

**Reversed and Remanded and Opinion filed August 18, 2015.**



**In The**

**Fourteenth Court of Appeals**

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**NO. 14-14-00057-CR**

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**LUIS ENRIQUE VELIZ, Appellant**

**V.**

**THE STATE OF TEXAS, Appellee**

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**On Appeal from County Criminal Court at Law No. 2  
Harris County, Texas  
Trial Court Cause No. 1892229**

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**O P I N I O N**

Appellant Luis Enrique Veliz appeals his conviction for driving while intoxicated. Appellant contends the trial court erred in admitting retrograde extrapolation testimony because the State failed to demonstrate by clear and convincing evidence that the analysis of the testifying expert reliably assessed appellant's blood alcohol concentration at the time he was stopped. We agree that the trial court erred in admitting the retrograde extrapolation testimony and hold that the error affected appellant's substantial rights. We therefore reverse and

remand for a new trial.

## BACKGROUND

In the early morning hours of April 26, 2013, appellant was arrested for driving while intoxicated. Officer Joel Quezada of the Houston Police Department testified that at approximately midnight, he observed a truck with no taillights.<sup>1</sup> According to Quezada, the truck drifted into another lane. Quezada activated the overhead lights on his police car and pulled over the driver. Quezada asked the driver for his license and proof of insurance. Quezada testified that during this exchange, he smelled alcohol coming from inside the truck. He further observed that appellant slurred his speech and “had red glassy eyes.” Quezada asked appellant if he had been drinking, and appellant replied that he had consumed two beers. Quezada stated that he asked appellant to step out of the truck, and appellant stumbled while doing so. Quezada clarified that appellant was not falling but rather grabbed onto the truck for support.

Officer Quezada then conducted two field sobriety tests. The first test was the horizontal gaze nystagmus (“HGN”) test, and the second test was the one-leg stand test. On the HGN test, appellant exhibited six clues of intoxication.<sup>2</sup> Quezada testified that during the one leg-stand test,<sup>3</sup> appellant swayed, used his

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<sup>1</sup> He testified that it was a Ford F-150.

<sup>2</sup> Quezada testified that there are four components to the HGN test, including the vertigo HGN, but he only testified to the results of the first three. The first component is lack of smooth pursuit, the second is sustained or distinct nystagmus at maximum deviation, and the third component is onset of nystagmus prior to 45 degrees.

<sup>3</sup>Quezada testified that appellant indicated he had problems with his legs. During the one leg stand, an individual must lift one leg approximately six inches off the ground, and while doing so, look at his or her foot, and count out loud in the following manner: one thousand one, one thousand two, etc. The test assesses an individual’s mental faculties by requiring them to pay attention to the instructions, and it assesses their physical faculties by requiring them to lift one foot and maintain balance.

arms for balance, and dropped his foot. To Quezada, these movements indicated appellant was intoxicated.

Quezada arrested appellant and took him to the station. Quezada stated that although there is a third standard field sobriety test, he did not subject appellant to the third test because he wanted to capture it on video and he did not have a video recorder in his car at that time. Once at the station, however, appellant refused to submit to any further sobriety tests and refused to provide a breath or blood sample.

Quezada then obtained a search warrant and took appellant to Memorial Hermann Hospital for a blood draw. Diana Feng, a registered nurse, drew appellant's blood at 3:32 a.m. Quezada testified that, based on his training and experience, he believed appellant was intoxicated that night.

Dwan Wilson, a criminalist for the Houston Police Department Crime Laboratory, also testified at trial. She stated the results of the blood draw, contained in State's Exhibit 7, demonstrated appellant had a blood alcohol concentration of .081 grams per 100 milliliters of blood at the time of the draw. She provided retrograde extrapolation testimony. She asserted that an individual with a .081 blood alcohol concentration at 3:32 a.m. would have a blood alcohol concentration between .095 and .0124 at 12:05 a.m., the time appellant was pulled over.

Appellant was convicted of operating a motor vehicle while intoxicated. This appeal followed.

#### **ANALYSIS**

In his second issue, appellant challenges the trial court's ruling admitting Wilson's retrograde extrapolation testimony. Appellant asserts that Wilson's

testimony is unreliable under the criteria set forth in *Mata v. State*, 46 S.W.3d 902 (Tex. Crim. App. 2001).

**I. Appellant preserved his challenge to the admission of retrograde extrapolation testimony for appellate review.**

The State argues appellant failed to preserve his second issue for our review. The State concedes that appellant objected once to Wilson’s retrograde extrapolation testimony, but it argues that the testimony also came in later without objection. *See Lane v. State*, 151 S.W.3d 188, 193 (Tex. Crim. App. 2004) (“[T]o preserve error in admitting evidence, a party must . . . object each time the inadmissible evidence is offered or obtain a running objection. An error . . . in the admission of evidence is cured where the same evidence comes in elsewhere without objection.”). We disagree.

The State points to an exchange between the prosecutor and Wilson in which the prosecutor asked: “So based on your experience and training and the results of this blood test, do you have an opinion as to whether the defendant was intoxicated at the time of driving?” Wilson replied that she did have an opinion and stated that her “opinion [was] the result given in the case which . . . was .081 grams per one hundred milliliters of blood.”

This testimony is not retrograde extrapolation testimony because Wilson did not answer the question the prosecutor asked. Rather, she testified about the result of an alcohol concentration test of appellant’s blood—that is, the concentration of alcohol in appellant’s blood at the time it was drawn. Because appellant did object before Wilson gave her retrograde extrapolation opinion about the alcohol concentration of appellant’s blood at the time of the stop, we conclude appellant preserved this issue for our review. *See Tex. R. App. P. 33.1(a)*.

## **II. The trial court abused its discretion in admitting Wilson’s retrograde extrapolation testimony.**

We review the trial court’s decision to admit scientific evidence for an abuse of discretion. *Rousseau v. State*, 171 S.W.3d 871, 881 (Tex. Crim. App. 2005). Under an abuse of discretion standard, we should not disturb the trial court’s decision if the ruling was within the zone of reasonable disagreement. *Tillman v. State*, 354 S.W.3d 425, 435 (Tex. Crim. App. 2011).

An expert witness may testify as to his opinion based on scientific knowledge if it will help the trier of fact understand the evidence or determine a fact in issue. Tex. R. Evid. 702. To show that the opinion would be helpful, the party offering the scientific evidence must (among other things) demonstrate by clear and convincing evidence that the evidence is reliable. *Jackson v. State*, 17 S.W.3d 664, 670 (Tex. Crim. App. 2000). Reliability may be established by showing (1) the validity of the underlying scientific theory; (2) the validity of the technique applying the theory; and (3) the proper application of the technique on the occasion in question. *Kelly v. State*, 824 S.W.2d 568, 573 (Tex. Crim. App. 1992).

Retrograde extrapolation testimony is computation of a person’s blood alcohol level at the time of driving based on the alcohol level found in blood that was drawn some time later. *See Mata*, 46 S.W.3d at 908–09. In *Mata*, the Court of Criminal Appeals held that retrograde extrapolation can be reliable if certain factors are known. *Id.* at 916. A paramount consideration is the expert’s ability to apply the science and explain it with clarity. *Id.* The expert must recognize the subtleties of the science and the difficulties associated with any retrograde extrapolation. *Id.* The expert also must be able to apply the science clearly and consistently. *Id.*

In assessing the reliability of retrograde extrapolation evidence, courts must consider:

- (a) the length of time between the offense and the test(s) administered;
- (b) the number of tests given and the length of time between each test;
- and (c) whether, and if so, to what extent, any individual characteristics of the defendant were known to the expert in providing his extrapolation.

*Id.* Relevant personal characteristics may include weight and gender, the person's typical drinking pattern and tolerance for alcohol, how much alcohol the person had to drink on the day in question, what the person drank, the duration of the drinking, the time of the last drink, and how much and what food the person had consumed before, during, or after the drinking. *Id.* The expert need not know every single personal fact about the defendant, however, in order to produce a reliable extrapolation. *Id.* Otherwise, no valid extrapolation could ever occur absent the defendant's cooperation, as a number of facts known only to the defendant are vital to the process. *Id.* Appellate courts must balance these factors to determine whether the trial court abused its discretion. *Id.* at 917.

The Court of Criminal Appeals set forth the following balancing guidelines:

If the State had more than one test, each test a reasonable length of time apart, and the first test [was] conducted within a reasonable time from the time of the offense, then an expert could potentially create a reliable estimate of the defendant's [blood alcohol concentration] with limited knowledge of personal characteristics and behaviors. In contrast, a single test conducted some time after the offense could result in a reliable extrapolation only if the expert had knowledge of many personal characteristics and behaviors of the defendant. Somewhere in the middle might fall a case in which there was a single test a reasonable length of time from the driving, and two or three personal characteristics of the defendant were known to the expert.

*Id.* at 916–17.

In *Mata*, the Court of Criminal Appeals concluded the trial court abused its

discretion in admitting retrograde extrapolation testimony because the expert provided many inconsistent answers, relied on a single test of blood alcohol concentration administered over two hours after Mata was pulled over, and could not identify a “single personal characteristic of Mata—he did not know whether Mata had eaten anything that night and if so, how much; how much Mata had had to drink; what Mata had been drinking; when Mata’s last drink was [consumed]; the length of Mata’s drinking spree; or even Mata’s weight.” *Id.* at 917.

In this case, there was only one test, conducted three-and-a-half hours after the stop. Drawing blood “over two hours after the alleged offense” to test its alcohol concentration is a “significant length of time [that] seriously affects the reliability of any extrapolation.” *Id.*

In addition, Wilson did not know many of appellant’s characteristics. In arguing that Wilson knew enough about appellant to satisfy *Mata*, the State points to an exchange during the voir dire of Wilson outside the presence of the jury, in which appellant’s attorney asked what information the State had given her in preparation for trial. Wilson answered that she “was given information about the time of the stop, if the [appellant] ate anything, the weight, the height, [and] the concentration at the time of the test.” Later questioning undermined this answer, however. Appellant’s attorney responded: “Let’s take them one at a time.” He asked if Wilson had information about the time of the stop, and she said yes. After Wilson was given a copy of her extrapolation sheet, the attorney continued:

Q. What does it say for the drinking pattern?

A. Nothing.

...

Q. . . . [W]hat does it indicate [for how much alcohol the defendant consumed that day]?

A. Two drinks.

Q. What kind of drinks?

A. Beer.

Q. Do you have the time of the first drink?

A. No.

Q. Do you have the time of the last drink?

A. No.

Q. Do you have information as to whether or not [appellant] had consumed food or was operating his vehicle on an empty stomach?

A. No.

...

Q. Are you familiar with the *Mata* characteristics for retrograde extrapolation?

A. No.

Appellant's counsel subsequently asked: "If you don't have extrapolation facts, such as time of first drink, time of last drink, number of drinks, [and whether appellant had a] full or empty stomach, how can we factually say whether the person was at [a phase of eliminating alcohol from his system] at the time of the stop?" Wilson responded: "Because you can take the time between the time of the stop and the time of the blood draw, and since the absorption [of alcohol] could take anywhere from 30 minutes to two hours, if the time was greater than two hours, you can perform an extrapolation." She later conceded, however, that she could not perform an extrapolation if the person had consumed a drink shortly before driving and was still absorbing the alcohol at the time of the stop.

Finally, Wilson asserted that "[y]ou don't necessarily have to know the last



drink to perform a retrograde extrapolation,” and that she could perform retrograde extrapolation based simply on the time of the stop and the time of the draw. Under *Mata*, however, that is incorrect. *Id.* at 916 (delineating factors necessary to conduct retrograde extrapolation). These exchanges demonstrate that Wilson did not understand the “subtleties of the science” nor the “risks inherent in any extrapolation.” *Id.*

When the jury returned, the State likewise did not ask Wilson to take the *Mata* factors into account. The State asked: “So if I gave you a hypothetical situation where someone had—was stopped at 12:05 a.m., their blood was drawn at 3:32 a.m., and their concentration—blood alcohol concentration—at the time of the draw was .081 grams per one hundred milliliters, what would their alcohol concentration, what would be the range of their blood alcohol concentration at the time of the stop?” After the trial court overruled appellant’s objection, Wilson replied: “Based on the two assumptions that the individual is in the elimination phase and eliminates [at] a normal rate of .01 to a .03 grams per one hundred liters of blood, alcohol concentration at the time of the stop can range from a .095 to a 0124 [sic].”<sup>4</sup> See *Douthitt v. State*, 127 S.W.3d 327, 334–35 (Tex. App.—Austin 2004, no pet.) (noting none of *Mata* factors were included in State’s hypothetical and concluding that trial court abused its discretion in admitting retrograde

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<sup>4</sup> The State argues that this calculation is accurate and cites *Morris v. State*, 214 S.W.3d 159 (Tex. App.—Beaumont 2007), *aff’d*, 301 S.W.3d 281 (Tex. Crim. App. 2009). In *Morris*, however, the expert used several factors favoring the defendant in calculating the retrograde extrapolation: the expert used a .015 elimination rate, which is in the lower range; he assumed that the defendant had not fully absorbed his last drink at the time of the accident, even though he could have assumed that the defendant had fully absorbed all alcohol; he explained to the trial court and the jury that calculating retrograde extrapolation “takes a number of variables into account, and the result is an estimate that had a potential error of plus or minus twenty percent,” and he agreed that his calculations depended on the accuracy of the blood test. *Id.* at 179. The court thus concluded that the expert clearly explained the science and its application to the trial court and jury in a manner that allowed the trial court to assess the reliability of his testimony. *Id.* As is evident from our discussion, those factors are not present here.

extrapolation testimony).

Wilson also failed to apply the science and explain it with clarity. *See Mata*, 46 S.W.3d at 916. The State asked: “How does someone’s blood alcohol level change after they’ve had let’s just say two beers?” Wilson responded that the blood alcohol level declines because a person begins eliminating the alcohol. She did not allow for the rise in a person’s blood alcohol concentration following consumption. *See id.* at 909 (“At some point after drinking has ceased, the person’s BAC will reach a peak. After the peak, the BAC will begin to fall as alcohol is eliminated from the person’s body.”). Wilson repeated some of the assertions she made during voir dire, stating that to determine a person’s alcohol concentration she would need to know only the time of the stop, the time of the blood draw, and the results of alcohol testing on the blood drawn. She testified that her calculation assumed the person consumed the last drink at the time of the stop and that the person was absorbing alcohol for two hours after the stop. According to Wilson, this assumption gave appellant every benefit of the doubt.

On cross-examination, Wilson conceded that her retrograde extrapolation testimony was based on the assumption that appellant was in the elimination phase at the time he was pulled over. She then reiterated, however, that her calculation assumed appellant was absorbing for the next two hours. In other words, she contradicted herself, undermining the assertion that she had given appellant every benefit of the doubt. She admitted appellant had to be in the elimination phase at the time of the stop in order for her to extrapolate his blood alcohol level accurately, but she also admitted that her extrapolation was based on the assumption that appellant was absorbing alcohol for two hours afterward.

In sum, Wilson did not explain her calculations or the science with clarity. She could identify few, if any, “personal characteristic[s] of [appellant]—[she] did

not know whether [appellant] had eaten anything that night and if so, how much.” *Id.* at 917. She did not know “what [appellant] had been drinking; when [appellant]’s last drink was [consumed]; the length of [appellant]’s drinking spree; or even [appellant]’s weight.” *Id.* She knew the time of the stop, the time of the draw, the result of the draw, and appellant’s claim that he had two beers. With only this information and one test administered three-and-a-half hours after the stop, admitting Wilson’s extrapolation testimony was error under *Mata*, especially given that she had no idea whether appellant was eliminating or absorbing alcohol when he was pulled over. We hold the State failed to prove by clear and convincing evidence that Wilson’s retrograde extrapolation was reliable. The trial court therefore abused its discretion in admitting the testimony.

### **III. The record does not establish that the error had but a slight effect.**

We next turn to the question of harm. The erroneous admission of retrograde extrapolation testimony is non-constitutional error. *Bagheri v. State*, 119 S.W.3d 755, 762–63 (Tex. Crim. App. 2003); *Owens v. State*, 135 S.W.3d 302, 310 (Tex. App.—Houston [14th Dist.] 2004, no pet.). We must disregard such error if it does not affect substantial rights. Tex. R. App. P. 44.2(b).

An error does not affect substantial rights if, after examining the record as a whole, an appellate court has fair assurance that the error did not influence the jury or had but a slight effect. *Solomon v. State*, 49 S.W.3d 356, 365 (Tex. Crim. App. 2001). The reviewing court should consider the entire record, including testimony and physical evidence, jury instructions, the State’s and defendant’s theories, closing arguments, and voir dire if applicable. *Motilla v. State*, 78 S.W.3d 352, 355–56 (Tex. Crim. App. 2002). The court should also consider the nature of the erroneous evidence and how it might have been perceived by the jury. *Id.* at 355. More specifically, the court should consider whether the State emphasized the

error, whether the erroneously admitted evidence was cumulative, and whether it was elicited from an expert. *Id.* at 356; *Solomon*, 49 S.W.3d at 365. Overwhelming evidence of guilt is relevant to this issue, but it is only one factor in the analysis. *Motilla*, 78 S.W.3d at 356–57.

**A. Cases assessing the effect of erroneously admitting retrograde extrapolation testimony**

In examining harm, we find instructive the Court of Criminal Appeals’ opinion in *Bagheri v. State* and our Court’s opinion in *Owens v. State*. Both cases held that the erroneous admission of retrograde extrapolation testimony affected substantial rights and required reversal.

In *Bagheri*, the defendant was pulled over at 2:30 a.m. for speeding and driving erratically. 119 S.W.3d at 757. The defendant had veered off the road and onto the shoulder twice before cutting across three lanes of traffic without signaling. *Id.* The officer testified that, after being pulled over, the defendant had “trouble finding his insurance, seemed somewhat confused, and had slurred speech and red, glassy eyes.” *Id.* According to the officer, the defendant smelled of alcoholic beverages and stumbled when he stepped out of the car. *Id.* The defendant was subjected to various field sobriety tests, including the HGN test and the one-leg stand. *Id.* The officer concluded the defendant was intoxicated due to his performance on the tests and arrested him for driving while intoxicated. *Id.* The defendant subsequently agreed to submit to an intoxilyzer test. *Id.* The two breath samples, which occurred within three minutes of each other and more than an hour after the defendant was detained, showed results of .107 and .113.<sup>5</sup> *Id.* The officer testified that by the conclusion of the testing, he formed the opinion

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<sup>5</sup> The two numbers are not the results of separate tests. *Id.* at 759, n.3. The intoxilyzer test requires two samples to ensure accuracy. *Id.*

that the defendant had lost the normal use of his mental and physical faculties. *Id.*

The State called an expert who provided retrograde extrapolation testimony. *Id.* at 758. The expert testified that, based on “hypothetical” intoxilyzer readings of .107 and .113, an individual’s alcohol concentration one hour earlier could have been between 0.107 and 0.143. *Id.* The State conceded the retrograde extrapolation testimony was erroneously admitted under *Mata*. *Id.* at 760. The State argued the error was harmless, however, because the jury charge included both a per se definition of intoxication (an alcohol concentration above a certain threshold) and an impairment definition of intoxication (not having normal use of faculties by reason of introducing alcohol into the body), and evidence pertaining to each theory would support the other. *Id.*; see Tex. Penal Code Ann. § 49.01(2) (West 2011).

The Court of Criminal Appeals stated that evidence to prove intoxication under either theory was relevant to the question whether appellant was in fact intoxicated, but it rejected the State’s argument that the testimony was harmless as a result. *Bagheri*, 119 S.W.3d at 763. The court stated that the “issue was whether the erroneously admitted testimony might have prejudiced the jury’s consideration of the other evidence or substantially affected their deliberations.” *Id.* The court ultimately concluded that the erroneous admission was harmful under the factors set forth in *Motilla* and *Solomon*. *Id.*

The court stated that the general verdict made it impossible to ascertain which theory the jury relied upon in convicting the defendant, but that this factor alone was not dispositive. *Id.* The court did not believe the retrograde extrapolation testimony was cumulative of other evidence, notwithstanding appellant’s poor performance on the field sobriety tests. *Id.* at 764. The court noted that at trial, the defense had pointed out the subjective nature of field

sobriety testimony. *Id.* In addition, although the defendant admitted to consuming alcohol earlier, he asserted that he was not intoxicated at the time of the stop. *Id.* Instead, the defendant attributed his poor driving performance to fatigue. *Id.* Acknowledging the jury was free to disbelieve the defendant's assertions, the court nonetheless declared that the effect of "scientifically reliable" extrapolation evidence would "almost certainly . . . tip the balance in favor of the State." *Id.*

The court also examined what occurred during voir dire, noting several members of the jury pool conveyed a belief that a person who fails a breath test was "flat-out" guilty of driving while intoxicated and that several venire members believed blood alcohol would necessarily decline over time. *Id.* Some venire members also expressed a belief that a person's alcohol content would always be higher at the time of driving than at the time of the subsequent test. *Id.* The court declared that these statements, though not determinative, demonstrated the "powerful persuasive effect that 'scientific' evidence has on the average juror." *Id.* Taking the entire record into consideration, the court held that it could not say with "fair assurance that the erroneous admission of [the expert's] retrograde extrapolation testimony did not influence the jury, or had but a slight effect." *Id.*

This Court followed *Bagheri* in *Owens v. State*. In that case, the defendant was arrested for driving while intoxicated after he collided with another car in a parking lot. 135 S.W.3d at 304. The defendant was not taken into custody for over an hour and a half after the offense, and approximately two more hours passed before he was subjected to an intoxilyzer test. *Id.* at 307–08. The first sample showed a blood alcohol content of .108, and the second sample, taken two minutes later, showed a blood alcohol content of .103.<sup>6</sup> *Id.* at 305. The defendant was charged under both the impairment and per se definitions of intoxication. *Id.* at

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<sup>6</sup> As noted above, these two samples do not constitute separate tests under *Mata*.

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As the Court of Criminal Appeals did in *Bagheri*, we rejected the State's contention that the erroneous admission of retrograde extrapolation was harmless because the jury could have convicted the defendant under either theory. *Id.* We explained that

the issue is not whether the jury charge sets out a valid and proper means of committing the offense of DWI or whether there was sufficient evidence to prove one of the alleged means by which appellant committed the offense; rather, this court must ask whether the extrapolation evidence offered by the State's expert to prove "per se" intoxication might have seriously affected the jury's ability to determine if appellant was intoxicated, whether by "impairment" or "per se."

*Id.* (citing *Bagheri*, 119 S.W.3d at 762 n.5.).

In examining the evidence presented at trial, we noted that the retrograde extrapolation testimony was elicited from an expert, and that the prosecutor relied substantially on the expert's credentials in his argument to the jury. *Owens*, 135 S.W.3d at 311. We also took into account the statements made by the prosecutor during voir dire. *Id.* The prosecutor told the panel members that the Texas Department of Public Safety concluded that the use of an intoxilyzer "is the most reasonable, accurate instrument out there to determine somebody's blood alcohol content on the basis of their breath." *Id.* He went on to emphasize that it was not him making that determination, but rather the Department. *Id.* We noted that the expert testified with certainty that appellant was legally intoxicated, even though he was unable to explain retrograde extrapolation with clarity. *Id.* The expert opined that the defendant was "almost twice the legal limit" at the time of his detention. *Id.* The prosecutor emphasized the expert's opinion during re-direct by asking whether the defendant was below the legal limit under any of the hypotheticals proposed by either side. *Id.* The expert responded that all the

hypotheticals rendered results above the legal limit. *Id.* The prosecutor reiterated the expert’s conclusion during closing argument. *Id.*

We further concluded that the extrapolation evidence was not cumulative because there was no other “scientifically reliable” evidence that would have demonstrated the defendant was intoxicated. *Id.* We acknowledged that there was evidence supporting the verdict, noting the testimony by the complainant that the defendant smelled strongly of alcohol, could not walk straight, and was “stumbling all over the place.” *Id.* We also noted that a companion of the complainant testified that there were signs indicating the defendant was intoxicated, but we concluded this testimony was undermined by the companion’s admission that he changed some of his answers a few days before trial after a conversation with the complainant purportedly refreshed his memory. *Id.*

We also took into account the countervailing evidence. We considered the testimony of the defendant’s roommate, who stated that the defendant began drinking shortly after the accident, but that he did not believe the defendant had been drinking beforehand. *Id.* We conceded that both officers testified that the defendant showed signs of intoxication at the scene one-and-a-half hours after the accident, but we pointed out that the defense offered a reasonable explanation. *Id.* at 311–12. We concluded that, as in *Bagheri*, although the jury was free to assess the credibility of the witnesses in determining whether the defendant was legally intoxicated, it was probably swayed by the “scientifically precise conclusions provided” by the expert. *Id.* at 312. We thus could not say the introduction of the retrograde extrapolation evidence had but a slight effect or did not influence the jury’s verdict. *Id.* (citing *Bagheri*, 119 S.W.3d at 764).

**B. The effect of erroneously admitting Wilson’s testimony**

With these cases in mind, we examine the entire record to ascertain whether



the error in admitting the expert's retrograde extrapolation testimony affected appellant's substantial rights. We begin by examining the factors weighing against harm. During voir dire, the jury panelists were told that there would be evidence of blood alcohol concentration, but none indicated that he or she would afford special weight to such evidence. *See Douthitt*, 127 S.W.3d at 338 (distinguishing case from *Bagheri* in part on these grounds). Venire members were reminded that the State had to prove the appellant was intoxicated at the time of driving. Venire members also stated that they realized individuals have different physiological responses to alcohol and that the response would depend on an individual's characteristics, including their drinking patterns.

The prosecutor did not include retrograde extrapolation testimony in his list of evidence during the opening statement. *See id.* (same). In addition, there is evidence to support a finding that appellant was intoxicated at the time of driving. Quezada testified that appellant failed to maintain a single lane, smelled of alcohol when he was pulled over, slurred his speech, had "red glassy eyes," grabbed onto his truck when he got out of it, exhibited signs of intoxication during the field sobriety tests, and refused to provide either a breath or blood sample. In addition, the blood draw revealed that appellant's blood alcohol concentration was .081. A blood draw result showing an alcohol concentration above the legal limit three-and-a-half hours after the stop can be probative evidence that the driver did not have normal use of his faculties. *See Daricek v. State*, 875 S.W.2d 770, 773 (Tex. App.—Austin 1994, pet. ref'd); *see also Montgomery v. State*, 810 S.W.2d 372, 376 (Tex. Crim. App. 1990) ("[E]vidence need not by itself prove or disprove a particular fact to be relevant; it is sufficient if the evidence provides a small nudge toward proving or disproving some fact of consequence.").

On the other hand, the defendant in *Bagheri* had intoxilyzer results

demonstrating a blood alcohol concentration greater than .10 and there was additional non-scientific evidence of the defendant's intoxication, yet the court held that the erroneous admission of retrograde extrapolation evidence was harmful. *Bagheri*, 119 S.W.3d at 757–58. Thus, even if the unextrapolated results of appellant's blood draw, along with Quezada's testimony, constituted overwhelming evidence of guilt (which we need not decide), that factor would not be dispositive. *See Motilla*, 78 S.W.3d at 357.

Furthermore, we are not tasked with examining the sufficiency of the evidence in this case. *See Bagheri*, 119 S.W.3d at 763 (“The question is not whether there was sufficient evidence to support the verdict.”); *Owens*, 135 S.W.3d at 310. Instead, the issue is whether “the erroneously admitted testimony might have prejudiced the jury’s consideration of the other evidence or substantially affected their deliberations.” *Bagheri*, 119 S.W.3d at 763. In other words, although the jury is free to make credibility determinations, we must determine whether the jury was swayed one way or the other by the retrograde extrapolation testimony. *Id.*; *Owens*, 135 S.W.3d at 312. We must examine the entire record, not solely the evidence supporting the verdict, to determine whether the error did not influence the jury or had but a slight effect. *See Solomon*, 49 S.W.3d at 365; Tex. R. App. P. 44.2(b).

The jury charge in this case authorized conviction under both the per se and impairment definitions of intoxication, making it impossible to determine which theory the jury relied upon to convict. *Owens*, 135 S.W.3d at 311 (stating fact is relevant though not determinative in assessing harm). With regard to the field sobriety tests, *Bagheri* discounted the defendant’s performance on these tests as subjective. 119 S.W.3d at 760, 764.

In addition, as in *Owens*, there is other testimony in our case tending to

undermine the non-extrapolation evidence of intoxication. On cross examination, Quezada admitted that appellant drifted only one tire length into the next lane before correcting himself. This testimony stands in stark contrast to *Bagheri*, in which the officer testified that the defendant veered across three lanes and the court nevertheless concluded the erroneous admission of retrograde extrapolation testimony necessitated reversal. 119 S.W.3d at 757. Quezada also conceded that before he subjected appellant to the one-leg stand test, appellant stated that he had problems with his legs. Quezada contradicted his testimony on direct examination by admitting on cross examination that appellant did not hop or look like he was about to fall during the test. Instead, he “just put his foot down.” Quezada could not recall what number appellant counted to at the conclusion of the test. Quezada was unaware that the National Highway Traffic Safety Administration (NHTSA) manual states that people who are fifty pounds overweight or more will have difficulty with the test, and the record indicates appellant was five feet seven inches tall and weighed 220 pounds on the date of arrest.

Although Quezada testified that he conducted the HGN test in accordance with NHTSA guidelines, he could not recall or was not sure how those guidelines defined a pass (or check) of each eye. He also did not know the minimum number of passes for the test to be effective, and he did not know the minimum amount of time prescribed for the HGN test. Quezada admitted that typically three field sobriety tests are administered, but in this case he only subjected appellant to two before he placed appellant under arrest.

The challenged retrograde extrapolation testimony was elicited from an expert, whose “scientific” opinion can have a “powerful persuasive effect . . . on the average juror.” *Id.* at 764. The State also invoked the expert’s testimony during closing arguments. The prosecutor recalled the expert’s unreliable

testimony when he asserted (incorrectly) that that the State gave appellant every benefit of the doubt, and that even assuming appellant was the slowest absorber and eliminator of alcohol, his blood alcohol concentration would be .095 at the time of driving. The prosecutor told the jury, “There’s simply no way the defendant could have been less than that .08 at the time of driving. And remember, that’s what the law says. We talked about this in voir dire, right?” The prosecutor went on to say that “if you are above a .08 or greater, then you are intoxicated legally in the State of Texas. A .08 or greater, and that’s what we have here.” The prosecutor referred to the extrapolation testimony again during his rebuttal argument, erroneously stating that Wilson testified that appellant’s blood alcohol concentration was between .095 and .125.

Finally, appellant argues that the notes the jury sent to the judge during deliberations indicate that he suffered harm. *See Washington v. State*, 449 S.W.3d 555, 567 (Tex. App.—Houston [14th Dist.] 2014, no pet.) (“[I]n assessing harm, we may also review the jury’s questions asked during deliberations.”). The jury sent a series of notes requesting Wilson’s testimony regarding “her qualifications and particularly the training/conference she went to in Indiana,” her testimony on the “absorption [and] elimination rates of alcohol,” and her testimony calculating appellant’s blood alcohol concentration at the time he was stopped. In response, the trial court told the jury that there had to be a dispute about what the witness said. The jury then sent another note with the following question:

Did the toxicologist provide a BAC at the time of the defendant being pulled over and if so, how did she arrive at that calculation? (i.e. what standard/accepted formula did she use?) (we don’t need the actual formula—just her testimony regarding whether or not her calculations gave the defendant the benefit of the doubt.)

These notes indicate that the jury focused on the unreliable retrograde

extrapolation testimony provided by the expert. A later note sent by the jury asked for Quezada’s testimony “regarding whether or not he searched the vehicle for open containers,” explaining that “we’re trying to review the testimony regarding the time of the defendant’s last drink.” This note likewise indicates that the jury was focused on the components of a retrograde extrapolation calculation.<sup>7</sup>

In light of these notes, the prosecution’s reliance on the expert’s extrapolation testimony during closing arguments, the powerful persuasive effect of such testimony, the subjective nature of field sobriety tests, and the testimony undermining the non-extrapolation evidence of intoxication, we cannot say that we have a fair assurance that the error in admitting the expert’s unreliable extrapolation testimony did not influence the jury or had but a slight effect. *See Bagheri*, 119 S.W.3d at 764; *Solomon*, 49 S.W.3d at 365. Indeed, the notes indicate that the erroneously admitted testimony either “prejudiced the jury’s consideration of the other evidence” or at the very least “substantially affected their deliberations.” *Bagheri*, 119 S.W.3d at 763. The jury was likely swayed by the scientifically precise conclusions Wilson provided, which were not cumulative of other evidence in the case.<sup>8</sup> Accordingly, we hold that the error affected

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<sup>7</sup> The only other note sent by the jury asked for a copy of the offense report, which was not in evidence.

<sup>8</sup> *See Bagheri*, 119 S.W.3d at 764; *Owens*, 135 S.W.3d at 311–12. In *Douthitt*, the Austin Court of Appeals viewed the expert’s retrograde extrapolation testimony as “cumulative” in light of the testimony of several witnesses indicating appellant was intoxicated. 127 S.W.3d at 338. The Court of Criminal Appeals in *Bagheri*, however, stated that it did “not believe the extrapolation testimony in [the] case was cumulative[,]” notwithstanding the officer’s testimony, the defendant’s poor performance on field sobriety tests, and the intoxilyzer results showing appellant had a blood alcohol concentration above the legal limit. *Bagheri*, 119 S.W.3d at 764. Following *Bagheri*, we similarly reasoned in *Owens* that the evidence was not cumulative because there was no other “scientifically reliable” evidence in the case that would have indicated appellant was intoxicated at the time of the accident, even though the complainant and another witness opined appellant was intoxicated. 135 S.W.3d at 311–12. We conclude that under *Bagheri* and *Owens*, the retrograde extrapolation evidence in this case is not cumulative of Quezada’s testimony concerning the stop, appellant’s performance on the field sobriety tests, and

appellant's substantial rights, and he is therefore entitled to a new trial. We sustain appellant's second issue.<sup>9</sup>

### CONCLUSION

Having sustained appellant's second issue, we reverse the judgment of the trial court and remand the case for a new trial.

/s/ J. Brett Busby  
Justice

Panel consists of Justices Jamison, Busby, and Brown.  
Publish — TEX. R. APP. P. 47.2(b).

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the results of alcohol testing on the blood sample drawn three-and-a-half hours after the stop.

<sup>9</sup> Because we sustain this issue, we need not address appellant's first and third issues, which would not afford him greater relief. *See* Tex. R. App. P. 47.1 ("The court of appeals must hand down a written opinion that is as brief as practicable but that addresses every issue raised and necessary to final disposition of the appeal.").