

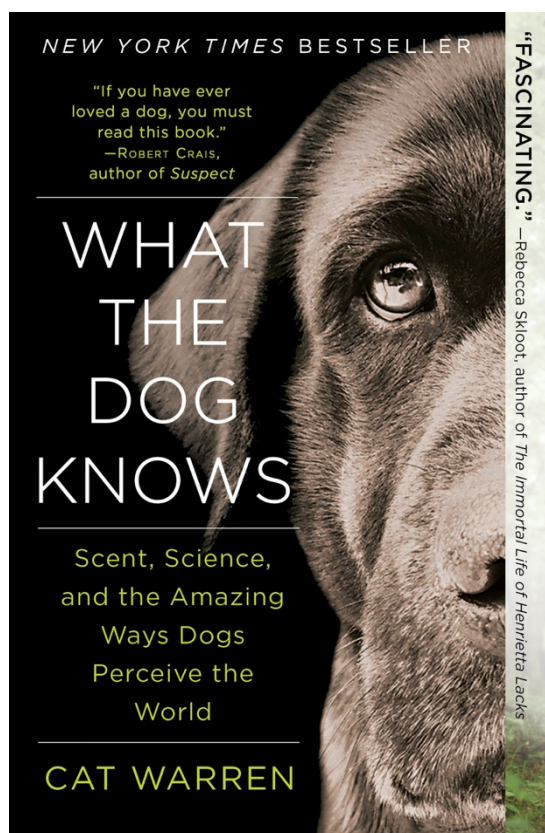
Long listed for PEN/E.O. Wilson
Literary Science Writing Award

Contact: Meredith Vilarello, Assoc. Publisher
Meredith.Vilarello@simonandschuster.com

New York Times Bestseller

WHAT THE DOG KNOWS
SCENT SCIENCE AND THE AMAZING WAYS
DOGS PERCEIVE THE WORLD

By Cat Warren



“*What the Dog Knows* is a fascinating, deeply reported journey into scent, death, forensics and the amazing things dogs can do with their noses: sniffing out graves, truffles, bedbugs, maybe even cancer. But it's also a moving story of how one woman transformed her troubled dog into a loving companion and an asset to society, all while stumbling on the beauty of life in their searches for death.”

—REBECCA SKLOOT, *The New York Times Book Review*

“It you have ever loved a dog, you must read this book. I loved it!”

—ROBERT CRAIS, author of *Suspect*

“A personal, informed account of the myths and truths of working dogs.” —LOS ANGELES TIMES

“Masterfully shows how even the best technology cannot compete with our best friends. If you have ever wondered what dogs are truly capable of, this is the book for you.” —

BRIAN HARE and VANESSA WOODS, authors of *The Genius of Dogs*

CAT WARREN is a professor and former journalist with a somewhat unorthodox avocation: she works with cadaver dogs—dogs who search for missing and presumed-dead people. What started as a way to harness the energies of her unruly, smart, German shepherd puppy, Solo, soon became a passion for them both (though Solo thought it was simply a great game, with the reward of a toy at the end). They searched for the missing throughout North Carolina for eight years.

In *WHAT THE DOG KNOWS*, Warren uses her odyssey with Solo to enter the broader world of scent-detection dogs, revealing the remarkable capabilities of working dogs, their handlers, and their trainers. Taking the reader from crime scenes to training sites and science labs, talking and working with other handlers and trainers, and interviewing animal psychologists, forensic anthropologists, breeders, and scent researchers, Warren explains how working dogs can capture the hidden worlds their noses know and translate that arcane knowledge for humans. The fascinating concepts behind the complex capabilities of working dogs emerge as Warren weaves the world of science and dog cognition with her own experiences in the field—all with an unsentimental yet sensitive touch.

What the Dog Knows tells the stories of cadaver dogs, drug and bomb detecting K9s, tracking and apprehension dogs—even dogs who can locate unmarked graves of Civil War soldiers and help find drowning victims more than two hundred feet below the surface of a lake. Working dogs sometimes seem magical, as they distinguish scent, cover territory, and accomplish tasks that no machine is yet capable of. With an additional chapter included in the paperback, *What the Dog Knows* reveals the science, the intense training, and the skilled handling that lie behind those abilities—and shows why we keep finding new uses for the wonderful noses of working dogs.

ABOUT THE AUTHOR

CAT WARREN is a professor at North Carolina State University, where she teaches science journalism and creative nonfiction. She lives with her husband, David, and two German shepherds, Jaco and Rev, in Durham, North Carolina. For more information, visit www.catwarren.com.

WHAT THE DOG KNOWS

Scent, Science, and the Amazing Ways Dogs Perceive the World

March 10, 2015

\$16 Paperback

ISBN 978-1-4516-6732-5

Touchstone

“A book for anyone who loves dogs and has watched them catch a scent on the wind or in the leaves on the ground and wondered about that brilliant organ they possess: the nose.” —**VIRGINIA MORELL**, author of *Animal Wise*

“A meaty, fascinating tour of not only what led humans to train dogs to sniff drugs, bombs and dead bodies but also the science behind why dogs can be good at these tasks.” —**RALEIGH NEWS & OBSERVER**

“Warren writes with verve and provides rare insight into our working partnership with canines.”
—**KIRKUS REVIEWS**

“A beautifully written, fascinating, heartwarming, and oft-hilarious homage to working dogs.”
—**MARIA GOODAVAGE**, author of *Soldier Dogs*

“It’s a lively read, rich with details on the exhausting and rewarding process of training a working dog, but in the end, you realize that the process is really about bonding in a way that transcends—or perhaps sidesteps knowing.”

—**NATURAL HISTORY**

“A meaty, fascinating tour of not only what led humans to train dogs to sniff drugs, bombs and dead bodies but also the science behind why dogs can be good at these tasks.”

—**RALEIGH NEWS & OBSERVER**

“This is a book for anyone who loves dogs and has watched them catch a scent on the wind or in the leaves on the ground and wondered about that brilliant organ they possess: the nose.”

—**VIRGINIA MORELL, author of *Animal Wise***

“Masterfully shows how even the best technology cannot compete with our best friends. If you have ever wondered what dogs are truly capable of, this is the book for you.”

—**BRIAN HARE, author of *The Genius of Dogs***

“Warren writes with verve and provides rare insight into our working partnership with canines.”

—**KIRKUS REVIEWS**

“A beautifully written, fascinating, heartwarming, and oft-hilarious homage to working dogs. A must-read for anyone who wants to know more about four-legged working heroes. I’d like to shake Solo’s paw for inspiring Cat Warren to write about it.”

—**MARIA GOODAVAGE, author of *Soldier Dogs***

“Move over CSI, and make way for Cat Warren and her forensic dog Solo to grab and keep your attention. *What the Dog Knows* is beautifully and compelling written—not only could I not put it down, I didn’t want to.”

—**PATRICIA B. McCONNELL, PhD, CAAB, author of *The Other End of the Leash***

“Enter the fascinating world of working dogs.”

—**TEMPLE GRANDIN, author of *Animals in Translation and Animals Make Us Human***

“Warren highlights the profound partnership developed between humans and dogs during their intense, but positive training, and in real situations. We are with her as she starts training her dog, and throughout the mistakes, triumphs, struggles, and rewards. I was entertained and educated—much of what I learned about dogs I had never encountered in any other book....The people and dogs who inhabit this world are unforgettable.”

—**STACEY O’BRIEN, author of *Wesley the Owl***

“The capabilities of these specially trained working dogs are remarkable. The author provides fascinating insider information about a meaningful partnership that has important legal and personal consequences.”

—**AMY HEMPEL, author of *Reasons to Live and The Dog of the Marriage***

“It doesn’t take a dog-lover (such as myself) to appreciate Cat Warren’s remarkable *What the Dog Knows*. Prepare to be enthralled and enlightened by this story of Solo and his mistress whose clear, lively, personal and intelligent writing will nail you from page one. It’s a toss-up as to who is more fascinating—the dog people or the dogs themselves—in this wonderful and altogether unique book.”
—LEE SMITH, author of *The Last Girls*

“Working dogs, be they search and rescue, cadaver or explosive detection specialists, are—like their human partners—a breed apart. They inhabit a world of complete commitment, utter dedication, and extraordinarily rigorous training. *What the Dog Knows* is greatly enriched by author Cat Warren’s own love of digging. She and Solo take us on some fascinating detours through history and phony-baloney claims en route to the science, wonder and awe that all rightly surround dogs’ noses.”
—SUE RUSSELL, author of *Lethal Intent* and *The Illustrated Courtroom*

“Warren’s painstaking research on the history and science of working dogs debunks myths and explains what is known—and how much remains unknown—about canine abilities and behavior. By combining this hard information with anecdotes about training Solo, accounts of searching the North Carolina woods for dead bodies, and the stories of other trainers and their dogs, she has produced a book that is both informative and entertaining. Although her love for Solo is palpable, she remains analytical and clear-headed, never romanticizing what he or other working dogs do.”
—BRUCE DeSILVA, Edgar Award-winning author of the Mulligan crime novels

“*What the Dog Knows* is first the story of the relationship between a hard-working cadaver dog and his human companion. But that deeply felt relationship opens the way to an exploration of the working dog world and in doing so becomes something more—a realization of the intelligence, determination, and decency of these animals, a story both wonderful and wise.”
—DEBORAH BLUM, author of *Love at Goon Park* and *The Poisoner’s Handbook*

“In a series of accounts that sometimes read like detective stories, Cat Warren...takes us through the steps needed to create dogs that search for people—both living and dead—while describing her life and her special bond with a German shepherd named Solo.”
—STANLEY COREN, author of *Born to Bark* and *Do Dogs Dream?*

“In this combination of history, science, and memoir, North Carolina State Journalism professor Warren looks at the ways in which domestic animals have been able to assist humans, specifically the world of cadaver dogs, drug- and bomb-detecting police dogs, and tracking dogs. The author quickly gains the reader’s sympathy with humorous accounts of her first days with Solo, the cadaver dog she’s owned since birth, and earns the reader’s respect with a well-researched chapter that calls into question much of the accepted and fluctuating statistics regarding dogs’ superior sense of smell....A welcome and necessary addition to the growing body of literature on the subject.”
—PUBLISHERS WEEKLY

“Fantastic...Should be mandatory reading for any police dog handler or trainer.”
—ANDREW C. REVERING, Chief of Police, ret., Anoka, Minnesota, Police Department

“Warren writes . . . with the research-forward focus of an academic and the sweat-and-scabs storytelling of someone who has lived in the field. *What the Dog Knows* is an incredibly poignant book

about dogs and people and how the lost can become found again.”

—**INDY WEEK**

“Just finished *What the Dog Knows*, Cat Warren's wonderful new book about the training of her cadaver dog, Solo. This is a real treat for serious dog people: informative, compelling, moving, sad, funny, the works. I loved it.”

—**CAROL LEA BENJAMIN, author of *Dog Smart: The Art of Training Your Dog***

“A former journalist, the author possesses a keen sense of detail and pacing that informs, entertains, and quickly draws readers into her life and work with Solo.”

—**LIBRARY JOURNAL**

“*What the Dog Knows* has so much to offer to handlers, trainers, and dog people in general. A full reporting of the stories here would rob you of the roller-coaster of emotions that Cat and Solo experience, and I want you to experience them for yourself. Warren is obviously a very skilled and entertaining writer, while never writing down to anyone from a high post. You will truly *like* Cat Warren as she reveals herself in the book, and you'll feel her pride in her partner 'Solo.'”

—**GERMAN SHEPHERD ADVENTURES**

“The author doesn't just talk about her experience. She explains the training and science labs. She explains what other trainers and handlers do. The reader will read about animal psychologists, forensic anthropologists, breeders and scent researchers. It's all explained in an easy-to-read yet detailed narrative. This is a fascinating book for dog lovers and for those who want to know more about how dogs help us each and every day.”

—**EXAMINER.com**

“Delving into the history of working dogs, Warren mixes personal memoir with historical fact to present a fascinating and comprehensive work.”

—**BEST FRIENDS**

“It's a lively read, rich with details on the exhausting and rewarding process of training a working dog, but in the end, you realize that the process is really about bonding in a way that transcends—or perhaps sidesteps knowing.”

—**NATURAL HISTORY**

“Warren teaches science journalism at North Carolina State University and has strong investigative and storytelling skills, which makes the book all the more enthralling and engaging. This book offers new avenues to learn about the cognitive and emotional lives of one's own dogs, and is highly recommended by this reviewer.”

—**BARK**

A Conversation with CAT WARREN

On the way to pick up your new German shepherd puppy, you envisioned obedience rings and calm companionship, but this changed quickly.

Solo, my third German shepherd, spent his first evening with me and my husband in a frenzy, biting my arms, bullying our female Irish setter—running roughshod over my fantasies of a calm, mature, gentle shepherd who would lie under my desk as I worked. His first night with us, when he was nine weeks old, he tried to chew his way out of his crate, growling the whole time. I cried in my husband's arms. David consoled me by saying we could just return him. I cried harder.

You're a professor, but you also do some rather unusual work outside of the university.

We didn't return Solo to his breeder. Joan advised me over e-mail. I stopped whining and started working with him. He became a cadaver dog. For many years, I would get a call when someone was missing and most likely dead. For Solo, it was a complex game. Find the scent of death he was trained to recognize, tell me about it, and get a reward: playing a tug of war game. For me, the years of learning how to work with him opened a world beyond the university. It's a fascinating one: filled with mystery, sometimes with sadness, but also with the challenges and satisfaction that comes from learning a new discipline—working alongside dogs, working with law enforcement, and exploring the natural and sometimes unnatural landscapes of North Carolina. In the process, I've learned a lot of scent science, dog history, K9 law, and even more about dogs and people. And about myself, of course.

What made you take such a different route with Solo, training him to be a cadaver dog?

Happy accidents are sometimes driven by desperation. Solo was a singleton puppy—he didn't know how to play well with other dogs. That's an understatement. He hated most other dogs. Yet, he had qualities that working dog trainers love: energy, toughness, intelligence, and a good nose. I had no idea how to deal with him, though. When he was five months old, I took him to a wonderful K9 trainer, who looked at him misbehaving, then at me, and said, "He's just a jackass. What do you want to do with him?" That simple question was the beginning of my journey into the world of scent dogs.

Some of your time with Solo was spent with others in the working dog world, including other handlers, trainers, breeders, and police units. How have these relationships been important to you?

My epiphany in working with Solo wasn't that working dogs are miraculous, but that their success is inextricably linked to the quality of their handlers, their trainers, and their breeders. I'm still a relative

beginner. I make training and handling mistakes. Everyone does, of course, but it makes me appreciate the talent that I've been able to witness both while working with Solo and in researching this book. It takes imagination, deep knowledge and constant practice to train and handle dogs who use their noses for a living. It also takes careful, imaginative, competent work to use dogs effectively in criminal cases and on disaster scenes. I've grown to love not just working dogs, but many working dog people, and the forensic and police investigators who devote their careers to this difficult work.

Death is an inescapable part of your work, and you address it matter-of-factly, yet with great respect. But was it sometimes difficult when your search led to a body?

If we were out looking for someone, it was because law enforcement was almost certain that person was dead. Nine of ten times, when went on a search, we didn't find anything. Investigators were following vague leads, unreliable witnesses, or the need to simply rule out areas where a body might be. That's their job, and at the best of times, it's difficult work. Clearing areas—being able to say, “We don't think the missing person is here”—matters, as well. The cases where we didn't find someone were the ones that keep me up at night. Finding a body wasn't a nightmare. It represented success. Certainly, it was for Solo, for the investigators, and for me.

More about WHAT THE DOG KNOWS

- **The list of smells working dogs are trained to detect lengthens daily:** abalone and accelerants; termites, truffles, and TNT; crack cocaine and cancer; mildew and moths; spotted owls and spiny lobsters; peanuts in food and diabetes in blood; and much more.
- **A good cadaver dog can detect the seemingly undetectable:** the faint scent of someone who has died a few hours before and laid only briefly on a carpet; dry bones that are thousands of years old; someone buried four and a half feet deep or hundreds of feet below the surface of a lake; someone under concrete or under a layer of lime.
- **Forensic scientist Arpad Vass and his colleagues have identified 480 different volatile compounds wafting off decomposing bodies.** Training a dog to find a missing person can be more complicated than it might sound. Researchers are still figuring out what makes the scent of human death unique.
- **It's a grim but useful reality that dogs, jackals, and coyotes like to scavenge, and don't seem afraid of demons hanging out around corpses.** Some religions made good use of that desire to eat dead people. The Egyptians had Anubis, the jackal-dog god of death. The Zoroastrians trained dogs to gaze steadily upon their dead, driving away the corpse demons.
- **Pigs' noses are good for finding more things than truffles, but military experiments in the 1970s using swine to find land mines backfired.** They were just too big and cumbersome. Pigs weren't the only species researchers tried to train as sniffer animals: others included coatis, coyote-beagle mixes, skunks, wolves, and rattlesnakes
- **Don't believe the tall tales about some dog breeds being far superior in scenting abilities, or being able to track months-old trails.** The bloodhound has a great nose, but it takes more than a large nose. That's why military researchers trained lap dogs for some detection tasks—like trying to prevent hijackings.
- **Dogs—even mostly honest, hardworking scent dogs—can be very convincing liars if they want a reward.** The only solution is constant training and self-vigilance so that you don't become a victim of the “Clever Hans” effect.
- **The superiority of the dog's nose for detection tasks is always being challenged—by different varieties of fake noses.** Machines, genetically engineered cells, microelectronics. Nothing compares. So far. Dogs have the whole package. It's not just their noses. They are mobile, adaptable, and willing partners.