2015 VT 97

No. 2014-300

State of Vermont	Supreme Court
	On Appeal from
v.	Superior Court, Chittenden Unit,
	Criminal Division
David Wisowaty	February Term, 2015

Samuel Hoar, Jr., J.

Thomas J. Donovan, Chittenden County State's Attorney, Burlington, and Gregory Nagurney, Deputy State's Attorney, Montpelier, for Plaintiff-Appellee.

Robert S. Behrens of Behrens Venman, PLLC, Burlington, for Defendant-Appellant.

PRESENT: Reiber, C.J., Dooley, Skoglund, Robinson and Eaton, JJ.

¶ 1.   **SKOGLUND, J.**   Defendant David Wisowaty appeals the trial court's decision denying his motions for judgment of acquittal and new trial. Defendant argues that the judge, sitting as factfinder, relied upon evidence not introduced at trial and that the evidence presented was insufficient to sustain a conviction; thus, the trial court erred in finding him guilty of excessive speed and negligent operation of a vehicle. We agree that the evidence was insufficient and therefore reverse the trial court's denial of defendant's motion for acquittal.

¶ 2.   The undisputed factual background is as follows. Around 9:00 p.m. on August 10, 2013, defendant rode his motorcycle southbound on Dorset Street in South Burlington

toward Vermont National Country Club, which was on his right. Dorset Street is a public highway with a posted speed limit of forty miles per hour.

¶ 3. As defendant rode south, Peter Yee prepared to make a left turn out of the country club to go north on Dorset Street. Mr. Yee testified that he looked left then right, and began slowly to pull out. He stated he was about half-way into the oncoming lane when he observed the headlight of defendant's approaching motorcycle. Mr. Yee stopped with the right front corner of his truck at or near the centerline of the street. The truck occupied virtually the entire southbound lane, which required defendant to travel into the northbound lane to avoid collision.
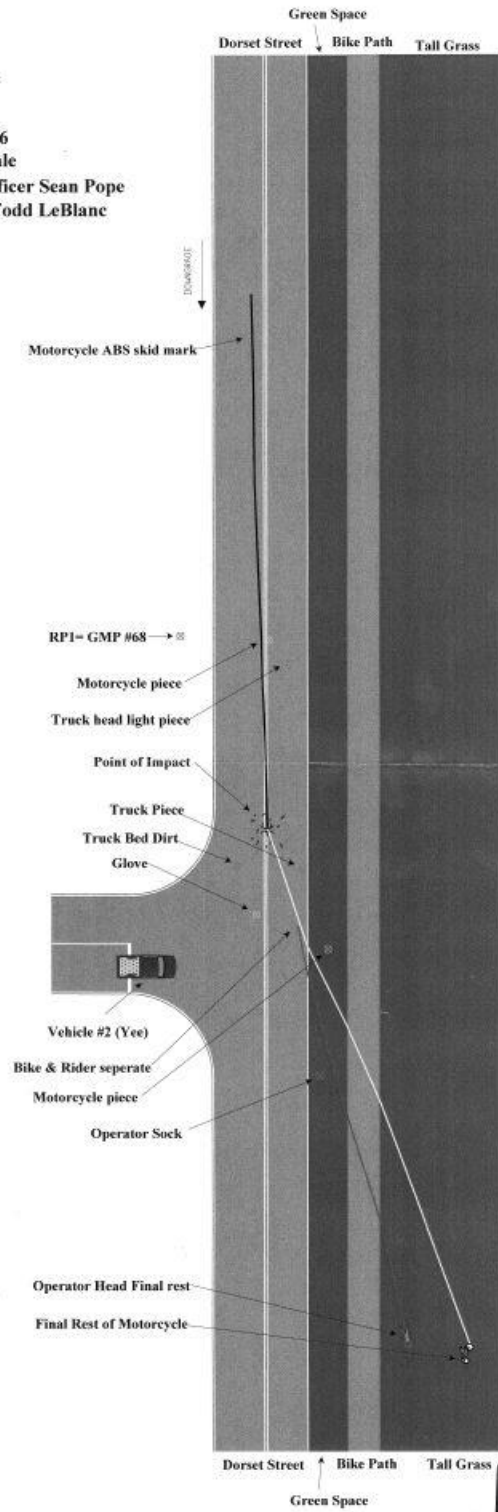
¶ 4. Defendant hit the right front of Mr. Yee's truck. As a result, defendant crossed the northbound lane at an oblique angle, still upright on his motorcycle. The motorcycle traveled across a small grass strip, a paved bike path, and about eighty feet of grass before it came to a rest approximately 150 feet from the initial point of impact. Somewhere along the way, defendant separated from his motorcycle and slid before landing not far from it. These paths of travel are depicted in the diagram below—a resized copy of the State's Exhibit 14, admitted at the trial court—to which we will refer throughout this opinion.[1]

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[1] Exhibit 14 was not drawn to scale. However, a separate exhibit, not attached to this opinion, has measurements tagged to a common reference point, labeled "RPI=GMP #68" (a Green Mountain Power telephone pole), for many of the points labeled on Exhibit 14.

Green Space

Dorset Street   Bike Path   Tall Grass

Motorcycle ABS skid mark

RP1= GMP #68

Motorcycle piece

Truck head light piece

Point of Impact

Truck Piece

Truck Bed Dirt

Glove

Vehicle #2 (Yee)

Bike & Rider seperate

Motorcycle piece

Operator Sock

Operator Head Final rest

Final Rest of Motorcycle

Dorset Street   Bike Path   Tall Grass

Green Space

¶ 5. The State charged defendant with operating a motor vehicle on a public highway in a negligent manner, 23 V.S.A. § 1091(a), and operating a motor vehicle at or above sixty miles per hour and at least thirty miles per hour in excess of the speed limit, 23 V.S.A. § 1097.

¶ 6. The three-day bench trial consisted, in large part, of the testimony of multiple expert witnesses. In addition to defendant's own testimony and Mr. Yee's testimony, both the State and defendant presented their own accident reconstructionist, each of whom used different formulas and inputs for determining defendant's maximum speed. The judge found defendant guilty of both excessive speed and negligent operation, but did not rely entirely on either of the experts' formulas or their inputs. Rather, as we explain below, he took pieces of each expert's data and formulas, and supplemented them with his own estimates and calculations, ultimately determining that defendant's top speed was between seventy-five and eighty-four miles per hour. That unusual approach to factfinding is challenged in this appeal.

¶ 7. While we note there was other evidence besides that of speed—namely, regarding alcohol consumption—which could have factored into the court's conclusion on the negligent operation count, the judge made insufficient findings about defendant's blood-alcohol concentration and explicitly relied only upon defendant's speed to find him guilty of negligent operation. We therefore limit our review to the calculation of defendant's maximum speed.

¶ 8. The State's expert determined speed by calculating the speed lost throughout defendant's path of travel—from the initial skid-mark, the top of the line marked "Motorcycle ABS skid mark" on Exhibit 14, which the State's expert deemed roughly the point at which defendant could first see Mr. Yee's vehicle, to the motorcycle's final resting place, also shown on Exhibit 14. The State's expert essentially worked backward from zero miles per hour at the final resting point, based on estimated friction coefficients of the various surfaces over which the

motorcycle passed—roadway, grass strip, bike path, high grass—and the respective distances the motorcycle traveled across each surface type. This calculation assumed that the motorcycle achieved continuous, maximum braking from the moment defendant saw Mr. Yee's vehicle until the motorcycle reached tall grass, which was, as the State's expert admitted, well after impact and some fifty to sixty feet after defendant had separated from the motorcycle. The State's approach yielded a top speed of approximately ninety-nine miles per hour.

¶ 9. Defendant's expert, on the other hand, calculated speed based on the formula distance equals rate multiplied by time ($d = r * t$). For distance, he measured 316.8 feet from the topographic point—at the crest of the nearest northward hill—where defendant's headlight could first be seen by Mr. Yee, to the point of impact. To determine time—the seconds it took defendant to travel those 316.8 feet—defendant's expert attempted to adduce how long it took Mr. Yee to drive from his point of initial perception to the point of impact.[2] To do this, he used another iteration of $d = r * t$, solving for time. For rate, in this second formula, he estimated that a "reasonable and ordinary speed" for a car pulling out from a stop was twelve miles per hour. Defendant's expert then estimated that Mr. Yee traveled eighty to ninety feet by essentially eyeballing an overlay drawing of the intersection that was not to scale. From these inputs, he derived a time of 4.5 seconds, which, divided into the 316.8 feet defendant traveled, yielded a speed of about forty-eight miles per hour.

¶ 10. The judge, by his own explanation, saw merit in both formulas, but doubted some of the inputs used by the experts, so he made adjustments. First, the judge turned to the $d = r * t$ approach espoused by defendant's expert. He accepted 316.8 feet as a good approximation of the distance defendant traveled from point of perception to point of impact, and also found the

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[2] We note that the time of travel for both operators from point of initial perception to point of impact must be equal; otherwise, they would not have met at the point of impact.

estimate of Mr. Yee's speed at twelve miles per hour credible, but the judge took issue with that expert's estimate of the distance Mr. Yee traveled. The judge instead attempted to indirectly measure that distance by applying the Pythagorean Theorem to nearby points labeled on the State's diagram of the intersection, Exhibit 14 above. After substitution of this input, the judge calculated a speed of just over eighty-four miles per hour.

¶ 11. Although the judge principally relied upon the $d = r * t$ methodology, he noted that if he adjusted the inputs used by the State's expert, he could use the State's friction-coefficient approach "as a check on the reliability" of the other calculation. Because he concluded that neither the relatively high friction coefficients used by the State's expert, nor the lower ones suggested by defendant's expert, were accurate, the judge chose inputs that "lay between [those] extremes." The judge never disclosed, however, the exact coefficients he chose or how he arrived at them, or even what speed his calculation using this methodology yielded. After the judge explained his methodologies by way of issuing his findings of guilt from the bench, defendant filed motions for judgment of acquittal and, alternatively, a new trial. The court denied both motions, and this appeal followed.

¶ 12. A motion for a new trial is "normally entrusted to the discretion of the trial court"; however, we "will reverse upon a showing that the trial court abused or withheld its discretion, or exercised it on untenable grounds." State v. Birchard, 2010 VT 57, ¶ 9, 188 Vt. 172, 5 A.3d 879 (quotation omitted).

¶ 13. On the other hand, we review the denial of a motion for judgment of acquittal de novo. See State v. Vulley, 2013 VT 9, ¶ 30, 193 Vt. 622, 70 A.3d 940. In doing so, we must determine whether the evidence, when viewed in the light most favorable to the State, is sufficient to convince a reasonable trier of fact that the defendant is guilty beyond a reasonable

doubt. State v. Derouchie, 140 Vt. 437, 445, 440 A.2d 146, 150 (1981). We therefore "assess the strength and quality of the evidence; evidence that gives rise to mere suspicion of guilt or leaves guilt uncertain or dependent upon conjecture is insufficient." State v. Albarelli, 2011 VT 24, ¶ 17, 189 Vt. 293, 19 A.3d 130 (quotation omitted). But we "must determine whether there is any valid line of reasoning and permissible inferences which could lead a rational person to the conclusion reached by the [factfinder] on the basis of the evidence at trial." People v Bleakley, 508 N.E.2d 672, 674-75 (N.Y. 1987). To best balance the accused's right to proof of guilt beyond a reasonable doubt with the role of the trial judge as trier of fact, "a finding of guilt should stand if supported by substantial evidence." Reporter's Notes, V.R.Cr.P. 23; see also 2 Charles Alan Wright, et al., Federal Practice and Procedure § 374 (4th ed. 2015).

¶ 14. The unusual record before us lays out three distinct configurations of the evidence: that of the prosecution, that of defendant, and that of the trial judge. Defendant's expert, as the trial judge recognized, cast reasonable doubt as to the coefficients of friction used by the State's expert, and therefore as to that expert's conclusion. The prosecution's methodology relied upon the motorcycle having achieved maximum braking not only before and after impact, but also for some fifty to sixty feet after defendant had fallen off of it—a presumption not supported by logic or the evidence. The judge found that defendant's expert's crude measurement, taken on yet another not-to-scale diagram, was unusable. Defendant's expert's calculation of speed, in turn, was equally unreliable. We agree with the judge that both experts failed in their proffered attempts at calculating defendant's speed; thus, defendant's convictions could not be supported by substantial evidence on the basis of either of those theories.

¶ 15.   We now turn to the trial judge's approach. Findings by a judge-as-factfinder on issues other than the ultimate question of guilt are subject to the "clearly erroneous" standard of review. See State v. Driscoll, 137 Vt. 89, 95, 400 A.2d 971, 975 (1979); 2 Wright, supra, § 374. The trial judge's calculation of defendant's speed is a factual conclusion. See Campbell v. Beede, 124 Vt. 434, 436, 207 A.2d 236, 239 (1965) (explaining that "[e]xcessive speed, alone, is not negligence as a matter of law," but rather presents a question of fact for the factfinder). That conclusion will thus be upheld unless clearly erroneous, "recognizing that the trier-of-fact is in the best position to determine the weight and sufficiency of the evidence presented." State v. Spooner, 2012 VT 90, ¶ 11, 192 Vt. 465, 60 A.3d 640 (quotation omitted).

¶ 16.   A factfinder "may draw rational inferences to determine whether disputed ultimate facts occurred," but those inferences "must add up to more than mere suspicion," and "the [factfinder] cannot bridge evidentiary gaps with speculation." State v. Durenleau, 163 Vt. 8, 12-13, 652 A.2d 981, 983 (1994). Defendant argues that the judge-as-factfinder acted improperly as an expert witness, placing his own personal opinions and calculations into evidence. As defendant noted at the hearing on his motions for new trial and acquittal, he also was denied any ability to cross-examine the judge on the measurements he used or his calculations. We need not reach these contentions, however, because we conclude that the judge impermissibly "bridge[d] evidentiary gaps with speculation," id., rendering his calculation of defendant's speed unsound.

¶ 17.   As noted above, the trial judge used the $d = r * t$ approach proffered by defendant's expert, but replaced one of the inputs used by that witness with a different one, which he derived by applying the Pythagorean Theorem to three points marked on State's

Exhibit 14.[3] Other courts have condoned a factfinder's use of the Pythagorean Theorem, but only where there existed reliable evidence of a right angle and the measurements of the two shorter sides of the triangle were sufficiently reliable and precise, based on admitted evidence. See Sam v. State, 842 P.2d 596, 600 (Alaska Ct. App. 1992) (approving jury's use of Pythagorean Theorem where responding police officer had testified "that the distance from the matted area where [the defendant] stood at the time of the shooting to the closest point on a nearby walkway was twenty-one feet, six inches, and that, at a right angle from this point, the distance up the walkway to the point at which [the victim] was apparently shot measured fourteen feet, six inches," but "[w]hen the prosecutor asked [the officer] to calculate the direct distance between [the defendant] and [the victim] from these measurements, . . . [the officer] could not," and "[t]he jury heard no testimony concerning the direct distance"). But see State v. Jones, 166 P.3d 782, 784-85 (Wash. Ct. App. 2007) (declining to analyze distance based on Pythagorean Theorem where "the trial court noted that a sketch was entered that made the intersection appear to be a 90 degree angle," but "there was no specific evidence that it was actually a right angle"); People v. Harre, 614 N.E.2d 1235, 1238 (Ill. 1993) (rejecting lower appellate court's reliance on Pythagorean Theorem where the two "known" sides of the triangle were estimates by officers who had not actually measured those distances).

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[3] The Pythagorean Theorem ($A^2 + B^2 = C^2$) produces the longest side, C, of a right triangle based on the square root of the sum of the squares of the two shorter sides, A and B. The three points forming the judge's triangle were the spot marked "Point of Impact," the unmarked point on the centerline of the road directly west of the southernmost "motorcycle piece," and the image of the car, labeled, "Vehicle #2 (Yee)." The longest side of the triangle, C, for which the judge solved, was the distance between Mr. Yee's car, as positioned on the diagram, and the point of impact. The judge assumed, for purposes of deriving the input of Mr. Yee's distance traveled, that the position of Mr. Yee's car on Exhibit 14 was the point at which Mr. Yee and defendant first saw each other.

¶ 18. Here, the judge relied upon unfounded assumptions about the lengths and orientations of the two shorter sides of his purported right triangle, and therefore arrived at a clearly erroneous conclusion as to the length of the third side, even though he used an accepted mathematical formula. See Harre, 614 N.E.2d at 1238 ("Mathematical theories and formulas are only as accurate as the measurements on which they are based and are completely reliable only if precise measurements are available."). While Exhibit 14 was accompanied by a list of many precise measurements corresponding to points marked, one of the points on the judge's triangle—the image of the car, labeled, "Vehicle #2 (Yee)"—was unmeasured. Moreover, the diagram was not to scale. The location of the car on the diagram relative to any other measured point was thus speculative. Therefore, there was no evidence of a right angle and the judge's measurement of at least one of the shorter sides of the triangle was conjecture.

¶ 19. Having concluded that the judge's choice as to the relative location of Mr. Yee's vehicle at the beginning of its turn had no support in the evidence, we necessarily also conclude that the judge's calculation of the time it took Mr. Yee to travel from that initial turning point to the point of impact was speculative. And because the judge determined defendant's time of travel by substituting Mr. Yee's time of travel for that of defendant's, the judge's determination of defendant's travel time suffered from the same infirmity. Defendant's travel time—the input by which the judge divided the distance defendant traveled to determine defendant's speed—was thus both indispensable and unsupported. The judge's conclusions as to speed were therefore clearly erroneous.

¶ 20. Defendant's convictions are not supported by substantial evidence. We are left then with determining the proper remedy: a new trial or acquittal. A new trial is appropriate where alleged errors committed during the course of the trial affected the factfinder's decision or

where the verdict was against the weight of the evidence, while acquittal is proper upon a finding of insufficient evidence. See <u>Lynch v. Dolce</u>, ___ F.3d ___, No. 14-1675-pr, 2015 WL 3771891, *8-9 (2d Cir. June 18, 2015); see also <u>State v. Spaulding</u>, 2014 VT 91, ¶¶ 10, 38, ___ Vt. ___, 103 A.3d 487 (affirming denial of motion for acquittal, but remanding for new trial based on erroneous evidentiary ruling). This is not a situation in which extraneous information, introduced by way of some improper evidentiary ruling or a juror's ex parte communication, tainted a factfinder's deliberation. See, e.g., <u>Birchard</u>, 2010 VT 57, ¶ 33. Rather, we have a case of insufficient evidence, which the factfinder creatively but unsuccessfully attempted to salvage. Defendant is therefore entitled to a judgment of acquittal on both charges.

<u>Reversed and remanded for entry of a judgment of acquittal on the charges of excessive speed and negligent operation</u>.

FOR THE COURT:

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Associate Justice