

IN THE
APPELLATE COURT OF ILLINOIS
SECOND DISTRICT

THE PEOPLE OF THE STATE)	Appeal from the Circuit Court
OF ILLINOIS,)	of Kane County.
)	
Plaintiff-Appellee,)	
)	
v.)	No. 08-CF-1707
)	
AURELIO MONTANO,)	Honorable
)	Timothy Q. Sheldon and
)	M. Karen Simpson,
Defendant-Appellant.)	Judges, Presiding.

JUSTICE BURKE delivered the judgment of the court, with opinion.
Justice Birkett concurred in the judgment and opinion.
Justice Hutchinson specially concurred, with opinion.

OPINION

¶ 1 In July 1990, Guadalupe Montano, the wife of defendant, Aurelio Montano, went missing, and her body was never found. The State’s theory was that defendant, motivated by jealousy, strangled Guadalupe with a rope, wrapped her in a rug, buried her at a horse farm with the help of his brother, told other family members about the killing, and moved the body before the police could find it. In 2014, a jury found defendant guilty of first-degree murder, and the trial court imposed a sentence of natural life imprisonment.

¶ 2 On appeal, defendant argues that he is entitled to a new trial because the court erred in admitting evidence that, 17 years after Guadalupe’s disappearance, three detector dogs alerted to

the scent of human remains on the rug, which was found buried in an outdoor area of the horse farm. Defendant argues that the evidence did not meet the standard of reliability set forth in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), and that the error was compounded by the State's closing argument.

¶ 3 Defendant contends that the human-remains-detector-dog evidence is analogous to bloodhound trailing evidence that has been deemed inadmissible to show any factual proposition in a criminal case. See *People v. Cruz*, 162 Ill. 2d 314, 369-73 (1994). The State responds that the evidence is more like the narcotics-detector-dog evidence deemed admissible in *People v. Moore*, 294 Ill. App. 3d 410 (1998), where the dog alerted to the defendant's car even though no drugs were subsequently found in it. This case presents the thorny issue of whether a trial court should follow what is arguably *Cruz*'s bright-line prohibition against odor-detector-dog evidence or reexamine the reliability of the underlying science as contemplated by subsequent supreme court decisions. Here, the trial court reexamined the underlying science, concluded that the State presented an adequate foundation for the admission of the evidence, and found the evidence reliable. We need not decide whether the trial court erred in admitting the human-remains-detector-dog evidence, because the overwhelming evidence of defendant's guilt rendered any potential error harmless beyond a reasonable doubt.

¶ 4 I. BACKGROUND

¶ 5 A. *Frye* Hearing

¶ 6 The State filed a pretrial motion *in limine* seeking to introduce expert testimony regarding human-remains-detector-dog "alerts" used during searches. The State proposed testimony that, in this case, three dogs gave positive alerts on the rug and the area where it was found.

¶ 7 Dr. Susan Marie Stejskal testified that she had a Ph.D. in toxicology with a minor in pathology. Dr. Stejskal's credentials also included an undergraduate degree in animal science and a veterinary technology program certificate of completion. Dr. Stejskal testified that she was experienced in the field of veterinary medicine, both as a licensed veterinary technician and with a substantial history of working with tracking dogs. Dr. Stejskal acknowledged on cross-examination that, although she had participated in 80 to 100 trained canine searches for human remains, she actually discovered human remains 7 or 8 times. She explained that the infrequency was the result of her services being requested to rule out areas of interest, such as in cold cases.

¶ 8 The trial court found Dr. Stejskal to be an expert on the subjects of the anatomy and physiology of canine olfaction systems, forensic taphonomy (the study of postmortem changes and decomposition of humans), and the training and deployment of human-remains-detector dogs.

¶ 9 Dr. Stejskal testified that a human-remains-detector dog serves as a tool to locate missing persons through the science of canine olfaction and forensic taphonomy. Dr. Stejskal described the olfactory system as the nostrils and turbinates, or coiled pathways in bone through which air passes when inhaled.

¶ 10 Inside the pathways of the turbinates, the air is filtered by ciliated epithelial cells, humidified, and warmed before it travels to the lungs. The odor that a human or dog detects consists of volatile organic compounds in water vapor suspended in the air. The turbinates contain olfactory sensory cells with chemoreceptors that detect these compounds and send messages through nerves to the olfactory bulb, which processes scent. The chemoreceptors are

like taste buds in that distinct chemicals activate different cells to spark an electrical current to the brain.

¶ 11 The olfactory systems of dogs and humans work in similar ways, but dogs' sense of smell is far superior. First, dogs and humans have differently designed nostrils. When a human inhales and exhales, he or she will often breathe the same air and recirculate it. In contrast, a dog's nostrils shunt air to the side every time when exhaled, so different air is inhaled with each breath.

¶ 12 Second, humans have 5 million olfactory sensory cells while Dachshunds have 125 million, German Shepherds have 225 million, and bloodhounds have 300 million. Also, a German Shepherd inhales about five times as much air as a human, because the dog's turbinates are much more extensively coiled. The extensive coiling provides about 20 times more surface area of olfactory sensory cells.

¶ 13 Third, the canine olfactory bulb, which processes the electrical signals sent by the chemoreceptors, is about 40 times larger than a human's. Using photography as an analogy, Dr. Stejskal likened human smell to an "old fuzzy Polaroid" and canine smell to a high definition photograph, with extraordinary detail. Dr. Stejskal explained that a human perceives the world primarily through his or her eyes, but a dog perceives the world through its nose.

¶ 14 Dogs can be trained to locate human remains because their physiology gives them the unique ability to distinguish particular scents. When a detector dog encounters something it has been trained to detect, the dog will "become very, very interested in that odor" and exhibit a change in behavior in that they breathe by sniffing. When a dog switches from normal breathing to sniffing, more of the odor is sent through the turbinates. Each time they take a breath, dogs experience a scent as if they are encountering it for the first time. They do not experience

“olfactory fatigue,” unlike humans who become desensitized to a scent after continuous exposure.

¶ 15 Dr. Stejskal gave, without objection, a Power Point presentation to describe forensic taphonomy, or the scientific processes of human decomposition and the postmortem changes that occur in different environments. The four main stages of decomposition are the dying of cells, early decomposition, putrefaction, and decay or postputrefaction.

¶ 16 After a person dies, cells begin to die from elevated acidity levels. The cells that die first have the highest energy demand and blood supply, like in the heart and lungs.

¶ 17 In early decomposition, the body goes through (1) algor mortis, or a decrease in body temperature; (2) livor mortis, or the gravitational pooling of blood; and (3) rigor mortis, or stiffening due to the contraction of muscle fibers. The duration of each mortis depends on environmental conditions.

¶ 18 Putrefaction is “the stage of decomposition which we associate with bloating and gas and smells” caused by microbes and bacteria that reproduce as they break down cells into carbohydrates, fats, and proteins. The body becomes very fragile, and “skin slippage” occurs, in which skin can pull away from the body and become attached to an object, such as a tarp, that might have covered it. The cells begin to separate from one another, internal organs break down, and liquefaction occurs, where parts of the body turn to liquid and spread to the environment. The body goes from bloated to flattened. The carbohydrates, fats, and proteins are broken down further into simpler building blocks. The final stage is decay, or postputrefaction, where the rest of the tissues break down. Eventually, skeletal remains are all that is left behind.

¶ 19 Many different chemicals are produced during the different stages of human decomposition occurring in different conditions, and dogs can be trained to identify the odors.

For example, bloating causes methane and hydrogen sulfide gases. Also, when a body is in an environment with low oxygen levels and high water levels, certain bacteria can produce adipocere, or “grave wax.” Adipocere emits a strong pungent odor. If tissues are in an area without the additive effect of soil microbes, the chemical composition will be slightly different. Dr. Stejskal testified that the Oak Ridge National Laboratory at the University of Tennessee, Florida International University, and the Federal Bureau of Investigation (FBI) have researched the different chemicals and the odors they produce.

¶ 20 Dr. Stejskal also testified to the training of dogs to detect human remains. Dr. Stejskal had been involved in such training for 10 years, but she was not involved in the training of the dogs used in this case. According to Dr. Stejskal, training a detector dog consists of repeatedly exposing the dog to the source of a particular odor and then rewarding the dog each time it demonstrates interest in that odor. The dog is then trained to perform an “alert” that connects the discovery of the odor to a behavior that is rewarded. Specifically, human-remains-detector dogs are trained by exposing them to the scent of human remains in different stages of decomposition and in different environments, creating a “library” of recognizable scents. Environmental conditions affect the chemicals and odors that are produced. The dogs also are exposed to nonhuman remains to differentiate the chemical profiles of their odors.

¶ 21 Dr. Stejskal testified that many different organizations use human-remains-detector dogs, sometimes referred to as Scientific Working Group Dogs (SWGDOGs). The FBI uses them as “victim recovery dogs,” and the U.S. military uses “human remains recovery dogs” to find mass graves and missing service members. The Netherlands and the United Kingdom also have used dogs in their searches for human remains. The Federal Emergency Management Agency (FEMA) has mostly used rescue dogs, but has also used human-remains-detector dogs, such as

after the September 11, 2001, terror attacks in New York City and Washington, D.C., and after Hurricane Katrina in New Orleans. Now FEMA certifies human-remains-detector dogs throughout the country.

¶ 22 Dr. Stejskal testified that dogs can be trained to detect many types of substances, including human remains, explosives, and narcotics, although actual human remains are not used in the training. For example, the Department of Homeland Security uses dogs to detect agricultural products, such as meats, vegetables, and plants. Also, the Department of Customs and Border Patrol uses dogs trained to detect narcotics and explosives.

¶ 23 On very limited cross-examination, the defense questioned Dr. Stejskal about the chemical and nonchemical differences between the remains of humans and animals.

¶ 24 Dr. Stejskal opined that the field of training and deploying human-remains-detector dogs is widely accepted in the scientific community. She did not testify about whether a dog could alert on a location 17 years after it was alleged to have had contact with human remains.

¶ 25 Under *Frye*, the trial court deemed admissible the evidence of the three canine alerts on the rug and the area where it was found. The court found that the human-remains-detector-dog evidence constituted science that was not novel and was generally accepted within the scientific community.

¶ 26 B. Trial

¶ 27 1. July 1990

¶ 28 The trial commenced on October 28, 2013. Maribel Montano, the daughter of defendant and Guadalupe, testified that her mother disappeared in July 1990. At the time, Maribel was 10 years old and lived with her parents in Aurora. Maribel testified that her parents argued “very often” and that defendant often started the arguments, accusing Guadalupe of wearing clothes

that were too revealing and riding to work with a male coworker. Maribel had a closer relationship with defendant than with Guadalupe, who worked a lot and was “more distant.”

¶ 29 Maribel described the last time she saw her mother. One early afternoon in July 1990, defendant and Maribel prepared to drive to the Aurora home of her aunt, Maria Montalvo, and her husband. Maribel told Guadalupe goodbye and remembered seeing her light a cigarette. Defendant dropped off Maribel at the Montalvo home and returned the next day, driving Guadalupe’s gray Firebird, which defendant did not usually drive. When Maribel entered the car, defendant said that Guadalupe had left with another man.

¶ 30 Upon returning home, Maribel noticed a mess in her mother’s room. The bed had not been made, and clothes and Guadalupe’s open purse were on the floor. Maribel did not look inside the purse, but she noticed that Guadalupe’s wallet was open with a driver’s license and social security card inside. Maribel also saw Guadalupe’s jewelry on the vanity, including rings that she never took off.

¶ 31 Maribel described an area rug in the living room of her home. The rug was woven with a design consisting of squares on the border and palm trees. At some point after the disappearance, Maribel noticed that the rug was missing, and she did not see it again until 2008 when a detective showed it to her. The State presented a rug as an exhibit, and Maribel identified it as the rug from her living room, though she could not recall whether it was in the house on the day that Guadalupe disappeared. Maribel moved out 9 or 10 months after Guadalupe disappeared, and the rug was not in the home at that time.

¶ 32 Narcisa Montano, defendant’s older sister, testified to a visit from defendant in July 1990. At the time, Narcisa had a good relationship with Guadalupe but defendant had not visited her or her children for six years. One day, defendant came to her house. Defendant seemed “nervous

and strange, as if he were drunk or something.” Defendant told Narcisa to go to his house with him. Narcisa agreed because she saw that defendant had a gun in his waistband or pocket. Defendant displayed the gun, and Narcisa felt threatened. As defendant drove, he told Narcisa that “he had sent [Guadalupe] to another world” and that “he had already sent the snake to another world, to hell.” Narcisa asked why, and defendant responded that he “sent her to hell” for cheating on him.

¶ 33 When Narcisa and defendant arrived at defendant’s house, he said that she needed to go with him to the horse farm on Hobson Road, where their brother, Juan Montano, and his son, Roberto Montano, lived and worked. If she did not go, defendant threatened, she would “be in the ground just like [Guadalupe].”

¶ 34 Narcisa walked into the house and saw Guadalupe’s body sitting against the wall at the entry to the bathroom. Guadalupe, who was wearing a nightgown and socks, “was there sitting down, leaning against the wall, and she had a piece of rope on her neck.” Defendant told Narcisa that he had strangled Guadalupe.

¶ 35 Soon thereafter, Narcisa’s children arrived at the house but stayed outside, and defendant directed Narcisa to tell them to leave. The children left and defendant “grabbed the body and he put it in a little rug.” Narcisa was too scared at the time to remember any details about the rug, other than that it had a design.

¶ 36 Narcisa acknowledged that her testimony before the grand jury was dissimilar in certain respects. She previously testified that, when she went to defendant’s home and saw Guadalupe’s body, it was already rolled up in a rug. Because she was nervous, she did not mention during her grand jury testimony that she saw Guadalupe’s entire body. Narcisa now testified that her trial testimony was the truth and that she saw defendant place Guadalupe’s body in the rug.

¶ 37 Narcisa testified that, after defendant rolled Guadalupe's body into the rug, he put the body into the rear of his truck. Defendant and Narcisa rode to the horse farm, looking for Juan. Roberto's wife, Maria Summaria, answered the door and said that Juan was at work. Narcisa went inside with Maria, and defendant left. Later that night, defendant returned and told Narcisa that they could leave. Defendant told her not to tell anyone what she had seen or "he would send me and my children to hell." Narcisa identified two exhibits: one was the rug that defendant used to transport Guadalupe's body, and the other was a rope that looked like the one on Guadalupe. The rug was the same one identified by Maribel.

¶ 38 On cross-examination, Narcisa acknowledged that she did not contact the police after seeing Guadalupe's body, even when she learned of their investigation. Narcisa was scared of defendant's threats. Narcisa told the police her story only after they said that other family members had confessed their involvement in Guadalupe's disappearance.

¶ 39 On November 14, 2007, Narcisa told Detective Guillermo Trujillo that she had seen a bundle on the floor with feet sticking out and that she never saw a face, but at trial she testified that that was a mistake she had made because she was nervous when speaking with the officer.

¶ 40 In her grand jury testimony on May 27, 2008, Narcisa testified that defendant had covered Guadalupe's body so her feet, but not her face, were visible. At trial, Narcisa did not recall her grand jury testimony, because "it was so long ago," but she explained that she had meant to say that Guadalupe's feet were visible when defendant placed her in the truck and that she saw Guadalupe's entire body.

¶ 41 Maria testified that in the summer of 1990 she and Roberto were living with their children on the horse farm. Maria recalled a Sunday in July 1990 when defendant and Narcisa came to their house. Maria was pregnant at the time, and Narcisa recently had given her a baby

shower. Maria regarded Narcisa as a mother to her. Narcisa usually greeted Maria with a hug and kiss, but that day Narcisa was quiet and cold. Maria asked Narcisa if she was feeling well or if she wanted to go inside to watch television and have a glass of water. Narcisa agreed and went inside with Maria. Defendant did not go inside, but, otherwise, Maria did not know where he went. Maria and Narcisa watched television for a few hours. Late at night, defendant returned, and he left with Narcisa.

¶ 42 Maria remembered the visit because, although Narcisa and defendant often visited her separately, it was unusual for them to come to the house together. It was also unusual for defendant to visit without calling or making plans in advance. While Narcisa was in the house, Roberto came in a couple of times and spoke with them briefly before returning to work in the barn. Narcisa told Maria that she was not feeling well, which was uncharacteristic of her.

¶ 43 Roberto testified that his father, Juan, died in 2009. In the first half of 1990, Roberto did not see Guadalupe very often, though Maria would occasionally babysit Maribel. Roberto, Juan, and Roberto's brother, Arturo Montano, all worked on the horse farm.

¶ 44 Roberto recalled that, on a Sunday in July 1990, defendant and Narcisa visited the farm, riding in defendant's truck. Roberto remembered thinking that it was unusual to see Narcisa and defendant together, because he believed that they did not have a good relationship.

¶ 45 Narcisa and Maria went inside the house, and defendant told Roberto that he needed to speak to Juan. Defendant was very serious and "a little demanding." Defendant and Roberto rode in defendant's truck to a health club where Juan was working. Roberto did not pay attention to whether anything was in the rear of the truck. Defendant and Roberto picked up Juan, but Roberto did not remember where Juan sat. Defendant was "talking a little trash" about

Guadalupe. The three men returned to the farm, and Roberto went back to work. He did not know where Juan and defendant went, and he did not see defendant again that night.

¶ 46 About a week later, Juan and Roberto were speaking inside the barn on the horse farm.¹ Juan appeared sad and said that he would show Roberto where he and defendant had buried Guadalupe's body. Juan showed Roberto an area west of the barn. A week or two later, Roberto asked defendant about Guadalupe. Roberto remembered asking defendant, "why did you kill her?" Defendant told Roberto that Guadalupe had been cheating on him, and defendant began crying. A few months later, defendant approached Roberto about renting a wood chipper "to get rid of the body," saying that if "there is no body, it's no proof that [defendant] killed her."

¶ 47 Six to 10 months later, Roberto called defendant and told him to stay away from his family, and defendant said that he would. A year or 15 months later, defendant told Roberto that he needed his help to dig out the body. Roberto declined. Defendant was "kind of mad" and said that Roberto was "already involved, your father is involved, everybody is involved." Defendant said that he would get Arturo to help him. Roberto told Arturo to leave the house because defendant was looking for him.

¶ 48 Arturo testified that, in 1990, he lived and worked at the horse farm and also worked at Unisys, where Guadalupe worked too. At some point, Arturo stopped seeing Guadalupe at Unisys. In 1991 or 1992, Arturo went to defendant's home because he heard that defendant was looking for him. The two drank for a while before defendant led Arturo to the garage, where defendant gave Arturo a plastic bag that defendant said contained a head and hands. Defendant

¹ At this point in the trial, the court instructed the jury to consider anything said by Juan to Roberto not for the truth of the matter asserted, but only for the limited purpose of the effect it had on the acts of Roberto.

told Arturo to put the bag in Arturo's car. Arturo noticed that the bag "was a little bit heavy," but he did not look inside. Arturo was very afraid, so he placed the bag in the car and drove while defendant gave directions. They stopped in an area near the intersection of Interstate 88 and Route 59, where defendant ordered Arturo to throw the bag toward the highway. Arturo threw the bag "kind of hard," before he and defendant returned to the car. On the way back to defendant's house, defendant told Arturo that he had killed Guadalupe because she had been unfaithful to him and that Arturo would not get into trouble as long as he did not say anything.

¶ 49 On cross-examination, Arturo could not recall in what year or what time of year the incident occurred. He did not remember the color of the plastic bag or testifying in May 2008 that the bag was white and weighed only about five pounds. Arturo admitted that he was interviewed by the police in 1994 and 2007 but did not disclose the bag-throwing incident until January 2008, because he was afraid of going to jail. In 2008, Arturo led the police to the area where he threw the bag, but they could not find it.

¶ 50 2. 1994 Investigation

¶ 51 Aurora police officer Gregory Anderson testified that, on April 7, 1994, he, Donald Fehrenbacher, who was a scientist with the U.S. Department of Agriculture, and other investigators went to the horse farm to search for Guadalupe's body. The group dug in two areas and recovered core samples from other areas to determine whether soil had been disturbed.

¶ 52 At the site, they found a carpet or rug buried less than one foot underground. Officer Anderson recalled that the rug had a "rough feel" and contained a very specific earth-tone design. Because there was no indication that the rug had been part of a crime, Officer Anderson returned it to where it was found. He thought that it was part of a burn pile. The investigators did not recover anything else of evidentiary value during the dig.

¶ 53 Officer Anderson identified the rug in court as the one recovered from the horse farm in 1994. He acknowledged that no swabs or photographs were taken or tests done at the time. Officer Anderson admitted that his report contained no specific details about the rug, such as size, color, or other description.

¶ 54 Maribel testified on cross-examination that, on April 12, 1994, she went to the Aurora police station and spoke with Paul Nelson, who told her that officers were investigating Guadalupe's death. Maribel told Nelson that, as far as she knew, Guadalupe had gone to Mexico with her boyfriend. Maribel testified that she could not confirm whether Guadalupe had a boyfriend, although when she went to dinner with her mother, a male friend would often be there. Initially, Maribel could not recall whether she told Nelson anything about the state of her mother's room on the day she disappeared, but she later testified that she told him that Guadalupe's clothes were strewn on the floor and her jewelry was present.

¶ 55 3. 2007 Investigation

¶ 56 Maribel testified that, on March 4, 2007, she went to see defendant and asked him what had happened to Guadalupe. Maribel told defendant that she did not believe that her mother left her, because Maribel was her only daughter. Defendant said that she could not handle the truth, and Maribel responded that she would not visit him or maintain a relationship if he did not say what happened. Defendant told Maribel that "there could be a body." Maribel told defendant that she wanted a proper burial for Guadalupe, and he responded that, if Maribel would let him see his grandchildren, he might tell her more. Their conversation was interrupted, and they never finished discussing the issue.

¶ 57 On cross-examination, Maribel acknowledged that, when she asked defendant about Guadalupe, he got upset. Maribel did not accept defendant's initial claim that he did not know

what happened to Guadalupe, so she continued to ask him about the disappearance. Defendant told Maribel that Guadalupe had gone to Mexico, and Maribel later found a copy of an airline ticket in the house.

¶ 58 Roberto testified on cross-examination that, in November 2007, he met with Aurora police detectives at the horse farm. The police were looking for Guadalupe's body, and Roberto showed them the area that Juan had disclosed. Roberto acknowledged that, on May 27, 2008, he testified that the reason for picking up Juan at the health club was that Juan's shift was over. Roberto admitted that he did not tell the police about the conversation in which he asked defendant why he killed Guadalupe.

¶ 59 Roberto first spoke with the police when they asked him to come to the station in November 2007. Roberto did not remember whether the police asked him to return on December 3, 2007, because they thought that he did not disclose his full involvement in the disappearance. On that date, the Kane County State's Attorney's office offered and Roberto accepted immunity from prosecution based on anything he told them. Roberto provided information to the police only after signing the immunity agreement.

¶ 60 Aurora police officer Matthew Thomas testified that he was assigned to reopen the investigation and that on November 14, 2007, he and Detective Trujillo met with Roberto at the horse farm. As a result of the conversation, they coordinated a search of the farm with the FBI on December 18, 2007. Officer Thomas identified the rug in court as the one they recovered from the farm on that date. The investigators searched about six sections of the farm, and Officer Thomas identified in court a bag of items they recovered, including a piece of red twine that was excavated about 3½ feet below the rug. The officers returned the rug to the property and placed it in an open area away from the excavation site. The next day, the investigators

brought human-remains-detector dogs and their handler, Ellen Ponall, to the farm to ensure that they had not missed anything. Defendant renewed his objection to the testimony regarding the dogs, and the objection was overruled.

¶ 61 Detective Trujillo gave testimony similar to Officer Thomas's testimony about the excavation on December 18, 2007. Detective Trujillo testified that he contacted Maribel and asked whether she remembered anything specific about the rug and that she described its appearance. Officer Thomas and Detective Trujillo showed Maribel and Narcisa the rug. On June 25, 2008, Officer Thomas and Detective Trujillo served defendant with an arrest warrant, and he responded, "this does not interest me."

¶ 62 At trial, Dr. Stejskal reiterated her testimony from the *Frye* hearing, including her testimony about working with Ponall since 2002. She additionally stated that, hypothetically, if a body were placed in a rolled carpet and buried in the ground within a couple of hours of death, under certain environmental conditions, liquid could transfer from the body to the carpet. Odors caused by decomposition are important for dogs and there has been considerable research to determine what dogs actually smell. She opined that the chemical profile of an odor might change over time, but that, under certain environmental conditions, residue from liquefaction can be held for a long time and be available for a dog to detect, even if the item had been buried underground.

¶ 63 On cross-examination, Dr. Stejskal testified that time and the environment are two factors affecting decomposition odor. She acknowledged that, although it would be unusual, an odor could disappear completely based on environmental factors. Dr. Stejskal also conceded that, although there are multiple certifying bodies, no national standard exists for certifying human-remains-detector dogs.

¶ 64 Ponall testified that she was the president and head trainer of Midwest K-9, an organization established to assist law enforcement and fire fighting personnel in search and rescue. Ponall testified at length about her qualifications and 40 years' experience in training dogs to track and trail humans and animals and search for human remains. Defendant renewed his objection to the admission of the human-remains-detector-dog evidence. The court overruled the objection and admitted her testimony as an expert in the field of human-remains-detector-dog training and deployment.

¶ 65 Ponall testified that, on December 19, 2007, she and her team of three handlers and three German Shepherds went to the farm. The team had been together for four years and had undergone about 1,600 hours of training during that time. The three handlers and their corresponding dogs went over the area separately, so each was unaware of whether the others alerted. Ponall explained that she prefers using multiple handlers and dogs to cross-check the results. All three dogs gave a "trained alert" to the odor of human remains in the excavation area where the rug was recovered. The rug was placed on the ground away from the excavation site, and each alerted to the rug, independent of the others.

¶ 66 4. Defendant's Case

¶ 67 Defendant presented the testimony of several police officers and investigators to establish that no DNA or other testing was done on the rug and that no human remains or other evidence of a crime was recovered from the horse farm. Guadalupe's body was never found.

¶ 68 5. Judgment

¶ 69 On October 30, 2013, the jury found defendant guilty of first-degree murder, and the trial court sentenced him to natural life imprisonment on February 10, 2014. Defendant's motion to reconsider his sentence was denied, and this timely appeal followed.

¶ 70

II. ANALYSIS

¶ 71

A. Human-Remains-Detector Dogs

¶ 72 More than 17 years after Guadalupe's disappearance, three human-remains-detector dogs alerted on a rug found about one foot underground and on the area of the excavation site. Other than each dog corroborating the others' alerts, the evidence was not corroborated by scientific confirmation of the presence of any human blood or remains on the rug or in that location. Narcisa testified that she saw the victim wrapped in the rug and that she rode with defendant as he transported the victim to the horse farm, but there was no eyewitness testimony that the victim's body was ever at the excavation site where the dogs alerted.

¶ 73 Defendant's sole contention on appeal is that he is entitled to a new trial because the trial court erred in admitting evidence of the dogs' alerts. Defendant argues that Dr. Stejskal's expert testimony about the scientific basis for using human-remains-detector dogs in general, and Ponall's testimony regarding the three dogs deployed in this case, lacked probative value and were especially prejudicial because Guadalupe's remains were never recovered.

¶ 74 "Relevant evidence" is defined under our rules of evidence as "evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Ill. R. Evid. 401 (eff. Jan. 1, 2011); see also *People v. Harvey*, 211 Ill. 2d 368, 392 (2004). The trial court has discretion to determine whether evidence is relevant and admissible, and therefore an evidentiary ruling will not be overturned unless it is arbitrary, fanciful, or unreasonable. *People v. Hanson*, 238 Ill. 2d 74, 101 (2010). A court may exercise its discretion and exclude evidence, even if it is relevant, if the danger of unfair prejudice substantially outweighs its probative value. *Hanson*, 238 Ill. 2d at 102.

¶ 75 Under *Frye*, “scientific evidence is admissible at trial only if the methodology or scientific principle upon which the opinion is based is ‘sufficiently established to have gained general acceptance in the particular field in which it belongs.’ ” *In re Commitment of Simons*, 213 Ill. 2d 523, 529-30 (2004) (quoting *Frye*, 293 F. at 1014). An expert’s opinion must be based upon a scientific methodology that is reasonably relied upon by experts in the relevant field, but the methodology need not be accepted by all or even most experts in that particular field. *Simons*, 213 Ill. 2d at 530. A *Frye* hearing is necessary only “if the scientific principle, technique or test offered by the expert to support his or her conclusion is ‘new’ or ‘novel.’ ” *People v. McKown*, 236 Ill. 2d 278, 282-83 (2010) (*McKown II*). A scientific methodology is considered “new” or “novel” only if it is “original or striking” or fails to resemble something previously known or used. (Internal quotation marks omitted.) *Simons*, 213 Ill. 2d at 530. The *Frye* standard has been codified by the Illinois Rules of Evidence: “Where an expert witness testifies to an opinion based on a new or novel scientific methodology or principle, the proponent of the opinion has the burden of showing the methodology or scientific principle on which the opinion is based is sufficiently established to have gained general acceptance in the particular field in which it belongs.” Ill. R. Evid. 702 (eff. Jan. 1, 2011).

¶ 76 A dual standard of review applies to the trial court’s admission of expert scientific testimony. *Simons*, 213 Ill. 2d at 530. Whether an expert scientific witness is qualified to testify in a subject area and whether the proffered testimony is relevant to the case are questions left to the sound discretion of the trial court, but whether the proffered evidence is sound or novel is subject to *de novo* review. *Simons*, 213 Ill. 2d at 530-31. An abuse of discretion occurs only where the trial court’s decision is “arbitrary, fanciful, or unreasonable to the degree that no reasonable person would agree with it.” *People v. Rivera*, 2013 IL 112467, ¶ 37.

¶ 77

1. *Cruz*

¶ 78 Defendant argues that the human-remains-detector-dog evidence was inadmissible *per se* under *Cruz*, where our supreme court reiterated the bright-line rule that “bloodhound evidence is inadmissible to establish any factual proposition in a criminal proceeding in Illinois.” *Cruz*, 162 Ill. 2d at 369-70; see also *People v. Pfanschmidt*, 262 Ill. 411, 461 (1914) (“testimony as to the trailing of either a man or an animal by a blood-hound should never be admitted in evidence in any case”).

¶ 79 In *Cruz*, a lieutenant of the Lake County sheriff’s department, the trainer of the canine unit, testified about the actions of two of his bloodhounds during the police investigation conducted around the victim’s home. According to the officer, his dogs trailed two different paths when directed to scent from the victim’s bedclothes, a footprint on the front door, and a shoe impression in a tire mark in the grass. *Cruz*, 162 Ill. 2d at 329.

¶ 80 The officer testified regarding his extensive background as well as the background, training, and typical trailing behavior of two of his bloodhounds. According to the officer, his two dogs possessed a success rate of “85 percent” based on the number of their “finds.” He conceded that his dogs were “man-trailers,” which follow the “affluency of a scent,” as opposed to “man-trackers,” which go from footprint to footprint locating the actual path taken by an individual. (Internal quotation marks omitted.) *Cruz*, 162 Ill. 2d at 367.

¶ 81 The officer testified that his dogs “scented” from the victim’s bedclothes and went from the front stoop of her home to a location on the front lawn near the curb and sat down. He also testified that one of his dogs then “scented” from the tire impression in the front lawn, near where the dogs sat down, and went back to the front stoop by a slightly different path. He further related that he allowed the same dog to “scent” from the footprint on the front door and

that the dog took the same path as that taken from the front stoop. Finally, he testified that neither of the dogs indicated that a scent ended in the driveway. *Cruz*, 162 Ill. 2d at 367.

¶ 82 Under cross-examination, the officer allowed that weather conditions such as wind, snow, and dryness can affect a dog's ability to trail. Significantly, he could not say that the first path taken by the dogs was the path taken by the victim when she was abducted or was the exact path that an individual had walked. He could not say that the trail had anything to do with her disappearance or her abduction. *Cruz*, 162 Ill. 2d at 367. He also acknowledged that there was no relationship between the end of the dogs' first path and the depression in the lawn. *Cruz*, 162 Ill. 2d at 367-68. The officer could say only that his dog sniffed the depression and then took a slightly different path back to the front door. He offered no evidence about when the depression was made. *Cruz*, 162 Ill. 2d at 368.

¶ 83 The State relied on the bloodhound evidence to argue that Cruz's codefendant did not act alone and that more than one path was taken by the culprits to and from the home. The prosecutor stated in closing that "[w]e have four different shoe prints found at the scene of the house. *We have the bloodhounds following different trails around the house.*" (Emphasis in original.) *Cruz*, 162 Ill. 2d at 368.

¶ 84 On appeal, Cruz challenged the admission of the bloodhound evidence, arguing that it was either inadmissible *per se* or inadmissible in his case and was also prejudicially distorted by the State in closing argument. *Cruz*, 162 Ill. 2d at 367. The *Cruz* court restated the concerns about canine odor detection that were previously expressed in *Pfanschmidt*:

“Neither court nor jury can have any means of knowing why the dog does this thing or another, in following in one direction instead of another; that must be left to his instinct without knowing upon what it is based. The information obtainable on this subject,

scientific, legal or otherwise, is not of such a character as to furnish any satisfactory basis or reason for the admission of this class of evidence. *** [T]he “conclusions of the blood-hound are generally too unreliable to be accepted as evidence in either civil or criminal cases.” ’ ’ *Cruz*, 162 Ill. 2d at 368-69 (quoting *Pfanschmidt*, 262 Ill. at 462, quoting *Brott v. State*, 97 N.W. 593, 594 (Neb. 1903)).

¶ 85 The *Cruz* court rejected the State’s distinction between the trailing of animals and the trailing of humans. The court observed that, when presented with the opportunity to review the admission of testimony referring to bloodhounds after *Pfanschmidt*, the court had “flatly reiterated that ‘[t]he law is *** as laid down in [*Pfanschmidt*], that testimony of the trailing of either man or animal by a bloodhound should never be admitted in evidence in any case.’ ” *Cruz*, 162 Ill. 2d at 369 (quoting *People v. Wolf*, 334 Ill. 218, 229 (1929)). The court broadly held that “we continue to adhere to the principle that bloodhound evidence is inadmissible to establish any factual proposition in a criminal proceeding in Illinois” and that “we remain unpersuaded that this class of evidence is reliable.” *Cruz*, 162 Ill. 2d at 369-70.

¶ 86 In *Cruz*, the State used the man-trailing-bloodhound evidence for identification purposes to establish that more than one culprit was at the victim’s home. In this case, the State introduced the human-remains-detector-dog evidence to show the victim’s presence on the rug and at the excavation site. The issue is whether the tracing of the path of a person on foot is different from the detection of human remains at a specific location when much of the underlying science is the same in that each involves the anatomy and physiology of canine olfaction systems and the training and deployment of odor detector dogs. Perhaps there is a scientific distinction to be drawn at a future *Frye* hearing, but no evidence of a difference has been presented in this case.

¶ 87 The *Cruz* court recognized that “the real danger posed by admitting bloodhound evidence lies not simply in its fallibility, but in its potential to prejudice.” *Cruz*, 162 Ill. 2d at 370. “ ‘ “It is well known that the exercise of a mysterious power not possessed by human beings begets in the minds of many people a superstitious awe ***. The very name by which the animal is called has a direct tendency to enhance the impressiveness of the performance ***.” ’ ” *Cruz*, 162 Ill. 2d at 370 (quoting *Pfanschmidt*, 262 Ill. at 458, quoting *Pedigo v. Commonwealth*, 44 S.W. 143, 145-46 (Ky. 1898)). Likening bloodhound evidence to hypnotically refreshed testimony and polygraph evidence, the court stated that “such evidence is generally lacking in probative value when balanced against the dangers of unfair prejudice.” *Cruz*, 162 Ill. 2d at 370.

¶ 88 The *Cruz* court announced a *per se* prohibition of bloodhound evidence in criminal proceedings and declined to adopt an individualized approach used in several foreign jurisdictions, which the State advocates here. *Cruz*, 162 Ill. 2d at 371. The court noted that an overwhelming number of foreign cases where bloodhound evidence was admitted concern its use for identification of the guilty party. Generally speaking, the proper foundational requirements, according to those authorities, refer both to the qualifications of the dog and to the circumstances of the trailing. *Cruz*, 162 Ill. 2d at 371. “[A] dog might be a pure-bred, experienced, reliable ‘man-trailer’ handled by a professional, thereby meeting certain of the foundational requirements, but if the circumstances of the dog’s trailing failed to show that what it did was connected to the case, the evidence would be irrelevant and therefore inadmissible. In this manner, the individualized approach, by relying on foundational requirements, assures exclusion of irrelevant evidence.” *Cruz*, 162 Ill. 2d at 371-72.

¶ 89 The foreign jurisdictions employing the individualized approach require proof that the dog was put on the trail at a place and time where, other evidence shows, the guilty party had

been and had made the trail. This requirement ensures that the dog's subsequent identification of a person has some corroborated basis, and without the corroboration the dog's identification does not establish that the person had any connection to the crime. *Cruz*, 162 Ill. 2d at 371.

¶ 90 The *Cruz* court observed that the circumstances of the bloodhound trailing in that case had failed to show any connection with the victim's abduction, and it stated, in *dicta*, that "aside from any *per se* rule against admission of this evidence, most of the bloodhound evidence here was lacking in relevancy and should not have been admitted." *Cruz*, 162 Ill. 2d at 372-73.

¶ 91 In this case, Dr. Stejskal gave extensive scientific expert testimony to establish that dogs have olfactory systems that are far superior to those of humans and that dogs can be trained and deployed to detect odors that cannot be detected by humans. The rug was independently known to be connected to the case through its identification by various witnesses and the location where it was recovered. However, even in light of a "scent linkage" to items independently known to be connected to the case, which the State arguably established here, the *Cruz* court expressly rejected the individualized approach in favor of a *per se* rule against what arguably could be classified as odor-detector-dog evidence.

¶ 92 *2. Lerma*

¶ 93 Six years after *Cruz* was decided, our supreme court observed that "[s]cience is not static, and methods must exist for reexamining the validity of scientific tests when new information is acquired." *People v. Basler*, 193 Ill. 2d 545, 550 (2000). Recently, the court reinforced the practice of reexamining the admissibility of scientific evidence in criminal prosecutions. On appeal from a murder conviction, the court reviewed the exclusion of expert testimony that was offered to show the unreliability of eyewitness identifications. *People v. Lerma*, 2016 IL 118496, ¶ 24. Noting that eyewitness testimony historically had been viewed as a matter of

common knowledge for which expert testimony was inappropriate, the court observed that 25 years of relevant research had resulted in “a dramatic shift in the legal landscape, as expert testimony concerning the reliability of eyewitness testimony has moved from novel and uncertain to settled and widely accepted.” *Lerma*, 2016 IL 118496, ¶¶ 23-24. The court noted that “we not only have seen that eyewitness identifications are not always as reliable as they appear, but we also have learned, from a scientific standpoint, why this is often the case. Accordingly, whereas [*People v. Enis*, 139 Ill. 2d 264 (1990),] allowed for but expressed caution toward the developing research concerning eyewitness identifications, today we are able to recognize that such research is well settled, well supported, and in appropriate cases a perfectly proper subject for expert testimony.” *Lerma*, 2016 IL 118496, ¶ 24. The court held that the trial court abused its discretion in denying the defense request to allow expert testimony, because “the State’s case against defendant hangs 100% on the reliability of its eyewitness identifications.” *Lerma*, 2016 IL 118496, ¶¶ 25-26.

¶ 94 Thus, after restating in *Cruz* its adherence to a *per se* prohibition against “bloodhound evidence” in all criminal proceedings, the supreme court acknowledged in *Lerma* that science is not static and endorsed the reexamination of scientific tests when new information is acquired. *Lerma*, 2016 IL 118496, ¶¶ 24-26. *Lerma* thus appears to endorse the trial court’s reexamination of the science that underlies odor-detector-dog evidence. However, *Lerma*’s endorsement of such reexamination was made in the context of *Enis*, which merely had cautioned against admitting eyewitness identification expert testimony, without declaring a *per se* rule against it.

¶ 95 The *Cruz* court unambiguously announced a broad and clear prohibition of “bloodhound evidence” presented to prove any factual proposition in a criminal proceeding, and the doctrine of *stare decisis* weighs in favor of adhering to that prohibition in this case if *Cruz* is read as

prohibiting all odor-detector-dog evidence. See *Gillen v. State Farm Mutual Automobile Insurance Co.*, 215 Ill. 2d 381, 392 n.2 (2005) (*stare decisis* requires courts to follow the decisions of higher courts, but does not bind courts to follow decisions of equal or inferior courts). However, the bloodhound evidence in *Cruz* was not subjected to a *Frye* hearing, unlike here, where the State sought admission of the human-remains-detector-dog evidence and submitted evidence supporting the underlying science, as contemplated by Rule 702. Despite *Cruz*, the trial court was persuaded by the State's evidence and deemed it admissible. Hence, this case presents the situation where the trial court reexamined the validity of detector dog evidence under the procedure authorized by the supreme court and reached a conclusion arguably contrary to *Cruz*.

¶ 96 As illustrated by the evidence presented at the *Frye* hearing, which we summarize below, one could argue that the scientific understanding and reliability of odor detection and identification by canines and their deployment by human handlers have improved since *Cruz* was decided. At the very least, the record in this case contains substantial evidence concerning the scientific understanding and reliability, which was not present in *Cruz*. These circumstances potentially provide “good cause” or “compelling reasons” for the supreme court to revisit *Cruz* in a way that this court cannot. See *People v. Sharpe*, 216 Ill. 2d 481, 519 (2005) (departure from *stare decisis* must be justified by “good cause” or “compelling reasons”).

¶ 97

3. *Frye*

¶ 98 The trial court concluded that the State presented sufficient new information regarding human-remains-detector-dog evidence to warrant a reexamination of the methodology, and ultimately the admission of the expert testimony. The *Frye* hearing allowed the State to make an offer of proof to facilitate appellate review.

¶ 99 Dr. Stejskal offered exhaustive testimony about how dogs serve as a tool to locate missing persons through the science of canine olfaction and forensic taphonomy. Olfaction research has revealed that chemoreceptors of the olfactory sensory cells in the turbinates detect the volatile organic compounds that make up odors in the air. The cells send messages to the olfactory bulb, which relays the information to the brain, where the compounds are recognized as particular odors.

¶ 100 Dr. Stejskal explained that dogs' physiology confers a superior sense of smell. For instance, German Shepherds, like the ones used in this case, have 45 times as many olfactory sensory cells and inhale five times as much air as humans. In general, a dog's olfactory bulb is 40 times larger than a human's.

¶ 101 Further, dogs can be trained to locate human remains because their physiology gives them the unique ability to distinguish particular scents. Behavioral changes signal the handler that the dog has encountered something it has been trained to detect, and the dog breathes differently to concentrate the odor. Also, dogs do not experience olfactory fatigue, unlike humans.

¶ 102 Dr. Stejskal also gave extensive testimony regarding the stages of human decomposition, the odor-producing compounds that result, and the training of dogs to detect those odors. Dr. Stejskal testified about research by different scientific organizations and the use of odor detector dogs by various government agencies. Dr. Stejskal had been involved in the training of human-remains-detector dogs for 10 years. The training consists of repeatedly exposing the dog to the source of a particular odor and then rewarding the dog each time it demonstrates interest in that odor. The dog is then trained to perform an "alert" that connects the discovery of the odor to a behavior that is rewarded. Specifically, human-remains-detector dogs are trained by exposing

them to the scent of human remains in different stages of decomposition and in different environments, creating a “library” of recognizable scents.

¶ 103 At trial, defendant did not meaningfully challenge Dr. Stejskal’s qualifications, arguing only that the State had not “sufficiently established through her testimony her expertise in the olfactory system and forensic taphonomy.” On appeal, defendant abandons any claim that Dr. Stejskal was unqualified. Rather, he cites certain literature providing that a human-remains-detector-dog alert can be a helpful investigative tool but should not be considered admissible as evidence at a criminal trial when it has not been corroborated by scientific verification of the presence of human remains. Lars Oesterhelweg *et al.*, *Cadaver Dogs—A Study on Detection of Contaminated Carpet Squares*, 174 *Forensic Sci. Int’l* 35, 38 (2008).

¶ 104 In contrast, courts in other jurisdictions have credited testimony and scientific literature to conclude that human-remains-detector-dog evidence is reliable and admissible under their versions of Rule 702. In *People v. Lane*, 862 N.W.2d 446, 457 (Mich. Ct. App. 2004), the court concluded that “cadaver dog evidence is sufficiently reliable under *Daubert* [*v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993),] and *Gilbert* [*v. DaimlerChrysler Corp.*, 685 N.W.2d 391 (Mich. 2004),] if the proponent of the evidence establishes the foundation that (1) the handler was qualified to use the dog, (2) the dog was trained and accurate in identifying human remains, (3) circumstantial evidence corroborates the dog’s identification, and (4) the evidence was not so stale or contaminated as to make it beyond the dog’s competency to identify it.” In *Clark v. State*, 781 A.2d 913, 936 (Md. Ct. Spec. App. 2001), the court affirmed the admission of such evidence under *Frye* based on an expert’s testimony that “the use of cadaver dogs in trying to determine the existence, or the one-time existence, of human remains at a particular location is a widely accepted practice in the fields of forensic anthropology and

pathology.” In *Trejos v. State*, 243 S.W.3d 30, 48-56 (Tex. Ct. App. 2007), the court affirmed the admission of the evidence because its probative value outweighed its prejudicial effect, citing the qualifications of the trainers and the dogs and the methodology of the deployment. See also *People v. Lifrieri*, 646 N.Y.S.2d 172 (App. Div. 1996) (certified dog handler testified to the dog’s training, reliability, and certification as a so-called “cadaver dog”).

¶ 105 Emphasizing the long investigative history of this case, defendant argues that Dr. Stejskal’s opinions were incomplete because she did not testify about whether a dog could alert on a location 17 years after it was alleged to have had contact with human remains. However, this criticism goes only to the weight to be given to Dr. Stejskal’s testimony, where she testified to how time and environmental conditions could affect decomposition odor, not whether the science of the anatomy and physiology of canine olfaction systems, forensic taphonomy, and the training and deployment of human-remains-detector dogs have gained general acceptance.

¶ 106 While not rejecting the general reliability of human-remains-detector-dog evidence, the First Circuit Court of Appeals in *United States v. Burgos-Montes*, 786 F.3d 92, 116 (1st Cir. 2015), held that the State had failed to lay a sufficient foundation for the evidence in that case:

“The prosecution witnesses offered virtually no evidence that the scientific reliability of such a use had been established, or that their investigation protocols were generally accepted for such a use. Burgos’ experts, in turn, provided easy-to-follow testimony explaining numerous basic defects in the use of the dogs for the purpose for which they were used here. They also offered much common sense, noting, for example, that the officer using the dog on a leash that alerted was the officer who had previously identified the suspected spot.” *Burgos-Montes*, 786 F.3d at 116.

This case is distinguishable, where Dr. Stejskal testified at length regarding the underlying science, and Ponall gave testimony that the deployment yielded reliable results. One could argue that the evidence presented at the *Frye* hearing showed that the science was sufficiently established to have gained general acceptance in the field and that the evidence sufficiently linked the victim's body to the rug and the excavation site.

¶ 107

4. *Moore and Holmes*

¶ 108 The State argues that the human-remains-detector-dog evidence in this case is similar to the narcotics-detector-dog evidence deemed admissible in *People v. Moore*, 294 Ill. App. 3d 410 (1998). In that case, we held that the trial court did not err in admitting evidence that a drug sniffing dog alerted to Moore's car even though no drugs were subsequently found in the car. Through various witnesses, the State presented testimony that Moore operated a "crack house," which he barricaded to bar entry by his customers and the police. *Moore*, 294 Ill. App. 3d at 413. Moore hired a 16-year-old, drove him to the residence in his red Camaro, and gave him a "500 pack" of crack cocaine with basic instructions on how to sell the drugs. *Moore*, 294 Ill. App. 3d at 413. On that day, two informants gave the police detailed information about the operation and said that the operator drove a red Camaro or Firebird with a black bra. A controlled buy at the apartment led to a search warrant. *Moore*, 294 Ill. App. 3d at 413.

¶ 109 On several occasions, the officers watching the apartment noticed a red Camaro, registered to Moore, in front of the building. The officers saw Moore drive up, honk the horn, and hand a brown paper bag to the young seller. *Moore*, 294 Ill. App. 3d at 413-14.

¶ 110 The police raided the apartment and detained Moore when he tried to drive away. Moore turned off the car, threw the keys to the floorboard, and exited the car. Meanwhile, the other

officers used a battering ram to execute the search warrant on the apartment, where they found the young seller alone inside with crack cocaine and cash. *Moore*, 294 Ill. App. 3d at 414.

¶ 111 A narcotics dog was deployed on Moore’s car. The dog alerted to the driver’s door seam and behind the front passenger seat, but no drugs were found in the car. The handler testified that the dog might have detected residual odors from narcotics. *Moore*, 294 Ill. App. 3d at 414.

¶ 112 Appealing from his drug conviction, Moore argued that *Cruz* barred admission of the dog alert on his car. We drew a distinction between the narcotics dog and the “man-trailer” in *Cruz*. *Moore*, 294 Ill. App. 3d at 416. We observed that the use of trained dogs as a follow-up investigative technique to partially corroborate information received was “ ‘a useful, entirely reasonable and permissible procedure.’ ” *Moore*, 294 Ill. App. 3d at 416 (quoting *People v. Campbell*, 67 Ill. 2d 308, 317 (1977)). Holding that the police officers acted reasonably in using the odor detector dog, we emphasized that the alert was sufficiently corroborated by witnesses who said that Moore used his car to transport cocaine and by police officers who observed Moore handing the young seller a paper bag in the car. *Moore*, 294 Ill. App. 3d at 416.

¶ 113 The State argues that, as in *Moore*, the dog alerts in this case were corroborated by defendant’s sister, his nephew, and his daughter. Defendant maintains that such corroboration must be scientific evidence of human remains at the scene, not testimony about the events surrounding the victim’s disappearance.

¶ 114 The dog alert in *Moore* was corroborated by, *inter alia*, the seizure of a substance that was scientifically confirmed to be cocaine. The cocaine in the apartment, not its residual odor in the car, was the *corpus delicti*. See *People v. Sargent*, 239 Ill. 2d 166, 183 (2010) (when proving each element of a criminal offense beyond a reasonable doubt, the State must prove beyond a

reasonable doubt that (1) a crime occurred, known as the *corpus delicti*, and (2) the crime was committed by the defendant).

¶ 115 Here, the victim was never found, and no forensic evidence was collected or tested. Had the investigation resulted in the discovery of Guadalupe's remains or even unidentified human remains, the grounds for admitting the detector-dog evidence might have fit within *Moore*'s holding in that the use of the dog was “‘a useful, entirely reasonable and permissible procedure’ ” and follow-up investigative technique to partially corroborate the other information received. *Moore*, 294 Ill. App. 3d at 416 (quoting *Campbell*, 67 Ill. 2d at 317).

¶ 116 Similar to *Moore*, in *People v. Holmes*, 397 Ill. App. 3d 737 (2010), the State introduced evidence that a police dog trainer deployed a dog that alerted to drugs at a point on the path taken by Holmes, who was running from an officer. The pursuing officer testified that, when he encountered Holmes, Holmes fled in the opposite direction, falling three times as he was chased. *Holmes*, 397 Ill. App. 3d at 739. The second time he fell, Holmes tossed several “shiny objects” toward an apartment building, but the officer did not see them fall to the ground. *Holmes*, 397 Ill. App. 3d at 739. After Holmes was caught, the officer found a clear plastic baggie containing a green, plant-like material, near the spot where Holmes fell the second time. *Holmes*, 397 Ill. App. 3d at 739. After the dog alerted to an area near where Holmes had run, the trainer saw a second bag of green plant material on top of a grill on a porch, about three feet from a railing. The officers continued searching the area without the dog and found more suspected narcotics, and Holmes was charged with possession. *Holmes*, 397 Ill. App. 3d at 740.

¶ 117 The defense argued that the dog-alert evidence was inadmissible under *Cruz*, but the trial court disagreed. The court explained that the evidence was corroborated by the testimony of the

two officers, the drugs were in plain sight, and there was no testimony that the dog alerted to the scent of Holmes. *Holmes*, 397 Ill. App. 3d at 740.

¶ 118 On appeal from the conviction, we rejected Holmes’s claim that trial counsel was ineffective for failing to file a motion *in limine* to suppress the dog-alert evidence, because such a motion would have been meritless. We found no error in the trial court’s reasoning that “(unlike in *Cruz*) there was ‘no testimony that [the dog] *** picked up the scent specifically of the defendant.’ Further, there was testimony that the dog was trained in narcotics. This indicates that the trial court believed that the dog was used to detect drugs rather than a human scent (the subject of both [*People v. Lefler*, 294 Ill. App. 3d 305 (1998),] and *Cruz*).” *Holmes*, 397 Ill. App. 3d at 745. Thus, *Holmes* inferred, without any scientific evidence, that drug dogs are reliable and man-trailing dogs are not.

¶ 119 *Moore* and *Holmes* are similar in that each features witnesses who corroborated the detector-dog evidence, and they are distinguishable from *Cruz* for a reason not emphasized in either case: that evidence of the target of the canine sniff was found. In *Cruz*, the target of the dog deployment, a live person accused of committing the offense at the scene, was, understandably, not present. In *Moore* and *Holmes*, the dogs alerted to substances that were recovered by police and subsequently were scientifically confirmed to be narcotics. No one suggests that, without the actual drugs, the dog alerts and corroborating eyewitness testimony would have been sufficient to prove the *corpus delicti* of the drug offenses.

¶ 120 All odor-detector-dog cases involve the olfactory system, the training of the dogs, and the interpretation of the alerts. Thus far, the parties have not cited evidence that the science of odor detection by canines differs depending on the odor. See *Cruz*, 162 Ill. 2d at 370 (“we remain unpersuaded that *this class* of evidence is reliable” (emphasis added)). In fact, Dr. Stejskal

testified that similar training is used for dogs regardless of whether they are deployed to find human remains, agricultural products, narcotics, or explosives.

¶ 121 The scientific testimony in this case suggests that the fact that some investigations involve narcotics and others involve humans or their remains is less relevant than whether the target of the deployment is discovered. The dog-alert evidence was admissible in *Moore* and *Holmes* without a *Frye* hearing because it was corroborated by the scientific confirmation of narcotics at the scene, not because the dogs were looking for drugs and not people. The dog-alert evidence was inadmissible in *Cruz* because it was not corroborated by physical evidence. The dog deployment was subjected to a *Frye* hearing here, and the State attempted to use the *odor* of human remains, not the remains themselves, to help prove the *corpus delicti* of first-degree murder. *People v. Acri*, 277 Ill. App. 3d 1030, 1033 (1998) (“Illinois has been very cautious in its approach to the admission of evidence derived from the use of dogs,” and “[i]n *Cruz*, the Illinois Supreme Court stated that this caution is based both on the fallibility of dogs and the ‘superstitious awe’ with which people view dog-sniff evidence”).

¶ 122

B. Harmless Error

¶ 123 The prosecutor did not argue to the jury that the evidence that the human-remains-detector dogs alerted on the rug and the excavation site was evidence of Guadalupe’s death, but the admission of the evidence permitted the jury to make the inference. Without deciding whether the ruling was error, we agree with the State that any potential error was harmless beyond a reasonable doubt because defendant’s guilt was proven by overwhelming evidence.

¶ 124 To establish that any error was harmless, the “State must prove beyond a reasonable doubt that the jury verdict would have been the same absent the error.” *People v. Thurow*, 203 Ill. 2d 352, 363 (2003). When deciding whether an error was harmless, a reviewing court may

(1) focus on the error to determine whether it might have contributed to the conviction, (2) examine the properly admitted evidence to determine whether it overwhelmingly supports the conviction, or (3) determine whether the improperly admitted evidence is merely cumulative or duplicates properly admitted evidence. *In re Rolandis G.*, 232 Ill. 2d 13, 43 (2008).

¶ 125 Defendant contends that the court admitted the evidence of the dogs' alerts as substantive evidence that a death occurred and that the decedent was Guadalupe. However, the record shows that the prosecutor did not mention the human-remains-detector-dog evidence in his initial closing argument and mentioned it only briefly in rebuttal, in response to defense counsel's argument.

¶ 126 In contrast, defense counsel drew attention to it repeatedly. Counsel summarized Dr. Stejskal's testimony and argued that it was not probative of how a body's odor could be detected after being wrapped in a rug for a short period. Counsel also asserted that Dr. Stejskal did not explain how environmental factors would affect the residual chemicals over a 17-year period so the dogs could detect them. Counsel argued that Ponall was biased in favor of her dogs, conceded the risk of false positives, and failed to identify exactly how the dogs' behavior changed when they alerted.

¶ 127 In rebuttal, the prosecutor responded that Dr. Stejskal's testimony was valuable because it educated the jury on the science. The prosecutor argued, "I know that six times I heard Ellen Ponall say, three times for the excavation site, three times for the rug, the dogs positively alerted for the smell or odor of human decomposition."

¶ 128 At no point did the prosecutor argue that the dogs' alerts were proof that the human remains they detected were from Guadalupe. The prosecutor's restraint diminished any prejudicial effect of the evidence, which the defense drew attention to.

¶ 129 Moreover, the jury heard overwhelming evidence of defendant's guilt. On a Sunday in July 1990, defendant strangled Guadalupe in their home with a rope because he believed that she was having an extramarital affair. Defendant brought his sister, Narcisa, with whom he rarely associated, to his house, where she watched defendant wrap the victim in a rug and place her in the back of his truck. The victim had a rope around her neck.

¶ 130 After defendant threatened her not to tell anyone about the murder, Narcisa went with him to the horse farm, where defendant's brother and nephew lived and worked. While Narcisa was inside the house, defendant and Juan buried the victim near a small barn on the property. Defendant again threatened Narcisa. Maria corroborated defendant and Narcisa's visit to her home, noting that it was memorable because defendant and Narcisa did not usually spend time together and Narcisa appeared ill. Roberto also gave corroborating testimony about the visit, describing how he rode with defendant to pick up Juan from his job at the health club, while defendant was "talking trash" about Guadalupe.

¶ 131 About a week after Juan and defendant buried the victim, Juan told Roberto about the murder and showed him where Guadalupe was buried. After receiving this information, Roberto confronted defendant about killing Guadalupe, and defendant responded that she had been cheating on him. Roberto testified that, soon thereafter, defendant asked him about renting a wood chipper to "get rid of the body." Months later, defendant asked Roberto to help dig up the body, but Roberto refused.

¶ 132 In 1991 or 1992, defendant gave Arturo a plastic bag and said that it contained a head and hands. Defendant and Arturo drove to an area near the intersection of Interstate 88 and Route 59, where Arturo threw the bag toward the highway. On the ride home, defendant confessed to Arturo that he had killed Guadalupe because she had been unfaithful.

¶ 133 In 1994, while investigating Guadalupe's disappearance, the police recovered the rug near the barn, but returned it to the area because they believed that it was part of a junk pile and had no evidentiary value.

¶ 134 In 2007, Maribel confronted defendant about her mother's disappearance. Defendant said that she could not handle the truth and that "there could be a body." Maribel told defendant that she wanted a proper burial for Guadalupe, and he responded that, if Maribel let him see his grandchildren, he might tell her more. The investigation was reopened, and Roberto showed the police where he was told the victim was buried. The police rediscovered the rug about one foot underground and found what was described as a rope or piece of twine. Maribel identified the rug as having been in her living room before the disappearance, but not after. Narcisa also identified the rug as the one defendant used to transport the victim, and the twine as being similar to the one around the victim's neck. At the time of his arrest, defendant said, "this does not interest me." Furthermore, there was no evidence of any motive for four of defendant's family members to fabricate their testimony implicating him in Guadalupe's murder.

¶ 135 In light of this evidence, we conclude beyond a reasonable doubt that the jury verdict would have been the same absent the detector dog evidence. See *Thurrow*, 203 Ill. 2d at 363. The properly admitted evidence overwhelmingly supports the conviction. See *Rolandis G.*, 232 Ill. 2d at 43.

¶ 136

III. CONCLUSION

¶ 137 The human-remains-detector-dog evidence, without corroborating scientific evidence of the victim's presence on the rug or at the excavation site, could be viewed as analogous to bloodhound trailing evidence, which has been deemed inadmissible *per se* to show any factual proposition in a criminal case in Illinois. See *Cruz*, 162 Ill. 2d at 369-70. However, the trial

court followed the procedure outlined by Rule 702, *Lerma*, and *Frye* to reexamine the scientific reliability of the evidence. The court admitted the evidence upon finding the State's expert to be qualified and credible and the science to be generally accepted in its related field.

¶ 138 We need not resolve this conflict, as any potential error in this case was harmless beyond a reasonable doubt. We affirm defendant's conviction of first-degree murder. As part of our judgment, we grant the State's request that defendant be assessed the State's attorney fee of \$50 under section 4-2002(a) of the Counties Code (55 ILCS 5/4-2002(a) (West 2014)) for the cost of this appeal. See *People v. Nicholls*, 71 Ill. 2d 166, 178 (1978).

¶ 139 Affirmed.

¶ 140 JUSTICE HUTCHINSON, specially concurring.

¶ 141 While I agree with the ultimate outcome in this case, I disagree with the majority's criticism of our decisions in *People v. Moore*, 294 Ill. App. 3d 410 (1998), and *People v. Holmes*, 397 Ill. App. 3d 737 (2010). The criticism (see *supra* ¶¶ 107-21) is entirely unnecessary. All of us today agree that advances in science, in technology, and in popular understanding can, over time, render evidence once excluded as inadmissible now admissible as reliable. See, e.g., *People v. Lerma*, 2016 IL 118496, ¶¶ 22-28 (eyewitness identification). A *Frye* hearing is one such way to ask a court to reexamine prior determinations on the general acceptance and, ultimately, the admissibility of a particular class of evidence. See, e.g., *People v. McKown*, 236 Ill. 2d 278, 303 (2010) (horizontal gaze nystagmus); *In re Commitment of Simons*, 213 Ill. 2d 523, 535 (2004) (actuarial risk assessments for sex offenders).

¶ 142 It appears that the majority today is willing to distinguish *Cruz* on the basis that, unlike in *Cruz*, here the State presented extensive evidence at a *Frye* hearing and at trial concerning canine

olfaction and forensic taphonomy. See *supra* ¶ 106. But I have to ask: Could not *Moore* and *Holmes* be distinguished in the same way?

¶ 143 “It is well settled that the precedential scope of a decision is limited to the facts before the court.” *People v. Flatt*, 82 Ill. 2d 250, 261 (1980). As I see it, *Moore* and *Holmes* stand for the proposition that the prohibition in *Cruz* was limited to the scenario presented by the facts of that case—the use of canine tracking or trailing to establish the *defendant’s identity*—and could, therefore, be distinguished from dog alerts that did not involve tracking or trailing for that purpose. See *Moore*, 294 Ill. App. 3d at 416-17; see also *Holmes*, 397 Ill. App. 3d at 744-46. I note that, until today’s decision, every Illinois appellate district has understood *Cruz* and has distinguished it in precisely that same way. See *People v. Lacy*, 407 Ill. App. 3d 442, 465-66 (1st Dist. 2011); *People v. Reeves*, 314 Ill. App. 3d 482, 489 (1st Dist. 2000); *People v. Tyler*, 2012 IL App (3d) 100970, ¶ 42; *People v. Burney*, 2011 IL App (4th) 100343, ¶¶ 57-62; *People v. Lefler*, 294 Ill. App. 3d 305, 309 (5th Dist. 1998).

¶ 144 I would distinguish *Moore* and *Holmes* (and all of the cases I cited in the previous paragraph) the same way the majority has distinguished *Cruz*. Like *Cruz*, those cases did *not* involve evidence concerning the general acceptance of canine olfaction and the reliability of forensic taphonomy; this case did. That other cases have distinguished *Cruz* on different grounds adds little to (and arguably draws attention from) the majority’s strongest point: that trial courts should keep an open mind and, in appropriate cases, allow the parties to present new evidence even if it challenges old evidentiary assumptions. *Supra* ¶¶ 120-21; see also *Lerma*, 2016 IL 118496, ¶¶ 22-28. As our supreme court has stated, “relying exclusively upon prior judicial decisions to establish general scientific acceptance” is “a hollow ritual if the underlying issue *** has not been adequately litigated.” (Internal quotation marks omitted.) *In re Commitment of*

Simons, 213 Ill. 2d at 537. In my view, the same observation holds for the *nonacceptance* of a class of evidence as well.

¶ 145 Consequently, I find the majority's attempt to posit a more limited, corroboration-only rationale for *Moore* and *Holmes* (*supra* ¶ 119) unnecessary and unpersuasive. Again, since these reliability issues were not presented in *Moore* and *Holmes*, there is no need to try to square those decisions with today's opinion. With that said, I specially concur.