death odor. Dogs can only indicate the presence of a smell, not an actual cadaver—but their sensitivity to the olfactory traces of decomposition means they can sometimes tell where a body was even after it's been removed. Still, sniffer dogs are not always reliable: Sometimes they get waylaid by any decaying organic matter (e.g. a rotten log), and similar chemical signatures make it impossible for them to distinguish between humans and pigs. Thus, handlers are taught always to be on the alert for false positives.

Researchers from the University of Alabama, hoping to zero in on how long the scent of death might linger at a crime scene, designed a test for the state police's cadaver dogs. A single human vertebra, more than 30 years old, was buried 12 inches deep. The dogs were let loose across a 300-by-150-foot plot, and several succeeded in sniffing out the dry bone fragment. So it's certainly possible that the canines recruited for Etan Patz's search could detect parts of a 33-year-old body hidden in the basement on Prince Street. A variety of factors, however, mediate the strength of the death odor and how quickly it dissipates. Temperature, humidity, the softness or hardness of the ground, and the amount of degrading matter all play a role, as does the physiology of the dog. (A heavily panting pooch can't scent very well.)

No one knows exactly what dogs are smelling when they indicate the possible presence of remains. Well-trained cadaver dogs will not flag a living person or an animal. Possible scents include two byproducts of decomposition: putrescine and cadaverine. Although these compounds are common to all decaying material, an ace cadaver dog has such fine-tuned senses, it can differentiate human remains from most animals'. Belgian researchers at the Royal Military Academy in Brussels recently isolated a compound, dimethyl sulphide, that trained dogs will

detect and respond to. The sulfide itself accompanies putrefaction in many kinds of organic matter, including human.

Explainer thanks Maria Claxton of the South Carolina Search and Rescue Dog Association and Keith Jacobi of the University of Alabama.

Source:

http://www.slate.com/articles/news_and_politics/explainer/2012/04/etan_patz_search_renewed_can_cadaver_dogs_smell_30_year_old_corpses.html