

State of New York Court of Appeals

OPINION

This opinion is uncorrected and subject to revision
before publication in the New York Reports.

No. 15
The People &c.,
Respondent,
v.
Cadman Williams,
Appellant.

Mark W. Zeno, for appellant.
Robert C. McIver, for respondent.
The Innocence Project; Office of the Appellate Defender, Inc., et al.; and The Legal Aid Society, amici curiae.

FAHEY, J.:

Over 150 years ago the science of genetics was born. It grew out of the beloved garden of Gregor Mendel's pea plants. It has come to be as important to our perception of

the modern world as the atom or the byte. This revolution in our understanding of biology extends to most aspects of medical science.

In the criminal justice system, it has provided forensic science with one of the most powerful tools for identification yet seen. DNA testing has become the “gold standard” of this process.

For this reason, more than any other, courts must use the tools available to make sure that the highest standards of reliability are maintained.

The primary issue on this appeal is whether the trial court should have held a Frye hearing (see Frye v United States, 293 F 1013 [DC Cir 1923]) with respect to the admissibility of low copy number (LCN) DNA evidence and the results of a statistical analysis conducted using the proprietary forensic statistical tool (FST) developed and controlled by the New York City Office of Chief Medical Examiner (OCME). Under the circumstances of this case, we conclude that the trial court abused its discretion as a matter of law in admitting that evidence without holding such a hearing. However, inasmuch as the error is harmless, and inasmuch as defendant’s other contentions lack merit, we ultimately conclude that the judgment of should not be disturbed.

Facts

A.

In May 2008 the victim and his brother had a dispute with several teenagers in the Bronx. That dispute ended in the death of the victim following an incident in which he swung a baseball bat at one of the teenagers. The use of the bat apparently prompted

defendant, who was present with the group of teenagers, to grab a gun and fire four bullets at the victim.

Two of those bullets struck the victim, who subsequently staggered into the lobby of a nearby apartment building and died a short time later. The medical examiner determined that one of the bullets entered the left side of the victim's face, and that the second projectile punctured the right side of his back. The examiner also concluded that each of the wounds was fatal.

Defendant escaped the scene of the shooting and had the gun hidden in the apartment of a former girlfriend before he fled to neighboring states. Defendant eventually was arrested in Brooklyn several months later, and the gun in question was recovered from a covered wall cavity in the aforementioned apartment prior to his prosecution. At trial, the People presented evidence with respect to those facts, including eyewitness testimony identifying defendant as the shooter and video footage placing him at the scene of that incident. The People also presented testimony from defendant's former girlfriend explaining that defendant forced her to stow the gun used in the shooting in her apartment immediately after that incident and admitted to her that "he had just shot somebody."

Trial also saw the People present evidence with respect to DNA testing that was conducted with the goal of providing a scientific link between defendant and the subject gun. That DNA testing revealed that there was a mixture of DNA from at least two contributors on the firearm. OCME initially was unable to link defendant's DNA profile

to the DNA found on the gun through “standard” DNA testing.¹ Eventually, though, what an expert for the People characterized as a “sensitive” form of traditional DNA review (that is, the LCN testing) and a proprietary “calculator” (that is, the FST²) yielded the conclusion that it was millions of times more likely that the DNA mixture found on the gun contained contributions from defendant and one unknown, unrelated person, rather than from two unknown, unrelated people.³

¹ In this context, “standard” DNA testing generally refers to the polymerase chain reaction, or PCR, technique involving 28 amplification cycles of DNA loci (see generally People v John, 27 NY3d 294, 298 [2016]). In the PCR process, a specific region of DNA is replicated over and over again to yield many copies of a particular sequence, which permits minute amounts of DNA to be examined (John M. Butler, *Fundamentals of Forensic DNA Typing* at 7, 125, 1260 [2009]).

² The addendum to this opinion contains a more detailed explanation of the nature of the LCN evidence and the FST calculations in question on this appeal.

³ OCME’s findings were the culmination of a series of four reports issued over a period of approximately seven months in which OCME, respectively,

(1) used PCR DNA testing to determine that mixtures of DNA from at least two people were present on the trigger and grip areas of the gun, but that the DNA profiles of individual contributors to the mixture could not be determined;

(2) determined that, based on a DNA profile developed from a buccal swab sample and a PCR analysis, defendant could not be excluded as a contributor to the mixtures found on the grip and trigger areas of the gun;

(3) determined that, based on LCN testing and an FST analysis, it was (a) 4.13 million times more probable that the DNA mixture found on the handle area of the gun originated from defendant and one unknown, unrelated person than from two unknown, unrelated contributors, and (b) 131,000 times more probable that the DNA mixture found on the trigger area of the gun originated from defendant and one unknown, unrelated person than from two unknown, unrelated contributors; and, finally,

(4) following a recalculation based on additional LCN testing and FST analysis, ultimately concluded that it was (a) 125 million times more probable that the DNA mixture found on the handle area of the gun originated from defendant and one unknown, unrelated person than from two unknown, unrelated contributors, and (b) 1.97 million times more probable that the DNA mixture found on the trigger area of the gun originated from defendant and one unknown, unrelated person than from two unknown, unrelated contributors.

B.

The LCN and FST evidence did not reach the jury without protest. Prior to trial defendant had moved for an order precluding the People from introducing expert testimony regarding any conclusion reached by either the use of LCN testing or the FST on the ground that such methods were not generally accepted as reliable by the relevant scientific community. In the alternative, defendant sought an order directing that a Frye hearing be held with respect to the reliability of any proposed evidence generated through LCN and FST review. That application is the focal point of this appeal.

Defendant's Support for the Frye Motion

The LCN testing process, as noted in the addendum, obtains DNA profiles from a very minute amount of genetic material by increasing the number of amplification cycles (28 in a “standard” test, and 31 using this method) used to copy that DNA. In support of the Frye motion defendant put before the motion court, among other things, evidence in the form of an expert averment that “no generally accepted guidelines for the testing, analysis, or interpretation of LCN [had] been agreed upon by the forensic community,” and that “[t]he use of LCN testing [was] still highly debated within the forensic community due to the unreliability of the LCN profiles generated.” The same expert did “not believe that profiles generated from LCN testing [were] reliable or valid for the implementation for DNA testing associated with criminal casework” and noted that LCN testing was “not implemented within” the out-of-state laboratory in which he was employed.⁴

⁴ That expert worked as a Forensic Scientific Examiner in the Nuclear DNA Casework Unit of the Connecticut Forensic Lab.

Supplementing that sworn expert submission were ten scholarly articles and comments questioning the validity and robustness of LCN analysis. One of those texts explained that “it is fair to say that LCN typing is the subject of great dispute among some of the leading lights of the forensic community,” while another noted “the acknowledged lack of consensus in interpretation” of LCN tests, the “unlikel[ihood] that LCN tests [would] be embraced by crime laboratories in the [United States],” and the likelihood “that such results would be deemed inadmissible if they were challenged.” Other parts of those materials discussed the “highly charged debate in the scientific and law-enforcement communities about [LCN] analysis.”

The evidence defendant put before the motion court with respect to the LCN question also indicated that only one publicly funded laboratory—located at the University of North Texas Health Sciences (UNTHS) campus—performed LCN testing. “For purposes of admissibility in a court proceeding,” defendant cautioned, “the UNTHS lab only perform[ed] LCN testing for missing persons identification.”

Interestingly, the executive director of applied genetics at UNTHS and perhaps “the father of American DNA analysis” (People v Collins, 49 Misc 3d 595, 608 [Sup Ct, Kings County 2015]), Dr. Bruce Budowle, co-authored one of the scholarly articles tendered to the motion court in support of the Frye motion. That article noted that a “claim[] ha[d] been made recently” in People v Megnath (27 Misc 3d 405 [Sup Ct, Queens County 2010]) “that LCN typing is generally accepted as being reliable.” Dr. Budowle and his co-authors, however, believed that conclusion “difficult to substantiate . . . because of the inherent lack of reproducibility of the current LCN method(s).” The conclusion to that article explained

that Dr. Budowle and his co-authors would not endorse OCME's "flawed" LCN testing practices, which the writers believed to be "inconsistently applied [to] [overstate] the weight of the evidence." The title the authors chose for that article distilled those points and neatly summarized defendant's case with respect to the LCN question; the authors labeled this piece, "Low Copy Number Typing has yet to Achieve 'General Acceptance.'" "

Defendant's case with respect to the FST was thinner, but with good reason. Defendant characterized the FST as a program "developed by the OCME itself" that had "not been adequately subjected either to validation or peer review by anyone else in the relevant scientific community." Outside validation, defendant suggested, would have been impossible because OCME had not "shared" the software. That black-box approach, defendant continued, was contrary to the tack recommended by the Committee on DNA Technology in Forensic Science of the National Research Council, which had concluded that "[q]uality-assurance programs in individual laboratories alone are insufficient to assure high standards" and recommended "[e]xternal mechanisms . . . to ensure adherence to the practices of quality assurance."⁵

The People's Opposition to the Frye Motion

⁵ Based on, among other things, counsels' review of Frye applications in other matters considering the use of LCN analysis and the FST, defendant also questioned the accuracy of the likelihood calculations produced by the FST. Defendant asserted that such calculation improperly assumed allelic drop-out, which occurs when a piece of DNA is not seen in a DNA result, even though it is known to be in a sample (see addendum to this opinion).

In opposing the motion, the People contended that LCN evidence could be admitted in the absence of a Frye hearing because OCME had “submitted extensive validation studies detailing [its] protocols and procedures,” which had been examined and certified by the New York State Commission on Forensic Science. Along those lines, the People noted that “OCME has long been recognized as the gold standard of forensic institutions not only in the United States but indeed in the world,” and that OMCE is subject to yearly audits conducted by outside agencies such as the National Forensic Science and Technology Center, which employ auditors trained by the FBI.

The People also noted that, at the time of this motion practice, LCN evidence had “been admitted 140 times in New York State Supreme Court” and in at least 12 foreign courts. Although OCME was the only government facility in the United States “issuing results of LCN testing,” the People added that there were “many private laboratories and universities both [domestically] and abroad performing [such] testing and reporting results, including the [UNTHS], where defense DNA expert [Dr.] Bruce Budowle [taught].”

Finally, at least with respect to the LCN question, the People noted that the LCN procedure was “not based on new or novel scientific techniques,” and was not newly applied to forensic casework inasmuch as “[t]he procedures and protocols used to extract the DNA and make comparisons [had] been around for over 25 years.” And “[b]ecause [LCN] testing employs no different scientific process to examine and analyze smaller amounts of DNA than the established and universally accepted PCR [DNA testing, the People characterized it as] an acceptable science that falls outside the strictures of a Frye hearing.”

With respect to the FST issue, the People similarly maintained that such evidence should be admitted without a Frye hearing because “numerous articles published in peer-reviewed scientific journals” supported the point that “the analytical software employs well-established principles such as Bayesian statistics and likelihood ratios which are used in many areas of science including forensics, medicine and social sciences.”⁶ The People added that “FST does not change the results of the DNA tests performed in case” and that, given both the thorough review of the FST by DNA Subcommittee of the New York State Forensic Science Committee and the exhaustive validation of that tool by OCME, the relevant scientific community had accepted the FST as reliable.

C.

At the time this motion practice was initiated no court had completed a Frye hearing with respect to the FST, and only one court—namely, the Megnath (27 Misc 3d 405) court questioned by Dr. Budowle—had conducted such a hearing with respect to LCN testing. Nevertheless, by order rendered March 5, 2014, the motion court denied the application in its entirety. With respect to the LCN issue, the court relied almost exclusively on Megnath (27 Misc 3d 405), quoting that decision’s conclusion that LCN analysis “ ‘is basically the same method of DNA testing that occurs with [traditional high copy number review]’ ” inasmuch as “ ‘[t]he only difference [in approach] is that the LCN method can test smaller amounts of DNA by increasing the amplification cycles’ ” (id. at 410).

⁶ That is, the People essentially contended that because the mathematical and analytical tools built into the FST software are accepted in other areas of use, so too should they be deemed generally accepted here and exempted from the scrutiny of a Frye hearing.

With respect to the FST issue, the court relied on the approval of such tool by the “Subcommittee on DNA Evidence,” reasoning that because that the subcommittee “itself is a distinguished cross-section of the scientific community,” that body’s approval of the FST “can easily be equated with general acceptance of this methodology in the relevant scientific [society].” In that vein, the court referred to People v Rodriguez (Sup Ct, NY County, Oct. 24, 2013, Carruthers, J., index No. 5471/2009), which was decided during the pendency of this motion practice and which concluded following a Frye hearing that FST evidence was admissible based on an internal validation by OCME and approval by the DNA Subcommittee of the New York State Forensic Science Commission. The court also pointed to People v Garcia (39 Misc 3d 482 [Sup Ct, Bronx County 2013]), which had concluded that “a Frye hearing is [not] required before the prosecution can introduce . . . testimony concerning the [FST] used to calculate probability ratios when testing a mixture containing several DNA profiles” (id. at 483).

The result was the same when defendant moved to renew and/or reargue the application in November 2014. The rekindling of the motion was prompted by a ruling of Supreme Court, Kings County, rendered following a lengthy Frye hearing in People v Jacquan Collins. That court concluded, among other things, that “neither LCN nor FST are generally accepted in the scientific community.”⁷

⁷ The Collins ruling initially was an oral one. The transcript of that decision was put before the motion court in this case on the application to renew and/or reargue, and the minutes of the Collins bench decision reflect that the court acknowledged “that there [was nothing] that [it could] say [was] wrong with [LCN] or [FST] and [that] it is a big temptation and a big mistake in a Frye hearing situation for a judge ultimately to decide which scientific techniques he [or she] things work.” The “job” of the court, instead, was

The expert affidavit offered in support of defendant's motion in this case was also put before the hearing court in Collins. (In point of fact, the expert submission in the case actually bears the caption for the Collins case.) Still, the court here denied the renewed application through a written decision and order entered May 26, 2015 in which it "simply decline[d] to follow" Collins and instead relied on ten trial-level decisions in which "many of [the court's] colleagues [had] similarly ruled." Those decisions have a common touchstone: People v Megnath (27 Misc 3d 405 [Sup Ct, Queens County 2010]).

D.

Eventually, on appeal, the Appellate Division refused to disturb the trial court's determination of the Frye motion (158 AD3d 471 [1st Dept 2018]). The Court noted only that it had "considered and rejected defendant's arguments concerning [LCN] and [FST] evidence" (*id.* at 472-473, citing People v Gonzalez, 155 AD3d 507 [1st Dept 2017] [relying on Megnath (27 Misc 3d at 413) in concluding that the trial court in that case did not abuse its discretion in refusing to hold a Frye hearing on expert testimony relating to

"to see whether or not there is essentially general agreement in the scientific community as to the challenged scientific principles." Inasmuch as the FBI refused to use LCN results and "pioneers in the field like Dr. Budowle" did not "trust [LCN] in criminal courtroom situations," the Collins court concluded "that it was inconsistent with Frye to give it to a jury when so many of the experts in the field don't think that is appropriate."

Collins's FST analysis was similar. Essentially, based on "the defense position . . . that there is difficulty in approving of the methods through which the drop in and dropout rates and other stochastic effects are considered in the FST," the Collins court again took a measured approach and refused to admit FST evidence on the ground "that the Frye test ha[d] [not] been satisfied." Those conclusions were reiterated in a lengthy written opinion rendered July 2, 2015 (People v Collins, 49 Misc 3d 595 [Supreme Court, Kings County 2015 (Mark Dwyer, J.)]).

LCN testing], lvs denied 30 NY3d 1115 [2018], 31 NY3d 1148 [2018]). A Judge of this Court granted defendant leave to appeal (32 NY3d 942 [2018]).

Analysis of the Primary Issue

*“Science is the organized skepticism in the reliability of expert opinion.”*⁸ – American theoretical physicist Richard P. Feynman.

A.

“The long-recognized rule of Frye . . . is that expert testimony based on scientific principles or procedures is admissible but only after a principle or procedure has ‘gained general acceptance’ in its specified field” (People v Wesley, 83 NY2d 417, 422 [1994], quoting Frye, 293 F at 1014). “The process is meant to assess ‘whether the accepted techniques, when properly performed, generate results accepted as reliable within the scientific community generally’ ” (People v Brooks, 31 NY3d 939, 941 [2018], quoting Wesley, 83 NY2d at 422).

“Although unanimity is not required, the proponent [of the disputed evidence] must show consensus in the scientific community as to [the methodology’s] reliability” (Sean R. v BMW of N. Am., LLC, 26 NY3d 801, 809 [2016] [internal quotation marks omitted]). That consensus has been described as “a surrogate for determining the reliability of a purported scientific methodology” (Martin, Capra & Rossi, New York Evidence Handbook § 7.2.3 at 644 [1997]). A showing that an expert’s opinion has “some support” is not

⁸ Lee Smolin, *The Trouble with Physics* 309 (2006) (quoting Feynman).

sufficient to establish general acceptance in the relevant scientific community (see Cornell v 360 W. 51st St. Realty, LLC, 22 NY3d 762, 783 [2014]).

The determination whether a trial court erred in admitting disputed scientific evidence in the absence of a Frye hearing turns on whether the court abused its discretion as a matter of law (see generally People v Boone, 30 NY3d 521, 530-531 [2017]). “[T]he mere fact that a court is the first to evaluate novel scientific evidence does not mean the evidence is unreliable,” but it does “increase[] the task of the hearing court” (Wesley, 83 NY2d at 437 [Kaye, Ch. J., concurring]). Certain materials, including texts, laboratory standards, and articles issued with respect to the technique in question, may, under appropriate circumstances, support a conclusion that such technique is generally accepted as reliable (see id.).

Judicial precedent may also support a conclusion with respect to the general reliability of a disputed scientific technique short of a hearing (see id.; People v LeGrand, 8 NY3d 449, 457 [2007]; Matter of Lahey v Kelly, 71 NY2d 135, 144 [1987]). In the absence of such materials and support, the hearing court may take expert testimony on the subject. Review of a Frye determination must be based on the state of scientific knowledge and opinion at the time of the ruling (see Cornell, 22 NY3d at 784-785 [“a Frye ruling on lack of general causation hinges on the scientific literature in the record before the trial court in the particular case”]).

B.

Against that backdrop we turn to the question whether the trial court abused its discretion as a matter of law in permitting the admission of the LCN evidence without

holding a Frye hearing. Under the circumstances of this case, we conclude that there was an abuse of discretion as a matter of law.

In deciding not to evaluate the reliability of LCN evidence in a Frye hearing, the motion court relied heavily on the prior judicial opinion in Megnath (27 Misc 3d 405). That court had ruled, among other things, that LCN testing, as performed by OCME, was “generally accepted as reliable in the forensic scientific community” (Megnath, 27 Misc 3d at 411). That conclusion, however, was based on the court’s review of what was OCME’s *own, internal support* for its process (see id. at 407-410), as well as upon evidence reflecting that such methodology had “been used worldwide for over 10 years and [was] currently used in many other countries” (id. at 408).

By the time the motion court in this case determined the application to renew and/or reargue, there were approximately ten decisions of various trial courts of this state that purportedly supported the determination in this case.⁹ Underlying those determinations, however, was the ruling in Megnath, and underlying the Megnath ruling was an analysis that did not adequately assess whether OCME’s LCN testing was generally accepted within the relevant scientific community. The repetition of a single, questionable judicial determination does not strengthen or add validity to such ruling, and it defies logic that an

⁹ Although the point is not essential to our conclusion with respect to the LCN evidence, it bears repeating that, at the time the Frye motion here was reargued, the trial court in Collins had concluded that LCN testing results could not be admitted into evidence without first surviving the scrutiny of a Frye hearing. That determination, which was well-articulated in a bench decision put before this motion court on the application to renew and/or reargue, was based in part on *the same expert affidavit that defendant offered in support of this Frye motion practice*.

error, because it is oft-repeated, somehow is made right (see David H. Kay, *The New Wigmore on Evidence*, “Limiting Strict Scrutiny by Methodology,” § 9.5.1 [2018] [concluding that where a trial court relies on the findings of a previous hearing, that court should be convinced that the hearing was fair and thorough given the possibility that an early hearing with respect to a given technique may not be balanced]). Scientific community approval, not judicial fiat, is the litmus test for the admission of expert evidence generated from a scientific principle or procedure, and it is not to be assumed that one hearing is automatically “enough” to hurdle a Frye inquiry in a different matter. Significantly, the People were unable to cite any New York appellate cases, or out-of-state case law, assessing the general acceptance of LCN evidence (cf. People v Middleton, 54 NY2d 42, 49 [1981]; People v Magri, 3 NY2d 562, 566 [1958]).

Moreover, the fact remains that there was “marked conflict” with respect to the reliability of LCN DNA within the relevant scientific community at the time the LCN issue was litigated in this case (see generally People v Jeter, 80 NY2d 818, 820-821 [1992]). The evidence tendered by defendant included OCME’s admission that “traditional” DNA testing involved 28 amplification cycles of DNA loci, whereas LCN testing applied additional amplification—31 cycles—when traditional testing could not yield an adequate DNA profile. In assuming that the additional reproduction cycles gave rise to no distinction between “traditional” and LCN testing, the People simply ignored the opinion of defendant’s expert that LCN’s enhancements “increases the sensitivity of detection [of genetic markers in tested material] and may result in inaccurate genetic profiles which do not reliably reflect the condition of the evidence[and] generat[e] invalid results.” The

People's bald assumption of accord between traditional and LCN methods, and the deference shown by the motion court to that faulty point, similarly ignored the chorus of defendant's scholarly voices accepting of traditional DNA testing but sounding suspicion with respect to the LCN methodology.

Additionally, contrary to the People's suggestion and the motion court's conclusion, the fact that LCN evidence had been used in foreign courts should have been of no consequence inasmuch as there was no indication that the threshold for admissibility in those bodies contains the same exacting standards to be applied in courts of this state. Defendant was not required to establish, in his motion papers, that LCN evidence was generally not accepted by the relevant scientific community in order to obtain a hearing to resolve the very question of general acceptance. Here, defendant's submissions raised sufficient questions regarding the general acceptance of the LCN evidence, based on its lack of use by other laboratories, the absence of prior meaningful review, and the scientific articles proffered by defendant questioning the reliability of the evidence for criminal prosecution. As the proponent of the LCN evidence, the People ultimately bore the burden of establishing its general acceptance by the relevant scientific community (see LeGrand, 8 NY3d at 458; Sean R., 26 NY3d at 809), and defendant was entitled to have the People put to that burden.

C.

Our conclusion—that the court abused its discretion as a matter of law in failing to hold a Frye hearing—is the same with respect to the FST evidence. The logic underlying the admission of FST evidence not subjected to Frye scrutiny hinged principally on two

points: the “strength” of Garcia (39 Misc 3d 482) and the observation that FST technology basically uses the building blocks of existing mathematical formulas to calculate the likelihood that a person contributed to one part of a DNA mixture. If the analysis was as simple as determining whether FST is comprised of existing mathematical formulas that are individually accepted as generally reliable within the relevant scientific community, then FST evidence probably would be admissible even in the absence of a Frye hearing.

The point remains, however, that FST is a proprietary program exclusively developed and controlled by OCME. The sole developer and the sole user are the same. That is not “an appropriate substitute for the thoughtful exchange of ideas . . . envisioned by Frye” (Wesley, 83 NY2d at 441 [Kaye, Ch. J., concurring]). It is an invitation to bias.

It may well be that what the People say is accurate; to paraphrase their words, FST technology is based on an aggregation of generally accepted tools and therefore should be deemed generally accepted itself. The tool has, as the People noted, been vetted and approved by “the distinguished scientists making up the DNA Subcommittee of the New York State Forensic Science Committee.” The Subcommittee’s approval is certainly relevant and may constitute some evidence of general acceptance at a Frye hearing. But that insular endorsement is no substitute for the scrutiny of the relevant scientific community. To rely solely on the Subcommittee’s approval as dispositive of the general acceptance would be supplant the courts’ obligation to ensure, under Frye, that scientific techniques and methods are sufficiently reliable to be admitted into evidence in a criminal proceeding.

Indeed, here, defendant was hamstrung in demonstrating the existence of conflicting scientific opinions in order to show the need for Frye review of the FST based on the “black box” nature of that program, but his papers adequately showed that OCME’s secretive approach to the FST was inconsistent with quality assurance standards within the relevant scientific community. Those papers also showed that facts adduced in challenges to the FST made in Frye applications in other proceedings suggested that the accuracy calculations of that program may be flawed.

Neither People v Rodriguez (Sup Ct, NY County, Oct. 24, 2013) nor Garcia (39 Misc 3d 482) supported a different result. The court in Rodriguez concluded, following a Frye hearing, that FST evidence was admissible based on internal validation by OCME and approval of the tool by the DNA Subcommittee of the New York State Forensic Science Commission. Approval by that narrow class of reviewers, some of whom were employed by the very agency that developed the technology, is no substitute for community review.

By contrast, in Garcia (39 Misc 3d 482), the court skirted a Frye hearing, reasoning that the FST is not “new or novel science that requires a Frye hearing” (id. at 490) based on what essentially was the “aggregation” theory advanced by the People here. That is, the Garcia court concluded that “[c]omputer programs that allow for drop-in and drop-out rates when calculating likelihood ratios are not new or novel in the scientific community,” and that the application of “accepted mathematical formulas to already existing data previously created by LCN DNA techniques” was a generally reliable technique in the relevant scientific community (id. at 488-489). That decision, however, did not adequately

account for either the proprietary nature of the FST or the relatively narrow subsection of the relevant scientific community able to examine and endorse that tool. Moreover, to the extent that the FST had not been used by OCME for a significantly long period of time prior to its use in defendant's case, and because the particulars of the program were not readily available to the general scientific community so as to facilitate meaningful review and criticism, the People's claim that defendant failed to proffer sufficient evidence that the program was not generally accepted is unavailing.

In short, the FST should be supported by those with no professional interest in its acceptance. Frye demands an objective, unbiased review.¹⁰

D.

The errors in admitting expert testimony with respect to LCN and FST results in the absence of a Frye hearing are significant. In this case, however, the errors also are harmless under our standard for errors of nonconstitutional magnitude. Here, in sum, the People presented video evidence of the shooting, the eyewitness testimony identifying defendant as the shooter, and the testimony of defendant's former girlfriend with respect to the events that followed that incident—including the girlfriend's account of defendant's handling of the subject gun and the forced secretion of that device. Based on all of that proof, we conclude that the evidence of defendant's guilt is overwhelming and that there is no

¹⁰ In so concluding we acknowledge the possibility that there may be circumstances in which a scientific field is so small that there are no knowledgeable scientists who are completely disinterested in the technology in question. A Frye challenge raised in such a scenario may yield a result different from that produced through the analysis of the FST issue in this case, which considers the markedly different question of the general acceptance of proprietary, black-box technology.

significant probability that the jury would have acquitted defendant had it not been for these errors (see generally People v Crimmins, 36 NY2d 230, 241-242 [1975]).

E.

Our conclusion that the trial court abused its discretion as a matter of law in denying a Frye hearing is not the only important point. We have said that a Frye hearing is generally unwarranted “[a]bsent a novel or experimental scientific theory” (Brooks, 31 NY3d at 941). That teaching, of course, leaves room for such a hearing even where the scientific principle in question is neither novel nor experimental. The recoil with respect to previously accepted techniques demonstrates the importance of the space accorded trial courts to conduct a Frye hearing even with respect to a scientific approach that may have become common over time.

Familiarity does not always breed accuracy, and our Frye jurisprudence accounts for the fact that evolving views and opinions in a scientific community may occasionally require the scrutiny of a Frye hearing with respect to a familiar technique. There is no absolute rule as to when a Frye hearing should or should not be granted, and courts should be guided by the current state of scientific knowledge and opinion in making such determinations.

Indeed, admissibility even after a finding of general acceptance through a Frye hearing is not always automatic. Recent questioning of previously accepted techniques related to hair comparisons, fire origin, comparative bullet lead analysis, bite mark matching, and bloodstain-pattern analysis illustrates that point; all of those analyses have long been accepted within their relevant scientific communities but recently have come

into varying degrees of question (see e.g. Overtuning Wrongful Convictions Involving Misapplied Forensics, available at <https://www.innocenceproject.org/overtuning-wrongful-convictions-involving-flawed-forensics/> [last accessed Feb. 21, 2020]; Heather Murphy, A Leading Cause for Wrongful Convictions: Experts Overstating Forensic Results, NY Times, April 20, 2019; Leora Smith, How a Dubious Forensic Science Spread Like a Virus, available at <https://features.propublica.org/blood-spatter-analysis/herbert-macdonell-forensic-evidence-judges-and-courts/> [last accessed Feb. 21, 2020]). Those points, and the lessons of this case, reinforce the importance of judicial caution in the admission of developing scientific evidence in proceedings that may result in the deprivation or limitation of liberty.¹¹

¹¹ The epilogue to this case, although immaterial to the question whether the record establishes that the motion court abused its discretion as a matter of law in refusing to hold a Frye hearing, well illustrates the need for caution in the area of the admission of inculpatory scientific evidence in criminal proceedings. The leading judicial dissenter with respect to the reliability of LCN DNA has been Justice Mark Dwyer of Supreme Court, Kings County, who, as noted, refused to admit LCN DNA analysis into evidence following a Frye hearing held in People v Collins (49 Misc 3d 595 [Supreme Court, Kings County 2015]). That ruling followed a proceeding in which five biologists or geneticists, including Dr. Bruce Budowle, generally objected to OCME’s procedures in the LCN area (see id. at 609-610). That testimony revealed that LCN is used in only two laboratories in the United States (OCME and UNTHS), and that only OCME develops such DNA for use in criminal matters. That testimony also showed that the FBI refuses to use high sensitivity analysis, and that the national Combined DNA Index System (CODIS) will not upload profiles created with high sensitivity analysis.

Most importantly, though, in that case, a former member of the DNA subcommittee of the New York State Forensic Commission, which had approved OCME’s LCN analysis, “defected” and testified for the defense (see id. at 611-613). Since that time, OCME also has abandoned LCN testing, and it is doubtful that the People would defend an application seeking a Frye hearing on that issue today.

There is one additional point to be drawn from this case. When pressed to a literal extreme, some of our precedent may be interpreted to suggest that a *single* decision or *single* court opinion with respect to the general acceptance of a disputed scientific technique or process may not support the admission of such evidence in the absence of a Frye hearing (see LeGrand, 8 NY3d at 458 [“A court need not hold a Frye hearing where it can rely upon previous *rulings* in other court proceedings as an aid in determining the admissibility of the proffered testimony”] [emphasis added]; Wesley, 83 NY2d at 437 [“If no court *opinions*, texts, laboratory standards or scholarly articles have been issued on the technique—the types of materials relevant to a determination of general acceptability—(a) court may . . . take the testimony of expert witnesses”] [Kaye, Ch. J., concurring] [emphasis added]). This decision should not be read to suggest that a trial court can *never* rely on a single prior judicial ruling in concluding that expert testimony based on scientific procedures or principles has gained general acceptance in its specified field, or that multiple judicial determinations to that effect are required for admission in the absence of a Frye hearing. Hearing courts retain the flexibility to admit such evidence in the absence of a Frye inquiry based on a single, sound, prior judicial opinion on a consonant question.

Analysis of the Remaining Issues

Defendant advances three additional contentions on appeal. None of those contentions has merit.

First, defendant contends that trial counsel was ineffective for failing to object to the instruction that the jury must determine whether the use of deadly physical force was justified with respect to each of the gunshots that struck the victim (cf. People v Del-

Debbio, 244 AD2d 195, 195 [1st Dept 1997] [“Even if a defendant is justified in using deadly physical force at the beginning of a single, ongoing encounter with an assailant, his right to use that force terminates at the point he can no longer reasonably believe the assailant still poses a threat to him”], lv denied 91 NY2d 925 [1998]). An objection on that point, however, was unlikely to have succeeded, and trial counsel cannot be ineffective for failing to advance an argument that has little or no chance of success (see People v Caban, 5 NY3d 143, 152 [2005]; People v Stultz, 2 NY3d 277, 287 [2004], rearg denied 3 NY3d 702 [2004]). Defendant essentially contends that because the People’s medical expert testified that each of the two gunshots that struck the victim was fatal, the second gunshot necessarily is academic with respect to the justification analysis because the first shot killed the victim. That contention, however, overlooks the point that the jury was free to reject the testimony of that expert with respect to the conclusion that the victim could have been killed solely by the first gunshot (see People v Drake, 7 NY3d 28, 33 [2006]). The victim, after all, was alive when he was shot a second time, and for a short while thereafter. To the extent the jury believed the second gunshot was at least partially responsible for the victim’s death, the challenged jury instruction would have been appropriate.

Second, defendant contends that trial counsel was ineffective for failing to object to the part of the jury instruction containing the “initial aggressor” exception to the justification defense. A person may not use physical force upon another person to defend himself when that person is the initial aggressor (see Penal Law § 35.15 [1] [b]; People v Petty, 7 NY3d 277, 284-285 [2006]). Where there is a reasonable view of the evidence that the defendant is the initial aggressor, the court may instruct the jury with respect to

that exception to the justification defense (see generally People v Valentin, 29 NY3d 57, 61 [2017]). Here, the People adduced testimony that defendant shot the victim *after* the baseball bat held by the victim had shattered and no longer presented a threat, meaning that the initial aggressor instruction was appropriate. Inasmuch as an objection to that challenge was unlikely to succeed, and inasmuch as trial counsel cannot be ineffective for failing to make a motion that has little or no chance of success (see Caban, 5 NY3d at 152; Stultz, 2 NY3d at 287), this contention with respect to ineffective assistance of counsel lacks merit.

Third, defendant contends that the trial court abused its discretion as a matter of law in admitting into evidence a recording of a telephone call defendant made while incarcerated before trial at Rikers Island. This issue was raised in a brief filed before we decided People v Diaz (33 NY3d 92 [2019]) and People v Cisse (32 NY3d 1198 [2019]). In those cases, we concluded that defendants who use the “public” telephone system at Rikers Island while warned of the potential that such calls may be recorded impliedly consent to the “taping” of those conversations. Those cases are controlling here.

Accordingly, the Appellate Division order should be affirmed.

Addendum

Low Copy Number (LCN) DNA Testing

“DNA,” or deoxyribonucleic acid, “is found in the chromosomes of every cell and contains coded information that provides the genetic blueprint for all living things” (Martin, Capra & Rossi, *New York Evidence Handbook* § 7.2.3 at 647-648 [1997]). “[C]ertain regions of DNA contain DNA sequences that [are] repeated over and over again next to each other” (John M. Butler, *Fundamentals of Forensic DNA Typing* at 4 [2009]).¹²

Today, DNA typing typically analyzes “STR”—or “short tandem repeat”—markers, or certain DNA regions with short repeat units that are highly variable between individuals (*id.* at 5). The utility of DNA profiling arises from the point that, with the exception of identical twins, the genome (that is, the complete genetic composition) of each human being is different (*id.* at 6). A person inherits a single allele—or section of DNA at a particular genetic location—from each parent, providing two alleles at a given location (referred to as a locus), and an STR analysis involves the examination of 13 or more different loci to establish a profile of which alleles appear at which locus.

The copying of specific regions of DNA from its cells—through technique known as polymerase chain reaction, or PCR—produces millions of reproductions of each DNA segment of interest and therefore permits very small amounts of DNA to be examined (*see id.* at 7; *see id.* at 191). In a criminal investigation, after that copying or amplification, the

¹² The United State Supreme Court has recognized the value of Butler’s overview of DNA evidence, citing that work as authoritative in *Maryland v King* (569 US 435, 442 [2013]).

PCR products typically are separated based on their size, and the alleles in that material are compared to the alleles in a known sample to determine whether the tested material contains a DNA profile that matches that of the control sample (see id. at 7). In the event of a similar profile—which frequently is characterized as a “match”—the odds that a random person (who did not give a sample for testing) would have the same DNA profile as that which appears on the sample tested are determined.

At issue here is low copy number DNA testing. That process was developed as a means of obtaining DNA profiles from even smaller amounts of DNA by increasing the PCR amplification cycles to essentially make more copies of the DNA segments to allow for analysis. That is, where there is a minute amount of available genetic material the LCN technique generates many more copies of DNA molecules and enables STR typing to obtain results from those small samples (id. at 330-331; see http://www.nyc.gov/html/ocme/downloads/pdf/HISENS_brochure.pdf [last accessed Feb. 21, 2020] [also referring to LCN analysis as “high sensitivity,” “low level,” and “touch” DNA testing]).

The Forensic Statistical Tool (FST)

In the People’s words, FST, or forensic statistical tool, “is a computer software program developed by OCME which is used to calculate likelihood ratios.” That “application,” the People say, “is simply [a] math software program that performs calculations that could not be done by hand in a human time frame.” Programs such as FST are particularly useful where there is a DNA mixture inasmuch as they account for the possibility of allelic “drop out” and “drop in.”

Allelic “drop out” occurs when a piece of DNA is not seen in a DNA result, even though it is known to be in a sample. For example, when a minute amount of DNA is tested, the testing process may not pick up all of the pieces of DNA in the profile and refer only to those that were identified. The pieces not picked up or identified are said to have “dropped out” because, although they are part of the original sample, they will not be shown or represented in the result. Drop out also may occur when a DNA sample is degraded and some pieces deteriorate and are not detected during the testing process, and therefore “drop out” of the results.

Allelic “drop in” occurs when a minute piece of DNA or allele is seen in the sample but cannot be attributed to the contributors in the sample. Drop in may result from, among other things, “stutter”—which is essentially a byproduct of the testing process and which generally presents as peaks much shorter than a true allele—and contamination of the sample.

The People claim that “[w]hat sets FST apart [as an estimation program] is that FST uses empirically established drop out and drop in rates generated by thousands of tests.” Along those lines, the People maintain that “FST is not a method” and instead “is a name for a software program that is being applied after the testing is completed.”

According to the People, “scientists can predict with a reasonable degree of scientific certainty the likelihood of a piece of DNA dropping out, or not being seen, at every location that is being tested.” Consequently, the dropout rates can be estimated, (as, apparently, can drop in rates) through mathematical calculations performed through the FST.

The People characterize likelihood ratios generated by the FST as “statistics relating to the likelihood of one scenario over another.” According to the People, the likelihood ratio “is not a statement that the defendant’s profile is part of the DNA mixture present on evidence.” Rather, “the likelihood ratio is a standard statistical calculation used in all areas of science” and simply says “that given the composition of the mixture it’s s more likely than not that the defendant is a contributor to the DNA mixture.”

People v Cadman Williams

No. 15

DiFIORE, Chief Judge (concurring):

I concur that the issues joined in this 2014 motion practice raised the existence of a credible dispute among scientists in the relevant scientific community that was ripe for a Frye hearing (Frye v United States, 293 F 1013 [DC Cir 1923]), and the denial of the same was an abuse of discretion. I write separately because I cannot join the majority's

pejorative view of the New York City Office of the Chief Medical Examiner's (OCME's) low copy number (LCN) DNA typing technique and its use of a Forensic Statistical Tool (FST), a probabilistic genotyping software program, to determine likelihood ratios for the interpretation of DNA typing in multiple source samples. I also write to emphasize the paramount importance of the Commission on Forensic Science (CFS) and its highly credentialed DNA subcommittee and the significance of their joint approval of the OCME's validated techniques for generating and interpreting LCN DNA typing.

The narrowly disputed issue presented to the trial court concerned challenges to the relatively new internal validation studies conducted by OCME to support its LCN DNA typing interpretation protocols to address the conceded increased stochastic effects and allelic dropout associated with multiple contributor samples. Here, the People alleged that the interpretation protocols of the DNA testing tools at issue – i.e., the LCN DNA typing and FST techniques – were validated by empirical evidence through extensive testing. The validation studies did not lack “external mechanisms” of quality assurance as the majority asserts (majority op. at 7), and that is a conclusion that completely ignores the comprehensive oversight, regulation and approval of the subject DNA testing techniques by the legislatively created CFS and DNA subcommittee.¹ Ignored by the majority as well

¹ In direct response to this Court's green light in People v Wesley (83 NY2d 417 [1994]) for the introduction of DNA profile evidence after it survived a Frye challenge similar to that raised here, in 1994, our State Legislature preemptively established the independent CFS and its DNA subcommittee (Executive Law § 995-b). These entities are charged with accreditation and regulation of DNA laboratories and personnel and full vetting of the DNA testing tools at issue – requiring them to establish minimum standards for program accreditation, forensic laboratory personnel and performance of forensic DNA methodologies, all of which shall be designed to “ensure that forensic analyses, including

is OCME’s reliance on the guidelines of the Scientific Working Group on DNA Analysis Methods (SWGDM) – a group of federal, state and local scientists representing forensic DNA laboratories that meets under the FBI’s guidance and proposes and recommends revisions to the FBI’s Quality Assurance Standards (QAS) for DNA analysis – in performing its validation studies² (United States v Morgan, 53 F Supp 3d 732, 737-738 n 6 [SD NY 2014], affd 675 Fed Appx 53 [2d Cir 2017], cert denied 138 S Ct 176 [2017]). OCME’s adherence to the national QAS, and the approval of those studies by CFS, demonstrates the rigorous nature of OCME’s validation process and should not be simply

forensic DNA testing, are performed in accordance with the highest scientific standards practicable” (Executive Law § 995-b [1], [2] [a], [2] [b]). DNA subcommittee members are appointed from a cross-section of the relevant scientific disciplines, including molecular biology, population genetics, laboratory standards, quality assurance regulation and monitoring and forensic science (id. at § 995-b [13]). Hardly an “insular” or “narrow class of reviewers” (majority op. at 17, 18), the DNA subcommittee consists of “world-class scientists in various disciplines relevant to DNA analysis” (People v Carter, 50 Misc 3d 1210[A], 2016 NY Slip Op 50067[U], *13 [Sup Ct, Queens County 2016], quoting People v Collins, 49 Misc 3d 595, 612 [Sup Ct, Kings County 2015]; see also United States v Jones, 2018 WL 2684101, *4, 2018 US Dist LEXIS 94791, *9 [SD NY, Jun. 5, 2018, S4 15-CR-153 (VSB)] [DNA subcommittee consists of a group of “well-known,” “respected” and “distinguished experts” in the field of DNA analysis]; Letter from St Health Dept, July 25, 1994, Bill Jacket, L 1994, ch 737 [involvement of scientists and geneticists with expertise in DNA technology on DNA subcommittee “will enhance the effectiveness and accuracy of DNA tests performed by state and local forensic laboratories”]). The statute also contains strict parameters for laboratory accreditation by the DNA subcommittee, including minimum levels of proficiency testing, inspections, quality assurance, validation procedures and corrective action (see Executive Law § 995-b [3]).

² Dr. Budowle was the former chair of SWGDAM and one of the original architects of CODIS (see Collins, 49 Misc 3d at 608).

discounted by a court as only an “insular endorsement” of the subject test methodologies (majority op. at 17).³

Despite my view that CFS certification, in the absence of countervailing empirical evidence, weighs heavily in favor of finding that the subject DNA testing methodologies themselves were scientifically accepted by the relevant community, of particular concern here is whether OCME’s interpretation protocols encompassed the proffered test results, as the DNA sample sizes appear to have fallen outside validated parameters. To be sure, the parties did not dispute that LCN DNA testing essentially replicates the procedures used in the well-accepted Polymerase Chain Reaction Short Tandem Repeat (PCR/STR) process and that it includes three additional PCR amplification cycles to account for the use of smaller DNA sample sizes. It was also undisputed that increased PCR amplification cycles increase the risk of stochastic effects and allelic dropout when low copy mixture samples are used, thereby affecting the DNA typing profiles. The People alleged, though, that OCME accounted for these known effects in its conservative interpretation protocols and conducted extensive validation studies on known DNA samples to prove their hypothesis.⁴

³ In DWI prosecutions, for example, a breathalyzer test result is scientific evidence that is admissible at trial without expert testimony on its general acceptance where the evidence is created by technologies regulated by state agencies (see e.g. People v Boscic, 15 NY3d 494, 497-500 [2010] [results of breath alcohol detection machines, which are regulated, evaluated and approved by DOH, have long been considered scientifically reliable]; see also People v Hampe, 181 AD2d 238, 240 [3d Dept 1992]).

⁴ The majority relies heavily on the criticisms of LCN and FST contained in the numerous articles proffered by the defense (see majority op. at 6-7). Although the majority claims the articles identify disputes as to the underlying scientific methods of LCN and FST per se, closer inspection reveals they do not support such a broad rejection of those techniques. Instead, they sound the alarm that the use of these techniques with smaller DNA samples

The crux of the dispute among scientists pertains to the precise manner in which they translated the results of their studies into protocols to account for stochastic effects (see Collins, 49 Misc 3d at 605). As one commentator has explained, “[t]he issue is not whether the tools by which LCN testing is undertaken are identical to those for conventional STR testing, but rather whether the methodology and protocols have been validated for low levels of DNA” (Faigman et al., 4 Modern Scientific Evidence: The Law and Science of Expert Testimony § 30:32 at n 19 [2019-2020 ed]). Thus, the People had the burden to demonstrate that the interpretation of the DNA typing profiles derived from increased amplification of the DNA sample was admissible because it was appropriately derived using OCME’s protocols.

and increased amplification cycles lead to increased stochastic effects – no surprise. However, none of the articles address the fact that OCME accounted for those stochastic effects in developing interpretation protocols after running thousands of validation studies in accordance with SWGDAM guidelines, and none offer contrary empirical proof discounting the interpretation protocols adopted by OCME. Indeed, studied review of the nine attachments reveals that, far from providing a “chorus of . . . scholarly voices . . . sounding suspicion with respect to the LCN methodology” (majority op. at 16), a number of the annexed writings are not appropriately considered in this context at all. Fundamentally, in evaluating the positions advanced by scientists, we must ensure that their opinions are supported by empirical data. In a case like this one, where the underlying PCR/STR technology was already scientifically accepted for certain uses, it was necessary to inquire whether the scientists attempting to stretch its use to new applications, and those who were disputing the reliability of such use, could back up their positions with empirical proof. Most importantly, none of the articles annexed to defendant’s papers addressed the import of the external validation of OCME’s use of LCN by the CFS and DNA subcommittee and SWGDAM, including through oversight, approvals and regulation. Indeed, careful attention must be paid to the exact procedures the articles address, as “LCN” has been used to describe various types of high-sensitivity testing, including one type using 34 PCR amplification cycles, and in various settings, including commercial laboratories that are not regulated in the same manner or with the same rigor as the processes certified for OCME’s use.

It is not clear whether, in 2014, OCME's extensive empirical studies supporting its interpretation protocols to account for stochastic effects and allelic dropout in the LCN DNA typing had been validated and consequently approved by CFS for multiple contributor samples falling below what appears to have been – according to the People's own submissions – a 25 picogram threshold. That floor was not met on one of the samples here, as only 17.2 picograms of DNA was recovered from the gun trigger swab. An interrelated concern existed as to the range of the validation studies for OCME's interpretation protocols as to LCN DNA multiple contributor samples consisting of two or more unknown contributors. Accordingly, an important focus for the Frye court was to determine whether the interpretation protocols to account for stochastic effects and allelic dropout on LCN DNA samples were properly utilized in analyzing the particular DNA mixture samples in this case. A Frye hearing was needed to resolve these disputes.

As for FST, CFS approved that software program for OCME's use in analyzing DNA mixtures in July 2011, and the first report generated in this case by the FST was issued the same month, making it “possible,” as OCME's witness testified at trial, that defendant's first FST report was one of the first that OCME had ever issued for use in a criminal case. At the time of the motions, use of probability ratios to explain the results of DNA typing evidence by use of Bayesian mathematical principles was not uncommon, and “[t]he validity of the math in the probability analysis underlying the FST software” was not in issue (Collins, 49 Misc 3d at 601). However, OCME's newly minted proprietary software had not been shared publicly, and defendant reasonably complained that there was “no basis on which the external forensic DNA community [was] capable of determining

whether OCME's methodology and procedures are adequate to assure the reliability and the accuracy of the results" relating to this defendant. The LCN DNA profiles drive the FST analysis, and FST results are only as reliable as the predicate assumptions integrated into the FST software program. The People did not meet their burden of establishing the validity of the empirical data used to fuel the calculations performed by this statistical model, including the manner of accounting for the occurrence of the stochastic effect and allelic dropout in a multiple contributor sample of less than 25 picograms, in a manner sufficient to bypass a Frye hearing. Fundamentally, the combined use of that statistical tool with DNA typing on samples that fell beneath validated thresholds may have impacted the reliability of the results, raising a valid challenge to the admissibility of that evidence in a criminal prosecution.

When sufficiently challenged, a laboratory's validation studies, conducted at the nascent stages for the acceptability of the scientific methodology, require a Frye court to answer the admissibility inquiry with more than "unanalyzed, rote reliance" on the conclusions of the initial decisions of other courts (United States v Wilbern, 2019 WL 5204829, *4, 2019 US Dist LEXIS 152353, *9 [WD NY Oct 16, 2019, 17-CR-6017 CJS]). At a minimum, an independent review of the underlying factual support for the previously litigated competing positions was warranted (see Wilbern, 2019 WL 5204829, *3, 2019 US Dist LEXIS 152353, *7, citing Morgan, 675 Fed Appx at 54-56; Jones, 2018 WL 2684101, *7, 2018 US Dist LEXIS 94791, *19). Since a more thorough inquiry as identified above was warranted at the time of defendant's motions, complete deference to the decisions in People v Megnath (27 Misc 3d 405 [Sup Ct, Queens County 2010]) and

People v Rodriguez (Sup Ct, NY County, Oct. 24, 2013, Carruthers, J., indictment No. 5471/2009) was not an appropriate substitute for the more critical analysis of the LCN and FST evidence that should have been undertaken in a Frye hearing (see People v Jeter, 80 NY2d 818, 820-21 [1992]). Nonetheless, I cannot join the unfair characterization of the court’s analysis in Megnath as “questionable” (majority op. at 14), given that we have before us neither the Frye hearing transcript nor the underlying arguments of the parties, which certainly framed the issues for that court.⁵

The issue before the trial court warranted a Frye hearing to afford an opportunity for more scrutiny based upon actual evidence and to determine if the so-called “organized skepticism” (majority op. at 12)⁶ was even predicated on validated empirical data. Despite

⁵ The courts in Megnath and Collins conducted Frye hearings to address the same narrow issue that warranted a Frye hearing in this case – whether OCME’s protocols to account for and interpret increased stochastic effects and allelic dropout arising from additional amplification cycles of LCN DNA samples were scientifically reliable. Those courts reached opposite conclusions, based largely on the value each court gave to OCME’s validation studies and certification by the CFS. The Collins court did “not seek to state whether the People were correct” that “OCME’s protocols create conservative interpretations of the test data and ensure trustworthy and sound scientific conclusions” (49 Misc 3d at 605). It opted instead to consider whether the relevant scientific community generally accepts the OCME protocols and further held, with respect to CFS approval, “that no state subcommittee can be equated with the general membership of the relevant scientific community” (49 Misc 3d at 613). By contrast, Megnath found that OCME’s validation studies “were reviewed by the DNA subcommittee of the [CFS] and were implicitly found to be scientifically reliable and reproducible” and concluded that “OCME has properly developed interpretation protocols for LCN DNA testing based upon its extensive validation studies and that when correctly performed these protocols consistently yield reliable and reproduceable results” (27 Misc 3d at 408, 411).

⁶ Although it has been stated that “[t]he Frye test emphasizes “counting scientists” votes, rather than on verifying the soundness of a scientific conclusion” (Wesley, 83 NY2d at 439 [Kaye, Ch. J., concurring], quoting Jones v United States, 548 A2d 35, 42 [DC Cir 1988]; see also Parker v Mobil Oil Corp., 7 NY3d 434, 447 [2006]), that paradigm

the error in denying the Frye hearing, I concur in the majority's affirmance of the judgment on the ground of harmless error, as the evidence of defendant's use of the handgun involved in the murder – including defendant's own trial testimony admitting he shot the victim in addition to the proof cited by the majority – was overwhelming.

* * * * *

Order affirmed. Opinion by Judge Fahey. Judges Rivera, Stein, and Wilson concur. Chief Judge DiFiore concurs in result in an opinion in which Judges Garcia and Feinman concur.

Decided March 31, 2020

incorrectly suggests that whether a Frye hearing is required will depend on the mere number of voices disputing the efficacy of a particular scientific methodology. Such a proposition is not consistent with the axiom that reproducibility is the linchpin of a reliable methodology. The more exact inquiry should be whether the dissenting voices are from scientists who have empirical proof to refute the validated empirical evidence and thus substantiate their competing hypotheses.