

SUPREME COURT OF NEBRASKA

State v. Hill

288 Neb. 767 (2014) · No. No. S-13-698 · Decided August 8, 2014

OPINION

PER CURIAM.

Nebraska Advance Sheets STATE v. HILL 767 Cite as 288 Neb. 767 State of Nebraska, appellee, v. Thylun M. Hill, appellant. ___ N.W.2d ___ Filed August 8, 2014. No. S-13-698. 1. Expert Witnesses: Appeal and Error. The standard for reviewing the admissibility of expert testimony is abuse of discretion.

2. ____: _____. Abuse of discretion is the proper standard of review of a district court's evidentiary ruling on the admission of expert testimony under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993). 3. Judges: Words and Phrases. A judicial abuse of discretion exists when a judge, within the effective limits of authorized judicial power, elects to act or refrain from acting, but the selected option results in a decision which is untenable and unfairly deprives a litigant of a substantial right or a just result in matters submitted for disposition through a judicial system.

4. Constitutional Law: Search and Seizure: Motions to Suppress: Appeal and Error. In reviewing a trial court's ruling on a motion to suppress based on a claimed violation of the Fourth Amendment, an appellate court applies a two-part standard of review. Regarding historical facts, an appellate court reviews the trial court's findings for clear error. But whether those facts trigger or violate Fourth Amendment protections is a question of law that an appellate court reviews independently of the trial court's determination.

5. Search and Seizure. Application of the good faith exception to the exclusionary rule is a question of law. 6. Evidence: Proof: Appeal and Error. An appellate court's standard of review with respect to a sufficiency of the evidence claim is very narrow, in that the court must find the evidence to be sufficient if there is any evidence, when viewed in a light favorable to the prosecution, upon which a rational finder of fact could conclude that the State has met its burden of proof beyond a reasonable doubt.

7. Police Officers and Sheriffs: Arrests: Search and Seizure. When a police officer makes an arrest, in the absence of physical contact, the fact that a reasonable person would have believed he or she was not free to leave is a necessary, but not a sufficient, condition for seizure; the subject must also yield to that show of authority. 8. Constitutional Law: Search and Seizure: Search Warrants: Probable Cause.

The Fourth Amendment to the U.S. Constitution guarantees the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, and further provides that no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

9. Search Warrants: Affidavits: Probable Cause. A search warrant, to be valid, must be supported by an affidavit which establishes probable cause. 10. Search Warrants: Probable Cause: Words and Phrases. Probable cause sufficient to justify issuance of a search warrant means a fair probability that contraband or evidence of a crime will be found. Nebraska Advance Sheets 768 288 NEBRASKA REPORTS 11.

Search Warrants: Affidavits: Evidence: Appeal and Error. In evaluating the sufficiency of an affidavit used to obtain a search warrant, an appellate court is restricted to consideration of the information and circumstances contained within the four corners of the affidavit, and evidence which emerges after the warrant is issued has no bearing on whether the warrant was validly issued.

12. Search Warrants. Even when a search warrant is invalid, the exclusionary rule applies only in those cases in which exclusion will further its remedial purposes. 13. Motions to Suppress: Search Warrants: Affidavits: Police Officers and Sheriffs: Probable Cause.

The good faith exception to the exclusionary rule provides that in the absence of an allegation that the magistrate issuing a warrant abandoned his or her detached and neutral role, suppression is appropriate only if the officers were dishonest or reckless in preparing their affidavit or could not have harbored an objectively reasonable belief in the existence of probable cause.

14. Motions to Suppress: Search Warrants: Affidavits: Police Officers and Sheriffs: Evidence. Evidence obtained through the execution of an invalid warrant may appropriately be suppressed only if (1) the magistrate or judge in issuing a warrant was misled by information in an affidavit that the affiant knew was false or would have known was false except for his or her reckless disregard of the truth, (2) the issuing magistrate wholly abandoned his or her judicial role, (3) the warrant is based on an affidavit so lacking in indicia of probable cause as to render official belief in its existence entirely unreasonable, or (4) the warrant is so facially deficient that the executing officer cannot reasonably presume it to be valid.

15. Search Warrants: Affidavits: Probable Cause: Police Officers and Sheriffs: Appeal and Error. When evaluating whether a warrant was based on an affidavit so lacking in indicia of probable cause as to render official belief in its existence entirely unreasonable, an appellate court should address whether the officer, considered as a police officer with a reasonable knowledge of what the law prohibits, acted in objectively reasonable good faith in relying on the warrant.

16. Search Warrants: Affidavits: Police Officers and Sheriffs: Appeal and Error. In assessing the good faith of an officer's conducting a search pursuant to a warrant, an appellate court must look to the totality of the circumstances surrounding the issuance of the warrant, including information possessed by the officers but not contained within the four corners of the affidavit.

17. Courts: Expert Witnesses. Under the *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), and *Schafersman v. Agland Coop*, 262 Neb. 215, 631 N.W.2d 862 (2001), jurisprudence, the trial court acts as a gatekeeper to ensure the evidentiary relevance and reliability of an expert's opinion. 18. Homicide: Intent: Time.

To commit first degree murder, no particular length of time for premeditation is required, provided that the intent to kill is formed before the act is committed and not simultaneously with the act that caused the death. Nebraska Advance Sheets *STATE v. HILL* 769 Cite as 288 Neb. 767 Appeal from the District Court for Douglas County: Leigh Ann Retelsdorf, Judge.

Affirmed. Thomas C. Riley, Douglas County Public Defender, and Kelly M. Steenbock for appellant. Jon Bruning, Attorney General, and Erin E. Tangeman for appellee. Heavican, C.J., Wright, Connolly, Stephan, McCormack, Miller-Lerman, and Cassel, JJ. McCormack, J. I. NATURE OF CASE Thylun M. Hill appeals from his conviction of first degree murder. Hill argues that evidence found on his person the night of the murder should have been suppressed because he was seized the moment officers encountered Hill in the street, even though he fled.

Hill argues that evidence found where he lived should have been suppressed because the affidavit in support of the search warrant was so lacking in indicia of probable cause that it was wholly unreasonable for the executing officer to presume it to be valid. Hill argues that the court should have suppressed expert testimony and exhibits relating to Omaha's "ShotSpotter" system and its detection of the gunshots that killed the victim, because the testing of the accuracy of the system was inadequate.

Finally, Hill alleges that the evidence presented at trial was insufficient to support his conviction. We affirm. II. BACKGROUND Hill was convicted, among other crimes, of first degree murder in connection with the shooting death of an acquaintance of Hill's on the night of February 18, 2012. Hill made three pre-trial motions to suppress evidence, all of which were denied.

1. Motion to Suppress Results of Search of Person First, Hill moved to suppress all evidence gained as a result of the alleged illegal search of his person on the night of the Nebraska Advance Sheets 770 288 NEBRASKA REPORTS shooting.

The motion alleged that the officers who apprehended Hill lacked reasonable suspicion sufficient to justify a stop and frisk under *Terry v. Ohio*¹ and that the search was not incident to a lawful arrest. At the hearing on the motion, Officers Mickey Larson and Jeff Wasmund described the circumstances surrounding their encounter with Hill on the night in question.

Larson and Wasmund testified that at approximately 10:41 p.m. on February 18, 2012, they were in their police cruiser and Larson was pulling the cruiser out of the lot of the northeast police station, located between North 30th Street and North 31st Avenue. They were traveling in an all-black gang unit cruiser.

The cruiser did not have emergency lights on top, but was marked in large print as Omaha Police on the sides. The officers were wearing tactical vests also marked "POLICE," but otherwise were not wearing uniforms. Almost immediately, both officers heard what sounded like gunshots. They explained that it was clear to them that the shots had been fired nearby.

Wasmund was "very confident" that the gunshots had come from the west; he was less certain that they also came from the south. The officers headed one-half block west to 31st Avenue and then turned south. The officers radioed the precinct to determine if the ShotSpotter detection system was able to pinpoint a more precise location for gunfire.

As will be described in more detail below, the ShotSpotter system uses microphones and a global positioning system (GPS) to pinpoint the time and location of sounds consistent with gunshots in the area covered by the system.

The ShotSpotter soon gave the officers an address on North 31st Avenue about 2 1/2 blocks north of the police station. Thus, while the officers had been correct that the gunfire originated west of their original location, the ShotSpotter indicated the shots originated from the northwest, not the southwest.

The officers had traveled only about two blocks south on North 31st Avenue when they turned around and headed north. 1 Terry v. Ohio, 392 U.S. 1, 88 S. Ct. 1868, 20 L. Ed. 2d 889 (1968). Nebraska Advance Sheets STATE v. HILL 771 Cite as 288 Neb. 767 The officers arrived at the address indicated by the ShotSpotter and parked their cruiser in the middle of the street.

Only 1 minute had passed since the shots had been heard. About the same time the officers were stopping in front of the house identified by the ShotSpotter as the source of the gunfire, the officers observed a male rounding the corner at the end of the block and heading down the middle of North 31st Avenue directly toward them. This man was later identified as Hill.

The officers noted that Hill was the only civilian the officers had seen in the area since they heard the gunshots. They sought to determine whether Hill was the shooter, a victim, or a witness to the gunshots. Both officers testified that they stepped out of their vehicle and shined the vehicle spotlight in Hill's direction. They then announced, "Omaha police." During cross-examination, e Larson was asked whether they had yelled, "Omaha police, stop," when they exited the vehicle.

Larson answered “[u]h-huh,” but almost immediately thereafter, when defense counsel asked Larson to clarify whether they had ordered Hill to “stop” during their initial encounter with Hill, Larson indicated that they did not; they “just announced ‘Omaha police.’” Later at trial, Larson clarified that he announced only “Omaha police” and that he used a “normal tone of voice.” The officers did not have the emergency lights on.

Hill paused. The officers did not observe a weapon on Hill, and they began to walk in Hill’s direction. The officers did not have their weapons drawn at that time. Hill immediately turned around and fled, running north-bound.

The officers ran in pursuit, drew their weapons, and advised Hill that “we were police officers and you need to stop running.” Hill attempted to hurdle the white picket fence of a nearby house and tripped. Hill broke the top of a few of the pickets and hit the ground.

The officers, trailing close behind, observed at that time a black revolver fall out from somewhere on Hill’s person. Hill picked up the gun and began running again before the officers could catch up to him. The officers thereafter fired at Hill, and he was apprehended. Nebraska Advance Sheets 772 288 NEBRASKA REPORTS Numerous additional officers arrived at the scene almost immediately, and Hill was placed under arrest.

Several of these officers also testified at the hearing on Hill’s motion to suppress. The officers described that they began searching Hill to determine if he had a weapon and whether he had been shot. The officers conducting the search emptied Hill’s pockets.

The items in Hill’s pockets included paper, a wallet, and some latex gloves. A short while thereafter, officers discovered the discarded firearm in the path of Hill’s flight from the police. They also discovered the victim, whose body was located behind the house identified by the ShotSpotter as the source of the gunshots heard by Larson and Wasmund.

The court denied the motion to suppress. The court found that the officers had yelled for Hill to stop only after he began running away. The court reasoned that Hill was not “seized” until he was physically apprehended and subdued by the pursuing officers.

Therefore, the court did not analyze whether the officers had reasonable suspicion prior to that time. The court found that by the time Hill was apprehended, which was when he was placed under arrest, the officers knew that Hill was in the area of the shooting at the time of the shooting and also that he had a gun and had fled from police.

The court concluded that such information not only provided reasonable suspicion, but also probable cause for Hill’s arrest. The court concluded that the search of Hill’s person was proper incident to Hill’s arrest. Furthermore, the court noted that the firearm had not been seized from Hill, since he had discarded it before any seizure of his person. 2. Motion to Suppress Results of

Search of Home Hill moved to suppress the evidence found in the apartment where he was living at the time of the shooting.

In particular, he sought to suppress bullets found in the bedroom where he slept, which a ballistics expert connected at trial to the bullets used in the shooting of the victim. Hill alleged that the affidavit in support of the search warrant, made by Officer Thomas Queen, lacked probable cause. Nebraska Advance Sheets STATE v. HILL 773 N.E.2d 288, 767 N.W.2d 677 (Neb. 2009), Queen, of the homicide unit of the Omaha Police Department, completed the affidavit for a warrant to search the apartment where Hill was receiving his Department of Labor benefits.

In the affidavit, Queen averred that he had reason to believe ammunition, companion equipment, venue items, and other items of evidentiary value “to the homicide that occurred on the 18th day of February 2012 at 2240 Hours at [the address]” would be found at the apartment.

The affidavit then explicitly set forth as grounds for the issuance of the warrant: On Saturday, February 18th, 2012 at about 2240 Hours officers of the Omaha Police Department were in the area of 31 Avenue and Meredith Avenue Omaha, Douglas County, Nebraska, when they heard several gunshots close by. Shortly after the shots Officers observed a party in the same area and attempted to make contact with him.

The party ran from officers and dropped a R.G. Industries .38 caliber revolver. The party was apprehended and identified as Thylun M. HILL. Shot Spotter was checked and it indicated that the shots were fired in the back yard of [address]. Officers went to that location and found a party deceased from apparent gunshot wounds. A data check showed that Thylun M. HILL was convicted of 1st Degree Manslaughter in Hennipin, Minnesota on April 16th, 1998[.]

A check of Department of Labor records showed that Thylun M. HILL was receiving benefits at [address] and was scheduled to receive those benefits up through October 27th, 2012 at that address. It is the belief of Officer Thomas QUEEN #1182 of the Omaha Police Department that, should this warrant be issued, the listed items would be recovered from the listed address.

The county court judge signed the warrant, and Queen testified that he executed the warrant in good faith, believing it to be valid. At the apartment, officers seized 37 live rounds Nebraska Advance Sheets 774 288 NEBRASKA REPORTS of .38-caliber ammunition inside a knit glove located inside a gray bag in the bedroom where Hill slept.

The trial court denied the motion to suppress. The court agreed with Hill that certain information was missing from the search warrant affidavit. Most notably, the court found that the affidavit did not specify the time of death of the victim or that the death from apparent gunshot wounds was a homicide.

The court also found missing from the affidavit the explicit allegations that (1) the officers responded to an area within several houses of where the shots were fired and the victim was located, (2) the officers arrived in the area within a minute of the gunshots, and (3) Hill was the only person in the area.

The court said that it could not fill in this necessary factual information with commonsense inferences, and, thus, the affidavit lacked probable cause. Nevertheless, the court found that the officers acted in good faith when relying on the warrant and that therefore, the motion to suppress should be denied.

The court noted, among other things, that Queen had knowledge of all the facts missing from the affidavit that would support probable cause. Because it was objectively reasonable for Queen to rely on the warrant, the court found no basis for suppression of the evidence. 3. Daubert Motion in Limine Finally, Hill filed a pretrial motion in limine under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,² stating that he questioned whether proposed witness Paul Greene qualified as an expert; “whether the reasoning and methodology used by the State’s witness to draw conclusions, inferences, and locations regarding the ability to triangulate noises using a so-called ‘shot spotter’ is valid”; and whether the proposed testimony was relevant and more probative than prejudicial.

At the hearing on the motion, Greene testified he is an ex-Marine and the lead customer support engineer at SST, Inc. SST sells a product called the ShotSpotter to cities across the country. Greene stated he has experience in hearing and 2 *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993). *Nebraska Advance Sheets STATE v. HILL* 775 Cite as 288 Neb. 767 recognizing gunshot sounds and in the information technology system design and operation of the ShotSpotter.

The ShotSpotter is an acoustic gunfire detection and location system of GPS-enabled microphones placed in various locations of a municipal area. SST has been in existence since 1995 and has been selling and maintaining ShotSpotter systems since 1996.

In the summer of 2011, SST installed a ShotSpotter system in northeast Omaha. On February 18, 2012, the ShotSpotter system in Omaha consisted of approximately 80 sensors, spaced roughly 400 to 500 meters apart. Each sensor has four GPS-enabled microphones.

The digital signal processors of the sensors measure sound input to determine if the sound meets 28 different audio characteristics of “impulsive audio pulses,” or a “bang, boom, or pop,” and could thus be categorized as a possible gunshot. If the sound meets the preprogrammed criteria for a possible gunshot, the system transmits the information to a central location server, which uses triangulation to pinpoint the latitude and longitude of the sound and uses a process called “geolocation” to place that location on a map.

Incident review staff in California then quickly look at the audio waveform and listen to a recording of the event to discern if it is a false positive for a possible gunshot. Once the incident review staff rule out a false positive, they send an alert to the police dispatchers. Greene testified that the incident review staff are specially trained in recognizing the audio waveform characteristics of gunfire and in recognizing the sound of gunfire.

SST requires the staff to be able to correctly identify 80 percent of 500 audioclips during performance testing. Greene explained that the science behind the ShotSpotter system has been recognized for decades: The principles — the mathematical principles used for the triangulation, the location of the event or object we would call trying to locate an unknown point using two or more known points, the mathematics behind that are actually very old.

The practical application of it, you know, in the use of technology is a little more recent, Nebraska Advance Sheets 776 288 NEBRASKA REPORTS but still fairly old. Came about with the advent of World War I and sonar. Since then, seismologists use the same mathematics, the same techniques to determine the epicenter of earthquakes. It's still used by the Navy in sonar applications.

It's used in space as well. Greene described that the ShotSpotter system has "multiple redundancy" of the sensors, such that losing power on an individual basis does not detract from the accuracy of the array. Greene testified that in order to triangulate a gunshot, only three sensors are required to actually hear and participate in the incident. A fourth sensor is used for confirmation information in the event of a single gunshot.

When there are multiple shots, the repetition of the pulse data serves as its own confirmation. The GPS satellites are synchronized down to a thousandth of a second from the atomic clock at the National Institute of Standards and Technology in Boulder, Colorado. Greene testified that the official margin of error for the location of detected gunfire is a 150-foot radius, but that they regularly achieve accuracy of a radius of 10 or 20 feet or better.

The ShotSpotter guarantees that it will give a correct location, within this margin of error, for 80 percent of detectible outdoor gunfire in the system area. Gunfire that is silenced or masked by other sounds is not considered detectible. When the system was installed in 2011, SST performed a live fire test that verified the accuracy of the system. Greene stated that an SST project manager was present during this testing.

SST has not performed such a test since that time. Greene explained, however, that SST "monitor[s] for sensor health constantly." The sensors self-calibrate every 48 hours, and if a sensor does not self-calibrate, SST is automatically notified.

In addition, each sensor sends a "heartbeat pulse" once every 30 seconds. In fact, each GPS sensor, as well as each of the four microphones attached to it, independently communicates with

the ShotSpotter server about its health. When enough sensors lose network communication with the system, SST dispatches a technician to replace all of the inactive sensors.

At the hearing on the motion in limine, Greene testified that SST generally dispatches a technician when the active sensor count is 90 percent or less. At trial, Greene Nebraska Advance Sheets STATE v. HILL 777 Cite as 288 Neb. 767 elaborated that SST's written policy guarantees that SST will dispatch technicians to replace sensors when SST detects that the system reaches a "20 percent or better" reduction in sensor capacity.

Greene testified that the system is designed so that it can lose up to 20 percent of its capacity and still make accurate detections. Greene created a "ShotSpotter Detailed Forensic Report" for the shooting on February 18, 2012. He testified that in his experience, he believed to a reasonable degree of certainty that the sounds detected by the ShotSpotter were consistent with gunfire.

The report reflects that the alert containing the precise location of the shots detected on February 18 was given to Omaha police dispatch 48 seconds after the time the sound was detected by the ShotSpotter sensors. Three of the shots were detected by 11 sensors.

The last shot was detected by four sensors. Greene explained that while there are a multitude of environmental reasons why the number of sensors detecting an incident might be higher or lower, changing the direction of fire can have a significant impact on the number of detecting sensors. At trial, Greene further explained that if a shot were fired at the ground, fewer sensors would detect it, because the ground tends to absorb some of the acoustic energy.

Greene testified that he did not specifically note the number of sensors in Omaha that were not working at the time of the incident, because the data in the report was based on the sensors' actually detecting the gunshots; a compromised sensor would not produce location detection data. Greene explained further at trial that even if there had been sensors in the area not working, that fact would not affect the conclusions drawn in the ShotSpotter report.

Based on the testimony at the hearing and the arguments made by counsel, the court characterized the Daubert analysis in terms of two basic questions: (1) the detection and location of sound and (2) the classification of that sound as a gunshot.

The court noted that Hill did not challenge the underlying mathematical and physics principles of triangulation utilized by the ShotSpotter, but instead challenged the "ShotSpotter's testing, positioning, and maintenance of the sensors and the Nebraska Advance Sheets 778 288 NEBRASKA REPORTS process of classification of an individual impulsive sound as a gunshot." In a 15-page order denying the motion in limine, the court found that Greene was qualified as an expert in the design, installation, and function of the ShotSpotter system and in gunshot sound recognition.

The court also found that the ShotSpotter system was sufficiently reliable. The court noted Hill's argument that because an SST project manager was present during the original testing of the system, there was no "blind" testing conducted. But the court reasoned that blind studies are not necessary when determining if electronic equipment operates properly and that there was no evidence that the SST project manager somehow influenced the testing results.

The court also found that despite the lack of regularly scheduled maintenance, there were sufficient safeguards in the protocol, which provided for constant monitoring and maintenance when necessary, to support the reliability of the technology.

Finally, the court found that there was a sufficient factual basis to support the classification of the sounds as being consistent with gunfire. At trial, Hill renewed his objection under Daubert to Greene's testimony and to various exhibits concerning the ShotSpotter detection of the shots fired on February 18, 2012. Hill did not object, however, to the testimony of Larson, Wasmund, and other officers concerning their understanding of the ShotSpotter technology and their responses to the ShotSpotter alerts on February 18.

4. Evidence at Trial (a) Chase During the trial, Larson and Wasmund reiterated their testimony from the suppression hearing. They testified that at the time of the incident, they were assigned to the north gang suppression unit. They primarily worked in the area of the northeast precinct, which was characterized as a "high crime area." Larson and Wasmund testified that as they were leaving the precinct parking lot, with the vehicle windows rolled partway Nebraska Advance Sheets STATE v. HILL 779 Cite as 288 Neb. 767 down, they heard "loud" and "distinct" multiple gunshots nearby.

They headed in the direction they thought the shots came from. They corrected their course about 30 to 40 seconds later when the ShotSpotter gave them an address. As they approached the residential address given by the ShotSpotter, approximately in the middle of the block, Larson and Wasmund observed Hill as the only civilian in the area. Hill was rounding the far corner from where the alley ran behind the residence specified by the ShotSpotter.

Hill was heading in their direction. The officers parked their vehicle in front of the house. The officers then shone a spotlight toward Hill, exited their vehicle, and identified themselves in a normal tone of voice as Omaha police.

The officers did not yet know a homicide had been committed, and they did not see a gun on Hill. They sought only to inquire whether Hill was a witness, victim, or the perpetrator of the shots they heard and which were identified by the ShotSpotter. Hill paused for a moment, turned, and fled.

The officers ran after Hill, yelling "Omaha police." In his flight, Hill tripped over a picket fence and a gun fell from his person. At that moment, Wasmund was about 8 feet from Hill, and Larson

was about 5 feet away, and both clearly saw the weapon. Hill picked up the gun and resumed his flight.

The officers split up to try to catch him. Wasmund fired a shot at Hill when he saw Hill change direction and appear to have an open line of fire at both Larson and Wasmund. Larson heard two shots and, not knowing if Hill had fired at Wasmund or the other way around, fired one shot at Hill. Shortly thereafter, Hill was apprehended. At least seven other officers arrived almost immediately on the scene.

It was revealed during the defense that one of those officers was a sergeant who was later under investigation by the Douglas County Attorney's office for an unrelated incident of an indefinite nature and which incident resulted in a recommendation that the sergeant be terminated from the Omaha Police Department.

However, no officers reported observing Nebraska Advance Sheets 780 288 NEBRASKA REPORTS the sergeant doing anything out of keeping with standard Omaha Police Department protocols on the night of February 18, 2012. Officers who arrived at the scene shortly after Hill was apprehended emptied Hill's pockets.

The officers discovered a pair of latex gloves and a camouflage ski mask, as well as other miscellaneous personal items. When it was discovered from the search of his person that Hill no longer carried the gun he had previously dropped and picked up, the officers searched the area. They found a revolver lying on the ground in the path of Hill's previous flight.

Both Larson and Wasmund identified that revolver as the same one they saw fall from Hill's person during his flight. The officers also went to the backyard of the address identified by the ShotSpotter. There they found the body of the victim, lying face down in the backyard.

The victim's pants were pulled down to his thighs. Near the scene, officers found a pack of cigarettes, a lighter, two cell phones, a beer can, and other miscellaneous items eventually identified by nonforensic means as likely belonging to the victim. (b) Victim's Cell Phones The cell phones, in particular, were identified as belonging to either the victim or the victim's mother.

The victim's mother testified that because the victim's cell phone did not make telephone calls, the victim often borrowed her cell phone. Over 6 months had passed before the police were asked by the Douglas County Attorney's office to attempt to discover the telephone records for those cell phones. By the time the police investigated the telephone logs for the cell phones carried by the victim, the telephone company connected with the victim's mother's cell phone no longer maintained the call records for the time of the shooting.

What the mother had identified as the victim's cell phone was actually registered to an unrelated party who did not know the victim. Call records for that cell phone were able to be obtained. The

records showed several calls and text messages Nebraska Advance Sheets STATE v. HILL 781 Cite as 288 Neb. 767 to the victim on the day of the shooting from a prepaid cell phone registered to “John Doe” with the address of a U.S. Cellular store, as well as several telephone calls from the victim to “John Doe.” The records obtained closest to the time of the shooting reflected that at 8:50 p.m. the night of February 18, 2012, the victim and “John Doe” had a 64-second telephone conversation.

At 10:19 p.m., the victim sent a text to “John Doe.” At 10:26 p.m., the victim called “John Doe” and reached his voicemail. At 10:27 p.m., the victim again called “John Doe” and reached his voicemail. “John Doe” thereafter attempted to call the victim three times in an 11-minute period shortly after midnight and subsequent to the shooting. There were no attempted telephone calls from “John Doe” to the victim after the victim’s death was announced the following day on the news. (c) Cause of Death A pathologist determined that the victim had suffered three gunshot wounds.

One wound entered the right cheek and exited the left cheek at a straight angle through the sinuses, causing little damage. The other two shots had entered the victim’s back and lodged in his body. One entrance wound was located in the left lateral chest.

The bullet had entered at an upward angle and had punctured the victim’s diaphragm and stomach. The other entrance wound was located in the middle of the victim’s lower back. That bullet had also entered at an upward angle and it punctured the victim’s heart.

The wounds in the victim’s face and chest would not have been fatal unless left unattended. But the wound to his lower back rendered the heart nonfunctional as soon as it was hit, leaving the victim only about 15 to 20 seconds of consciousness thereafter.

The pathologist did not observe any lacerations or trauma, other than the bullet wounds, to the victim’s body. The bullet wounds, because there was no evidence of soot or stippling, were made by a firearm held at a distance at least 12 inches away. Nebraska Advance Sheets 782 288 NEBRASKA REPORTS (d) ShotSpotter Report At trial, Greene reiterated his testimony from the hearing on the motion in limine.

In addition, the detailed forensic report prepared by Greene to document the incident was entered into evidence. The report indicated that beginning at approximately 10:40 p.m. on February 18, 2012, four shots were fired in fairly rapid succession.

The shots began either in the alley or on the side of the alley opposite where the victim’s body was found. The last shot was located approximately where the body was found. That last shot occurred after a slightly longer pause of 3.8 seconds from the preceding shot. From the first shot to the last, a total of 61/2 seconds passed.

The last shot occurred approximately 10 feet from the first three. The report also identified the correct location of the officers' shots in pursuit of Hill, which were time stamped as occurring at 10:43 p.m. (e) Ballistics Evidence From Gun The gun that Larson and Wasmund identified as being carried by Hill and discarded during his flight had four spent casings inside the cylinder.

The gun was discovered to have been registered in 1982 to a woman unrelated to Hill and who had been deceased since 2000. An expert working in the area of firearm and toolmark examination for the Omaha Police Department testified that the bullets found in the victim's body were fired from the weapon found in the path of Hill's flight and identified by Larson and Wasmund as the gun that Hill had dropped during that flight.

The expert testified that test-fired bullets from the gun were consistent with the bullets found in the victim's body, in both general and class characteristics and individual and specific characteristics. (f) Relationship Between Hill and Victim and Events on Night of Shooting Testimony at trial established that Hill lived in the same apartment building as the victim.

Hill lived with his girlfriend, her infant child, and his girlfriend's brother. According to the brother, Hill and the victim knew each other. They "hung out sometimes, drank together, you know, normal neighbor stuff." He often heard Hill and the victim in the hallway engaging in Nebraska Advance Sheets STATE v. HILL 783 Cite as 288 Neb. 767 "casual daily arguments." The brother described such arguments as common amongst most of the people in the building and "[n]othing out of the ordinary." About 6 weeks before the shooting, the brother had told Hill he thought the victim was an informant for the Omaha Police Department.

The brother had come to this conclusion because often he saw the victim with brand-new \$100 bills and the victim acted like he was a "big deal." On the day of the shooting, the brother and Hill had been drinking continuously since the early hours of the morning. Sometime in the evening, Hill and the brother ran into the victim in the hall of the apartment building.

The brother testified that Hill and the victim began "[d]runk shit talking." The brother did not know what Hill and the victim were arguing about, but they were yelling at each other. The brother went back into the apartment. But he continued to hear loud talking in the hallway.

The next thing the brother remembered, Hill was in the apartment, seemingly upset. Hill was in the bathroom with the light off either whispering to himself or breathing heavily. The brother then passed out and did not wake up until the following morning.

The victim's mother recalled that at some point in the evening, there had been a knock on their apartment door and the victim left. She did not see or hear from the victim after that. (g) Bullets Found Where Hill Lived Officers testified that the day after the shooting, they conducted a search of the apartment where Hill lived.

In the bedroom where Hill slept with his girlfriend and the infant, they found a gray bag. Inside the bag were latex gloves and also a knit glove with 37 live rounds of ammunition inside it. The ammunition was head stamped “R-P 38 SPL.” It was the same as the ammunition used in the shooting. (h) Telephone Call Made by Hill in Jail The State presented evidence that while Hill was incarcerated awaiting charges against him, he made a telephone call in which he told an unidentified person to have his girlfriend ““get rid of that bag, that gray bag.”” Nebraska Advance Sheets 784 288 NEBRASKA REPORTS (i) No DNA Evidence There was no DNA or fingerprint evidence found either connecting Hill to the shooting or excluding him.

III. ASSIGNMENTS OF ERROR Hill assigns that the trial court erred when (1) it overruled his motion to suppress and exclude from use against him at trial any statements he made and any evidence obtained by Omaha police officers as a result of the illegal search and seizure of his person conducted by Omaha police officers on February 18, 2012; (2) it overruled Hill’s motion to suppress evidence obtained from the search of the residence where he lived, because it erroneously concluded that the search was conducted pursuant to the good faith exception to the warrant requirement; (3) it overruled Hill’s motion in limine challenging the admissibility of the State’s expert testimony regarding the ShotSpotter technology; and (4) it found the evidence sufficient to support the guilty verdict for first degree murder.

IV. STANDARD OF REVIEW [1] The standard for reviewing the admissibility of expert testimony is abuse of discretion.³ [2] Abuse of discretion is the proper standard of review of a district court’s evidentiary ruling on the admission of expert testimony under Daubert.⁴ [3] A judicial abuse of discretion exists when a judge, within the effective limits of authorized judicial power, elects to act or refrain from acting, but the selected option results in a decision which is untenable and unfairly deprives a litigant of a substantial right or a just result in matters submitted for disposition through a judicial system.⁵ [4] In reviewing a trial court’s ruling on a motion to suppress based on a claimed violation of the Fourth Amendment, we apply a two-part standard of review.

Regarding historical ³ State v. McClain, 285 Neb. 537, 827 N.W.2d 814 (2013). ⁴ See State v. Leibhart, 266 Neb. 133, 662 N.W.2d 618 (2003). ⁵ Id. Nebraska Advance Sheets STATE v. HILL 785 Cite as 288 Neb. 767 facts, we review the trial court’s findings for clear error. But whether those facts trigger or violate Fourth Amendment protections is a question of law that we review independently of the trial court’s determination.⁶ [5] Application of the good faith exception to the exclusionary rule is a question of law.⁷ [6] Our standard of review with respect to a sufficiency of the evidence claim is very narrow, in that we must find the evidence to be sufficient if there is any evidence, when viewed in a light favorable to the prosecution, upon which a rational finder of fact could conclude that the State has met its burden of proof beyond a reasonable doubt.⁸ V. ANALYSIS Hill challenges four rulings of the trial court.

First, Hill argues that the court should have suppressed the evidence of the gloves and mask found on his person, because he had allegedly been stopped without probable cause. Second, Hill argues that there was no good faith exception to the lack of probable cause in the affidavit supporting the search warrant of the apartment where he lived and that the court should have suppressed the ammunition found there pursuant to the search warrant.

Third, Hill argues that expert testimony and exhibits concerning the ShotSpotter system, which detected the location of the shots fired the night of the murder, should have been excluded under Daubert.⁹ Finally, Hill argues that the evidence at trial was insufficient to support his conviction of first degree murder.

1. Motion to Suppress Results of Search of Person

We first address Hill's motion to suppress the search of his person.

According to Hill, he was subjected to a Terry stop ⁶ *State v. Sprunger*, 283 Neb. 531, 811 N.W.2d 235 (2012). ⁷ *Id.* ⁸ See *State v. Matit*, ante p. 163, 846 N.W.2d 232 (2014). ⁹ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, supra note 2. Nebraska Advance Sheets 786 288 NEBRASKA REPORTS "the very moment [the] encounter between [Hill] and the officers was initiated."¹⁰ Hill describes that he was walking down the sidewalk when the officers commanded him to stop.

Hill argues that merely walking down the sidewalk in an area where sounds consistent with gunfire were detected is insufficient to support reasonable suspicion of criminal activity. Therefore, all evidence later seized on Hill's person and statements made by Hill should have been suppressed. Hill's descriptions of the relevant events are not entirely consistent with the testimony presented at the suppression hearing, nor with the trial court's findings in its order denying the motion to suppress.

In any event, we agree with the trial court that Hill was not seized until he was subdued by police subsequent to his flight. By that time, there was probable cause for his arrest. [7] In *California v. Hodari D.*,¹¹ the U.S. Supreme Court held that the defendant who fled from police was not seized by the officers' show of authority until he was tackled subsequent to his flight.

The Court said that in the absence of physical contact, the fact that a reasonable person would have believed he or she was not free to leave is a "necessary, but not a sufficient, condition for seizure."¹² The subject must also yield to that show of authority.

Thus, the Court held in *Hodari D.* that the cocaine the defendant abandoned while he was running from the police, who were at that time pursuing him and ordering him to stop, was not the fruit of a seizure. The defendant's motion to exclude that evidence was accordingly properly denied.

The Court further explained that if the officers saw the defendant discard the cocaine and recognized it as such, the cocaine would provide reasonable suspicion for ¹⁰ Brief for appellant at 19. ¹¹ *California v. Hodari D.*, 499 U.S. 621, 111 S. Ct. 1547, 113 L. Ed. 2d 690 (1991). See, also, e.g., *State v. Van Ackeren*, 242 Neb. 479, 495 N.W.2d 630 (1993); *State v. Cronin*, 2 Neb. App.

368, 509 N.W.2d 673 (1993). 12 *California v. Hodari D.*, supra note 11, 499 U.S. at 628 (emphasis in original). *Nebraska Advance Sheets STATE v. HILL* 787 Cite as 288 Neb. 767 the unquestioned seizure that occurred when the defendant was eventually tackled.¹³ We reject Hill’s argument that he was seized before his flight. Hill did not yield to Larson and Wasmund until after his flight and the officers discovered Hill was carrying a gun.

Hill does not appear to argue that there was insufficient cause to seize him after his flight. In any event, we affirm the trial court’s conclusion that the officers had probable cause to arrest Hill by the time he was seized.

The U.S. Supreme Court, in *Illinois v. Wardlow*,¹⁴ said: “Headlong flight—wherever it occurs—is the consummate act of evasion: It is not necessarily indicative of wrongdoing, but it is certainly suggestive of such.” Headlong flight while carrying a gun in a high-crime area where shots were heard within the last 3 minutes is sufficiently suggestive of wrongdoing to support probable cause.

We affirm the judgment of the trial court denying Hill’s motion to suppress the evidence found on Hill’s person. 2. Motion to Suppress Results of Search of Home We next address Hill’s argument that the trial court erred in failing to suppress evidence found at his residence pursuant to the search warrant. Hill agrees with the trial court’s assessment of the affidavit in support of the search warrant as lacking in probable cause.

But Hill disagrees with the trial court’s determination that the officers carrying out the warrant acted in good faith, such that the evidence found during the search was admissible. The State argues the trial court was incorrect in finding that no probable cause was stated in the affidavit but that, in any case, the trial court was correct in finding applicable the good faith exception to the exclusionary rule.

[8] The Fourth Amendment to the U.S. Constitution guarantees “[t]he right of the people to be secure in their persons, 13 *California v. Hodari D.*, supra note 11. 14 *Illinois v. Wardlow*, 528 U.S. 119, 124, 120 S. Ct. 673, 145 L. Ed. 2d 570 (2000). *NEBRASKA ADVANCE SHEETS* 788 288 NEBRASKA REPORTS houses, papers, and effects, against unreasonable searches and seizures...” and further provides that “no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.” The Nebraska Constitution provides similar protection.¹⁵ [9,10] The execution of a search warrant without probable cause is unreasonable and violates these constitutional guarantees.¹⁶ Accordingly, a search warrant, to be valid, must be supported by an affidavit which establishes probable cause.¹⁷ Probable cause sufficient to justify issuance of a search warrant means a fair probability that contraband or evidence of a crime will be found.¹⁸ [11] In reviewing the strength of an affidavit submitted as a basis for finding probable cause to issue a search warrant, an appellate court applies a “totality of the circumstances” test.¹⁹ The

question is whether, under the totality of the circumstances illustrated by the affidavit, the issuing magistrate had a substantial basis for finding that the affidavit established probable cause.

In evaluating the sufficiency of an affidavit used to obtain a search warrant, an appellate court is restricted to consideration of the information and circumstances contained within the four corners of the affidavit, and evidence which emerges after the warrant is issued has no bearing on whether the warrant was validly issued.²⁰ [12] But even when a search warrant is invalid under this test, the exclusionary rule applies only in those cases in which exclusion will further its remedial purposes.²¹ The exclusionary rule is a judicially created remedy designed to 15 See Neb. Const. art. I, § 7.

16 *State v. Nuss*, 279 Neb. 648, 781 N.W.2d 60 (2010). 17 *Id.* 18 *Id.* 19 *Id.* 20 *Id.* 21 See, e.g., *United States v. Leon*, 468 U.S. 897, 104 S. Ct. 3405, 82 L. Ed. 2d 677 (1984); *State v. Davidson*, 260 Neb. 417, 618 N.W.2d 418 (2000). Nebraska Advance Sheets *STATE v. HILL* 789 Cite as 288 Neb. 767 deter police misconduct.²² It is an “extreme sanction”²³ of ““last resort.””²⁴ In *Herring v. United States*,²⁵ the Court said, “[t]o trigger the exclusionary rule, police conduct must be sufficiently deliberate that exclusion can meaningfully deter it, and sufficiently culpable that such deterrence is worth the price paid by the justice system.” Otherwise, application of the exclusionary rule, as the Court explained in *United States v. Leon*,²⁶ would offend “basic concepts of the criminal justice system” and “‘generat[e] disrespect for the law and administration of justice.”” [13] The good faith exception to the exclusionary rule accordingly provides that “[i]n the absence of an allegation that the magistrate abandoned his detached and neutral role, suppression is appropriate only if the officers were dishonest or reckless in preparing their affidavit or could not have harbored an objectively reasonable belief in the existence of probable cause.”²⁷ It is, after all, “the magistrate’s responsibility to determine whether the officer’s allegations establish probable cause and, if so, to issue a warrant comporting in form with the requirements of the Fourth Amendment.”²⁸ And, ordinarily, “an officer cannot be expected to question the magistrate’s probable-cause determination or his judgment that the form of the warrant is technically sufficient.”²⁹ Penalizing the officer for the magistrate’s error does not “logically contribute to the deterrence of Fourth Amendment violations.”³⁰ 22 *Id.* 23 *United States v. Leon*, supra note 21, 468 U.S. at 926.

24 *Herring v. United States*, 555 U.S. 135, 140, 129 S. Ct. 695, 172 L. Ed. 2d 496 (2009). 25 *Id.*, 555 U.S. at 144. 26 *United States v. Leon*, supra note 21, 468 U.S. at 908. 27 *Id.*, 468 U.S. at 926. 28 *Id.*, 468 U.S. at 921. 29 *Id.* 30 *Id.* Nebraska Advance Sheets 790 288 NEBRASKA REPORTS [14] In sum, evidence obtained through the execution of an invalid warrant may appropriately be suppressed only if (1) the magistrate or judge in issuing a warrant was misled by information in an affidavit that the affiant knew was false or would have known was false except for his or her reckless disregard of the truth, (2) the issuing magistrate wholly abandoned his or her judicial role,

(3) the warrant is based on an affidavit so lacking in indicia of probable cause as to render official belief in its existence entirely unreasonable, or (4) the warrant is so facially deficient that the executing officer cannot reasonably presume it to be valid.³¹ [15,16] Hill asserts that the search warrant affidavit was so lacking in indicia of probable cause that it was entirely unreasonable for Queen to have relied upon it.

When evaluating whether the warrant was based on an affidavit so lacking in indicia of probable cause as to render official belief in its existence entirely unreasonable, an appellate court should address whether the officer, considered as a police officer with a reasonable knowledge of what the law prohibits, acted in objectively reasonable good faith in relying on the warrant.³² In assessing the good faith of an officer's conducting a search pursuant to a warrant, an appellate court must look to the totality of the circumstances surrounding the issuance of the warrant, including information possessed by the officers but not contained within the four corners of the affidavit.³³ Hill asserts that "Officer Queen's omission from the affidavit that [the victim's] death was an apparent homicide and that the police assumed [Hill] was involved because he was in the same area shortly after the apparent homicide was a glaring mistake."³⁴ Our review of the affidavit reveals that, in fact, contrary to Hill's assertion and some of the trial court's ³¹ See *State v. Nuss*, supra note 16.

³² *State v. Davidson*, supra note 21. ³³ See, *United States v. Leon*, supra note 21; *State v. Davidson*, supra note 21; *State v. Holguin*, 14 Neb. App. 417, 708 N.W.2d 295 (2006). ³⁴ Brief for appellant at 22. Nebraska Advance Sheets *STATE v. HILL* 791 Cite as 288 Neb. 767 findings, the affidavit referred in its introductory statements to a "homicide" at approximately 10:40 p.m. on February 18, 2012, at a stated address.

The affidavit further referred to the fact that Hill was found in that area near the time of the homicide. Considering those allegations, as well as the other allegation in the affidavit, we are certainly not presented here with a case of a "bare bones" affidavit—one which relies only on uncorroborated tips or mere suspicion.³⁵ The affidavit described how the officers had heard gunshots near their location at approximately 10:40 p.m. and how they arrived shortly thereafter at the address identified by the ShotSpotter as the location of the gunshots.

The affidavit described Hill's flight from the officers and the fact that he was carrying a gun. Finally, the affidavit described that the victim had died from apparent gunshot wounds and was found at the address identified by the ShotSpotter and near where Hill was seen when officers arrived. Courts are free to reject suppression motions posing no important Fourth Amendment questions by turning immediately to a consideration of the officers' good faith.³⁶ We affirm the trial court's decision that the evidence obtained during the search of Hill's residence should not have been suppressed, because the good faith exception applied.

Like the affidavit presented in *Leon*, Queen's affidavit certainly provided at least "evidence sufficient to create disagreement among thoughtful and competent judges as to the existence of probable cause."³⁷ Thus, as in *Leon*, the officers' reliance on the magistrate's determination of probable cause was, by definition, objectively reasonable.³⁸ Therefore, the district court was correct that application of the extreme sanction of exclusion was inappropriate.

35 See, *State v. Sprunger*, supra note 6; *State v. Holguin*, supra note 33. 36 See *United States v. Leon*, supra note 21. 37 *Id.*, 468 U.S. at 926. 38 See *id.* Nebraska Advance Sheets 792 288 NEBRASKA REPORTS 3. Motion in Limine Challenging ShotSpotter Technology [17] We turn now to Hill's argument that the trial court should have excluded Greene's testimony that the ShotSpotter detected gunshots at the specified address near North 31st Avenue on February 18, 2012.

Under our *Daubert*³⁹/*Schafersman*⁴⁰ jurisprudence, the trial court acts as a gatekeeper to ensure the evidentiary relevance and reliability of an expert's opinion.⁴¹ The purpose of the gatekeeping function is to ensure that the courtroom door remains closed to "junk science" that might unduly influence the jury, while admitting reliable expert testimony that will assist the trier of fact.⁴² This gatekeeping function entails a preliminary assessment whether the reasoning or methodology underlying the testimony is valid and whether that reasoning or methodology properly can be applied to the facts in issue.⁴³ In determining the admissibility of an expert's testimony, a trial judge may consider several more specific factors that might bear on a judge's gatekeeping determination.⁴⁴ These factors include whether a theory or technique can be (and has been) tested; whether it has been subjected to peer review and publication; whether, in respect to a particular technique, there is a high known or potential rate of error; whether there are standards controlling the technique's operation; and whether the theory or technique enjoys general acceptance within a relevant scientific community.⁴⁵ These factors are, however, neither exclusive nor binding; different factors may prove more significant in different cases, and additional factors may prove relevant under particular circumstances.⁴⁶ 39 *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, supra note 2.

40 *Schafersman v. Agland Coop*, 262 Neb. 215, 631 N.W.2d 862 (2001). 41 *State v. Daly*, 278 Neb. 903, 775 N.W.2d 47 (2009). 42 *State v. Casillas*, 279 Neb. 820, 834, 782 N.W.2d 882, 896 (2010). 43 *State v. Daly*, supra note 41. 44 *Id.* 45 *Id.* 46 *Id.* Nebraska Advance Sheets STATE v. HILL 793 Cite as 288 Neb. 767 In support of his assertion that the ShotSpotter technology was not established as reliable under our *Daubert*/*Schafersman* jurisprudence, Hill makes only three arguments: (1) that "blind" tests of the system have never been performed; (2) that Greene did not know what percent capacity the Omaha ShotSpotter system was operating at on February 18, 2012; and (3) that the SST employees at the incident review center "are ultimately just people using their own subjective opinions about whether particular sound files are consistent with

gunfire.”⁴⁷ Hill does not challenge the underlying GPS triangulation methodology upon which the ShotSpotter location is based.

Thus, insofar as these challenges present Daubert/Schafersman issues at all, they focus on whether that methodology properly can be applied to the facts in issue in this case. We first observe that Hill’s arguments challenging the ShotSpotter detection in this case are somewhat dubious given that the sounds of gunshots in the general area identified by ShotSpotter were simultaneously heard by Larson and Wasmund, and given that the victim was confirmed shot in almost the exact location identified by the ShotSpotter as the source of the shots Larson and Wasmund heard.

Indeed, the principal import of the ShotSpotter evidence in this case apparently was the precise measurement of the timing between the four shots fired at the victim, and Hill does not challenge the ShotSpotter’s time stamps.

In any event, we find no merit to Hill’s arguments that the trial court abused its discretion in denying his motion in limine. A court performing a Daubert/Schafersman inquiry should not require absolute certainty.⁴⁸ Instead, a trial court should admit expert testimony if there are good grounds for the expert’s conclusion, even if there could possibly be better grounds for some alternative conclusion.⁴⁹ An abuse of discretion in the trial court’s Daubert/Schafersman determination occurs when a trial court’s decision is based upon reasons that are untenable ⁴⁷ Brief for appellant at 25.

⁴⁸ State v. Daly, supra note 41. ⁴⁹ Id. Nebraska Advance Sheets 794 288 NEBRASKA REPORTS or unreasonable or if its action is clearly against justice or conscience, reason, and evidence.⁵⁰ It was neither untenable nor unreasonable for the trial court to conclude that the absence of blind testing did not seriously undermine the reliability of the ShotSpotter system in northeast Omaha.

The court noted that there was no evidence that the presence of the SST project manager influenced the results of the electronic equipment, which accurately located the source of the test gunshots fired by police officers in the project manager’s presence. Likewise, the reliability of the ShotSpotter technology was not seriously undermined by Greene’s failure to identify the percent capacity of the Omaha ShotSpotter system at the time of the shooting.

Greene’s testimony indicated that the system would have been running at least at an 80-percent capacity, according to their maintenance protocols. Furthermore, Greene testified that incapacitated sensors would not report data for the triangulation of the gunshots and that there were sufficient sensors reporting data for the shots in question to accurately triangulate their location.

Finally, the court did not err in admitting the ShotSpotter evidence over Hill’s objection that SST employees were unqualified to characterize sounds as being consistent with gunshots. Greene testified that SST employees were extensively trained in the recognition of sounds consistent

with gunshots. Greene testified as to his experience in identifying sounds consistent with gunshots, as well as the visual wavelength consistent with gunshots, and he testified to a reasonable degree of certainty that the sounds detected by the ShotSpotter at approximately 10:40 p.m. on February 18, 2012, were consistent with gunshots.

We also note that the system itself first identifies the wavelength of the sound as consistent with gunshots before sending data to the incident review staff. None of Hill's arguments regarding the ShotSpotter system demonstrate that the trial court abused its discretion in admitting Greene's testimony or the ShotSpotter report. 50 Id. Nebraska Advance Sheets STATE v. HILL 795 Cite as 288 Neb. 767 4.

Sufficiency of Evidence Lastly, we address Hill's argument that the evidence was insufficient to support the verdict of first degree murder. Hill argues that the evidence supports, at most, second degree murder upon a sudden quarrel. Hill points out that there were no witnesses to the shooting; that there was no blood, mudstains, or gunshot residue on Hill; and that the angle of the gunshot to the victim's cheek indicates a taller shooter than Hill.

He also argues that the State failed to establish any motive for the crime. He generally asserts the police conducted a deficient investigation, pointing out that one involved officer was under investigation and that the State failed to pursue DNA testing on certain items or to timely pursue telephone records of the cell phones found on the victim.

Thus, Hill argues that the State failed to discover other possible suspects. He asserts that the "John Doe" who was calling the victim the night of the murder may have been the real killer. Finally, Hill alleges there was evidence of a physical altercation precluding premeditation: the victim's pants were pulled down and he had scrape marks on his body. All these arguments were made to and rejected by the jury, which was given a step instruction on second degree murder.

These arguments do not demonstrate that the evidence was insufficient to support the jury's verdict. Our standard of review with respect to a sufficiency of the evidence claim is very narrow, in that we must find the evidence to be sufficient if there is any evidence, when viewed in a light favorable to the prosecution, upon which a rational finder of fact could conclude that the State had met its burden of proof beyond a reasonable doubt.⁵¹ [18] Hill concedes the evidence at trial established that Hill was near the crime scene shortly after the officers heard gunshots and that Hill carried the gun that was used to shoot the victim.

He further concedes that officers subsequently found ammunition for that weapon in Hill's residence. The evidence at trial also demonstrated that several shots were fired at the victim and that at least two shots were fired at the 51 See State v. Matit, supra note 8. Nebraska Advance Sheets 796 288 NEBRASKA REPORTS victim's back. And, as demonstrated by the ShotSpotter time stamps, there was more than sufficient time between shots for Hill to form premeditation.

To commit first degree murder, no particular length of time for premeditation is required, provided that the intent to kill is formed before the act is committed and not simultaneously with the act that caused the death.⁵² Further, viewing the evidence in a light most favorable to the prosecution, we find there are explanations consistent with a finding of first degree murder for the physical state of the victim and his clothing, the cell phone conversations, and the angles of the shots.

The condition of the victim could have been the result of running or falling. It is mere speculation that the unknown “John Doe” was the killer, and any inadequacies in the investigation of another possible killer were a matter for the jury to consider.

The angle of the shots, as the State argued at trial, could have been the result of the victim’s either being hunched over or on the ground when the shots were fired. In fact, Greene explained at trial without objection that the later shots were detected by fewer ShotSpotter sensors, which was consistent with the shots being fired toward the ground. Hill assigns that the trial court erred when it found the evidence was sufficient to support the guilty verdict for first degree murder.

It was conceded at oral argument that the gun in Hill’s possession was the weapon that killed the victim. The victim was shot three times, twice in the back and once in the face. The victim was killed in a dark, secluded alley.

The brother of Hill’s girlfriend testified that earlier in the evening of the shooting, Hill and the victim engaged in an argument and were yelling at each other, and that afterward, he remembered Hill was in the apartment seemingly upset.

The brother testified that he had told Hill he thought the victim was an informant for the Omaha Police Department. If the trier of fact believed this evidence, these facts would be sufficient for a conviction of premeditated first degree murder. ⁵² See *State v. Nolan*, 283 Neb. 50, 807 N.W.2d 520 (2012). Nebraska Advance Sheets *STATE v. SMITH* 797 Cite as 288 Neb. 797 VI.

CONCLUSION We hold that the trial court properly denied Hill’s motions to suppress and motion in limine, and we find the evidence sufficient to support the jury’s verdict of first degree murder. We affirm the judgment below. Affirmed. State of Nebraska, appellee, v. Brian D. Smith, appellant. ___ N.W.2d ___ Filed August 8, 2014. No. S-13-891. 1. Jurisdiction: Appeal and Error.

An appellate court determines a jurisdictional question that does not involve a factual dispute as a matter of law. 2. Judgments: Appeal and Error. When issues on appeal present questions of law, an appellate court has an obligation to reach an independent conclusion irrespective of the decision of the court below. 3. Constitutional Law: Postconviction: Collateral Attack: Final Orders.

The Nebraska Postconviction Act is the primary procedure for bringing collateral attacks on final judgments in criminal cases based upon constitutional principles. 4. Postconviction: Collateral Attack. If a defendant has a collateral attack that could be asserted under the Nebraska

Postconviction Act, that act is his or her sole remedy. Appeal from the District Court for Washington County: John E. Samson, Judge.

Appeal dismissed. Jeffery A. Pickens, of Nebraska Commission on Public Advocacy, for appellant. Jon Bruning, Attorney General, and James D. Smith and appellee. Heavican, C.J., Wright, Connolly, Stephan, McCormack, Miller-Lerman, and Cassel, JJ. Stephan, J. In 1983, when he was 16 years old, Brian D. Smith was convicted of burglary and kidnapping. He was sentenced to