
IN THE
APPELLATE COURT OF ILLINOIS
SECOND DISTRICT

THE PEOPLE OF THE STATE)	Appeal from the Circuit Court
OF ILLINOIS,)	of Du Page County.
)	
Plaintiff-Appellee,)	
)	
v.)	No. 06--TR--129250
)	
JACK T. MANN,)	Honorable
)	Elizabeth W. Sexton,
Defendant-Appellant.)	Judge, Presiding.

JUSTICE McLAREN delivered the opinion of the court:

Following a bench trial in the circuit court of Du Page County, defendant, Jack T. Mann, was found guilty of speeding (625 ILCS 5/11--601(b) (West 2006)). On appeal, he argues that the trial court erred in permitting the State to introduce evidence that the officer who ticketed defendant used a LIDAR¹ device to measure the speed of defendant's vehicle. We affirm.

Using a Kustom ProLaser III LIDAR device, the officer determined that defendant's vehicle was traveling at 80 miles per hour. The vehicle was traveling along a portion of I-88 where the posted speed limit was 55 miles per hour. Defendant objected that the State could not introduce evidence resulting from the use of the LIDAR device unless the trial court first held a hearing under Frye v. United States, 293 F. 1013 (D.C. Cir. 1923). The trial court overruled the objection. Judge

¹"LIDAR" stands for "Light Detection and Ranging." See People v. Sparks, 335 Ill. App. 3d 249, 252 (2002).

Elizabeth W. Sexton, who presided over defendant's trial, took judicial notice of an order entered by another Du Page County judge, Bruce R. Kelsey, in an unrelated case, *People v. Harris*, No. 06--DT--3009 (Cir. Ct. Du Page Co.). The order recited that, after conducting an evidentiary hearing, Judge Kelsey concluded that measurements taken by LIDAR devices are admissible evidence. The transcript of the Frye hearing in *People v. Harris* was not made part of the trial court record in this case.

In Illinois, the admissibility of new or novel scientific evidence at trial is governed by the standard set forth in Frye, which permits such evidence "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. Defendant argues on appeal that the trial court erred in admitting evidence derived from the use of a LIDAR instrument without first conducting a Frye hearing, *i.e.* a full evidentiary hearing to determine whether the use of LIDAR to measure the speed of a moving vehicle is generally accepted in the relevant scientific community.

In People v. McKown, 226 Ill. 2d 245, 254 (2007), our supreme court held that "[a] court may determine the general acceptance of a scientific principle or methodology in either of two ways: (1) based on the results of a Frye hearing; or (2) by taking judicial notice of unequivocal and undisputed prior judicial decisions or technical writings on the subject." The trial court's determination of admissibility under Frye is subject to de novo review. Simons, 213 Ill. 2d at 531. Moreover, "[i]n conducting such de novo review, the reviewing court may consider not only the trial court record but also, where appropriate, sources outside the record, including legal and scientific

articles, as well as court opinions from other jurisdictions." Simons, 213 Ill. 2d at 531; see also McKown, 226 Ill. 2d at 259.

However, courts must exercise caution when relying on prior judicial decisions. "Unless the question of general acceptance has been thoroughly and thoughtfully litigated in the previous cases, *** reliance on judicial practice is a hollow ritual." People v. Kirk, 289 Ill. App. 3d 326, 333 (1997), quoting 1 J. Strong, McCormick on Evidence §203, at 870 n.20 (4th ed.1992). In Kirk, the Fourth District held that, without a Frye hearing, the results of horizontal gaze nystagmus (HGN) testing were inadmissible to prove intoxication in a prosecution for driving under the influence of alcohol. The Kirk court declined to rely on the Supreme Court of Arizona's contrary decision in State v. Superior Court, 149 Ariz. 269, 718 P.2d 171 (1986) (hereinafter Blake). Although a Frye hearing had been held in Blake, the Kirk court expressed concern that the defense had presented no evidence and that the prosecution's principal witness participated in the development of the test. That witness, Dr. Marcelline Burns, was the director of the Southern California Research Institute, which developed a field sobriety test protocol under a contract with the National Highway Transportation Safety Administration (NHTSA). As evidence that the HGN test had been generally accepted, Burns cited, inter alia, the NHTSA's adoption of that test. The Kirk court noted that "[b]y doing so *** she in essence referred back to her own conclusions, magnifying the opportunity for error." Kirk, 289 Ill. App. 3d at 334.

The admissibility of LIDAR evidence of the speed of a moving vehicle was considered in People v. Canulli, 341 Ill. App. 3d 361 (2003). In Canulli, as in this case, the trial court took judicial notice of a Frye hearing in an unrelated case in which a trial court found that the use of a laser device to measure speed was generally accepted. The Canulli court offered essentially two reasons for its

decision that the evidence was inadmissible. First, the court indicated that a decision as to the admissibility of scientific evidence often "establish[es] the law of the jurisdiction for future cases." Canulli, 341 Ill. App. 3d at 370. In this regard, the court further observed that trial court decisions are not binding precedent. Canulli, 341 Ill. App. 3d at 370 ("Courts are not bound to follow decisions of equal or inferior courts"). The reasoning is not entirely persuasive, as the same can be said of judicial opinions from other jurisdictions and legal and scientific articles. Yet, as seen, our supreme court has made clear that, in the context of Frye, such materials are among the broad variety of sources that may be consulted to determine whether a scientific principle or method has been generally accepted. That Illinois courts are not bound by such materials does not preclude the courts from taking notice of them.

The second reason given by the Canulli court for its decision was more case-specific: the court held that the issue of the scientific acceptance of laser technology to measure the speed of vehicles was not "adequately litigated" in the prior unrelated case. Canulli, 341 Ill. App. 3d at 371. The court noted that the Frye hearing had occurred several years earlier, the defendant in the earlier case had pleaded guilty, the Frye hearing was held in connection with sentencing, the defendant was evidently unaware that a Frye hearing was going to be held and had no evidence to offer, and the testimony centered on a different speed-measurement device. Canulli, 341 Ill. App. 3d at 370. Similarly, here defendant argues that, without a transcript of the Frye hearing in *People v. Harris*, it is impossible to determine whether the admissibility of the evidence in question was adequately litigated. The State responds that the findings recited in Judge Kelsey's written order in *People v. Harris* demonstrate that the issue was adequately litigated, but, hedging its bets, the State has also filed a motion, which this court has taken with the case, to supplement the record on appeal with a copy of the transcript.

Ordinarily, a party may supplement the record on appeal only with documents that were actually before the trial court. Ruane v. Amore, 287 Ill. App. 3d 465, 469-70 (1997). The State contends, however, that, because an appellate court reviewing a Frye determination is not limited to the trial court record, this rule does not apply. We need not resolve the question. As explained below, we conclude that judicial decisions from other jurisdictions establish that speed measurements produced by LIDAR devices are generally accepted. Clearly, we may take judicial notice of these decisions without supplementation of the record and without regard to whether they were cited in the trial court. Simons, 213 Ill. 2d at 531. Based on these decisions, and consonant with McKown, we conclude that such evidence meets the Frye standard for admissibility. Consequently, we have no need to consider either the evidence or the decision of the trial court in People v. Harris. For that reason alone, we deny the State's motion to supplement the record.

Goldstein v. State, 339 Md. 563, 664 A.2d 375 (1995), is one of the seminal cases on the admissibility of speed measurements produced by LIDAR devices. In Goldstein, the trial court heard evidence to determine "the reliability and acceptance of the LTI 20-20 [LIDAR device] in the particular scientific community." Goldstein, 339 Md. at 565, 664 A.2d at 376. The prosecution and the defense each called its own scientific expert to testify. The prosecution's witness was an astrophysicist who was "well-versed in the use of lasers to measure distances and speed." Goldstein, 339 Md. at 576, 664 A.2d at 381. According to his testimony, the LTI 20-20 was "generally accepted as reliable and capable of measuring the speed of a motor vehicle accurately within one mile per hour." Goldstein, 339 Md. at 565, 664 A.2d at 376. The defendant's expert "worked for a maker of radar detectors and became acquainted with the LTI 20-20 in the process of developing a device for detecting laser beams as well as radar beams." Goldstein, 339 Md. at 576, 664 A.2d at 381. He

testified that "the LTI 20-20 is not generally accepted, due primarily to flaws in the particular device." Goldstein, 339 Md. at 565-66, 664 A.2d at 376. Both experts concurred, however, that "in theory laser technology could be used to measure the speed of a motor vehicle." Goldstein, 339 Md. at 566, 664 A.2d at 376.

The trial court ruled in the prosecution's favor and the Court of Appeals of Maryland affirmed. The Goldstein court observed that "[t]he theory underlying the LTI 20-20 would be familiar to any student of high school physics." Goldstein, 339 Md. at 571, 664 A.2d at 379. The court explained that laser speed devices operate on the same principle as military radar, which determines distance and changes in distance over time (i.e., speed) by transmitting pulses of microwaves and "measur[ing] the time it takes for a pulse to reach the target and for its echo to return." Goldstein, 339 Md. at 571-72, 664 A.2d at 379, citing 1 J. Strong, McCormick on Evidence §204, at 880 n.17 (4th ed. 1992). The court noted that "[l]aser speed measurements work exactly the same way, except that the device relies on lasers rather than microwave radiation." Goldstein, 339 Md. at 572, 664 A.2d at 379.

The Goldstein court noted that the trial court had reviewed not only the scientific technique of laser speed measurement, but also the design of the LTI 20-20 device. The court held, however, that Frye requires review only of the general scientific process, not individual products employing the process. Goldstein, 339 Md. at 573, 664 A.2d at 380. The court observed that judicial economy dictated that the inquiry be a general one because "[i]f every brand of every instrument were subject to a discrete [Frye] evaluation, trial courts would be mired in hearings concerning devices incorporating scientific principles, possibly including calculators and magnifying glasses." Goldstein, 339 Md. at 575, 664 A.2d at 381. The court further noted that "the scientific consensus that forms a prerequisite for the admission of evidence would ordinarily be elusive, because, while scientists may

be familiar with the general principles underlying a particular device, they may have no occasion to use the device itself." Goldstein, 339 Md. at 576, 664 A.2d at 381.

In State v. Abeskaron, 326 N.J. Super. 110, 118, 740 A.2d 690, 694 (App. Div. 1999), a New Jersey reviewing court affirmed the published decision of the trial court in In re Admissibility of Motor Vehicle Speed Readings Produced by the LTI Marksman 20-20 Laser Speed Detection System, 314 N.J. Super. 233, 714 A.2d 381 (Law Div. 1998) (LTI). In LTI, the trial court observed that the particular LIDAR device under scrutiny had performed accurately and reliably during extensive closed-track and highway testing. With regard to the theoretical basis for measuring speed with a LIDAR device, the court commented that "there can be no dispute about its fundamental validity." LTI, 314 N.J. Super. at 237, 714 A.2d at 384.

Reviewing courts in Hawaii, Idaho, and Washington have cited Goldstein and Abeskaron in holding that speed measurements from laser devices are admissible. See State v. Stoa, 112 Haw. 260, 266-69, 145 P.3d 803, 809-11 (App. 2006), overruled in part on other grounds, State v. Assaye, 121 Haw. 204, 216 P.3d 1227 (2009); State v. Williamson, 144 Idaho 597, 166 P.3d 387 (2007); Jury v. State Dept., 114 Wash. App. 726, 60 P.3d 615 (2002). In addition, in People v. DePass, 165 Misc. 2d 217, 629 N.Y.S.2d 367 (1995), a New York justice court concluded that the LTI 20-20 device was reliable after hearing testimony from an astrophysicist that the device "makes use of principles that have been well accepted in the scientific community for many years" (DePass, 165 Misc. 2d at 219, 629 N.Y.S.2d at 368), specifically, that the speed of light is a constant and that a laser emits a narrow beam of light that does not spread significantly after emission. The same witness testified that these principles are widely used in laser range finders employed in many applications, that airport radar operates on essentially the same principle (except that it uses pulsed radio waves rather than

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laser pulses), and that the LTI 20-20 itself had been used on several space shuttle flights to measure the distance between the shuttle and other objects.

In our view, these decisions are ample authority that the use of LIDAR to measure the speed of moving vehicles is based on generally accepted scientific principles. Therefore, the trial court did not err in overruling defendant's objection to the evidence.

For the foregoing reasons, the judgment of the circuit court of Du Page County is affirmed.

Affirmed.

HUTCHINSON and O'MALLEY, JJ., concur.