STATE OF WISCONSIN

COURT OF APPEALS

DISTRICT I

Appeal No. 2014AP001769 CR

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STATE OF WISCONSIN,

Plaintiff-Respondent,

v.

LANCE DONELLE BUTLER, JR.,

Defendant-Appellant.

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ON APPEAL TO REVIEW A JUDGMENT OF CONVICTION AND DENIAL OF A POSTCONVICTION MOTION BY THE CIRCUIT COURT FOR MILWAUKEE COUNTY, THE HONORABLES DENNIS R. CIMPL (JUDGMENT OF CONVICTION) AND GLENN H. YAMAHIRO (POSTCONVICTION MOTION), PRESIDING

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# BRIEF AND APPENDIX OF DEFENDANT-APPELLANT

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## ISSUE PRESENTED

Did the police witnesses offer impermissible expert or lay opinion testimony on the mapping of cell tower areas of coverage and the location of cell calls within the areas they had mapped?

In denying the postconviction motion that asserted a *Daubert* violation, the trial court ruled that the officers' testimony was permissible lay opinion.

## STATEMENT ON ORAL ARGUMENT AND PUBLICATION

Publication may be warranted as there does not appear to be any published Wisconsin decisions addressing the application of Wis. Stat. §§ 907.01 and 02 to this question. Oral argument is not requested as defendant-appellant believes the issue can be adequately addressed by briefing.

## STATEMENT OF THE CASE AND FACTS

In a complaint filed on May 21, 2011, Lance D. Butler, Jr., was accused of one count of arson of a building and two counts of first-degree reckless endangering safety, contrary to Wis. Stat. §§ 943.02(1)(a) and 941.30(1), respectively (2:1; App. 101). The complaint alleged that Butler set a fire in the apartment where Marilyn Long lived on February 21, 2011. Long was not home at the time because she had been forced to leave after Butler allegedly broke her windows with a fire extinguisher from the building's hallway (2:2; App. 102).[1]

After the fire extinguisher incident the night before, Long's apt was boarded up. The next morning a resident reported a fire, and the fire department responded. Long showed her phone records with calls and texts from Butler and from the children of Butler's uncle's girlfriend during the morning of February 21. Some of these calls referred to a fire at Long's home. The probable location of Butler's phone was

[1] Butler also was charged for criminal damage to property, arising from the fire-extinguisher incident, in Milwaukee County Case No. 11-CF-958.

traced using the signals received by cell phone towers along a bus route that led from Butler's father's house to Long's apartment (2:2-3; App. 102-03).

The jury trial started on March 26, 2012, and the Case No. 11-CF-958 was joined. The State disclosed its theory of prosecution in its opening statement. Long had broken up with Butler a month before the incident at issue here, the State told the jury, but Butler was persistent – he showed up at Long's apartment when she was with another man (81:48). The State told the jury that Butler then took a fire extinguisher from the apartment's hallway and broke the window of Long's apartment (81:49).

As for the case at issue here – the arson and two counts of reckless endangerment – the State told the jury it would bring forth evidence about cell phone technology and cell phone towers and how Butler, who made hundreds of calls and texts to Long, was tracked through his cell phone as he moved across town toward Long's apartment (81:52). A call from Butler's cell phone used a tower near Long's apartment, and then she received texts from this same number telling her that her house was on fire (81:55).

As proof of reckless endangerment, the State produced testimony from Ciara Dorsey and Jordan Ponder. Dorsey, a resident of the apartment building, had to be treated for smoke inhalation as a result of the fire (81:66). Ponder, a Milwaukee firefighter, suffered burns when he responded to the fire (81:82-83).

Detective Elizabeth Wallich, from the arson unit, testified that the fire started in Long's apartment on the couch and in a bedroom closet (81:105). The fire was intentional, in Wallich's opinion, because there were two points of origin (80:52-53), and there were no signs of an accidental cause such as smoking or an electrical failure (80:30-31).

The issue raised in this appeal – and argued below in hearings on the postconviction motion – was whether the State's witnesses should have qualified as experts for the purpose of using cell phone technology to track Butler across town and place him at the location of the fire. Ryan Harger, from Sprint Nextel, described how cell towers work: a call from a cell phone goes to the tower with the strongest signal and the cell company keeps records of the towers that receive cell calls (80:67-71). These records do not show whether the call bounced off the nearest tower or the strongest tower; they only show which tower carried the call (80:77).

Daniel Markus, a customer service analyst and records custodian for Verizon, testified next (80:79). In response to subpoena, he provided detailed call records for the relevant phone numbers and information about cell tower locations and transmissions from 3 p.m. on February 20 to 11 a.m. on February 21, 2011. These were business records, ordinarily and regularly maintained. He also generally discussed tower directions, radius, and coordinates (80:89).

Detective Elizabeth Wallich returned as a witness, telling the jury that the cell phone in question was associated with Butler. The detective got the phone number from Long, who said it belonged to Butler. She also checked Long's phone and saw the name "Lance" associated with the number. Butler made hundreds of calls and texts to Long's phone during the relevant time period, and some of the calls came from two children whose mother was living with Butler's uncle, Shawn (80:136-37). Butler also made calls to the number for the Milwaukee Transit System that one calls to find out bus schedules (80:133).

Wallich further testified that officers from the Milwaukee Police Department's Fusion unit told her that these calls/texts bounced off Cell Tower 317, near Long's residence at 7:28 a.m. One call registered off the Tower 317

by Long's apartment at 7:25 a.m., and the call to the fire department came in at 7:25 a.m. (156) Text messages from Ashanti and Alante D.'s telephone said, "I smell fire why you got ****, LOL," "Better go put that fire out," "why you getting **** your house is one fire," and "Ha, ha, ha, ha ... your house is on fire" (82:64).

Officers Bran Brosseau and Eric Draeger, both from the Milwaukee Police Department's Fusion Center, testified next. Officer Brosseau mapped and analyzed cellphone records, matching them to towers and using GPS coordinates to figure out where the towers are located (82:82). He described how cell towers broken down into 120 degree sectors and this information comes from the cell phone companies (82:84). Tower 317, section 3, is located on the northwest side of Milwaukee and included, in its coverage area, 9239 N. 75th Street, the address of the apartment building where the fire occurred (82:88). A call went to this section of Tower 317 at 7:28 a.m. on February 21, 2011 (82:88). However, not every call from around that address would go to the relevant sector of Tower 317 – not if, for example, the tower was too busy. In that case, the call could go to the next strongest signal (82:89). Besides cell traffic, physical obstructions also could cause a cell call to not go to the nearest tower (82:90). Officer Brosseau maintained that, because were many calls from the same cell phone and they all went to the same tower, it was more probable than not that the caller was in the same sector the entire time (82:91).

The prosecution theory was that Butler took a bus from downtown Milwaukee up to Long's apartment on the northwest side. Cell calls went off towers located downtown, including a call to the number for bus schedules (82:102). From 5:40 a.m. to 7:28 a.m., these calls bounced off towers following the bus from downtown around Juneau Avenue up to the area of Long's apartment (82:103), then afterward the

calls bounced off towers in a southerly direction along the route (82:104). Upon cross-examination, Officer Brosseau admitted that there was no telling how far the cell phone making the calls was from the tower that received the calls from the phone (82:107).

Officer Draeger testified about his familiarity with mapping cell phone towers, and how, if someone is traveling from downtown up to the northside around Brownn Deer Road and back again, that person is traveling from tower to tower (83:9). He explained where he would look for the physical location of the cell phone based on the tower and sector that received a call from the phone (83:8-13). Draeger spoke in certain terms: based on his training and experience, a string of calls going to Tower 317, sector 3, means the cell phone is "absolutely" in that sector (83:10).

Marilyn Long, the victim of the arson, testified that she had been in a relationship with Butler, broke up with him, and started seeing someone else (83:22-24). Butler was unhappy, she said, and he kept calling her (83:24). On February 20, 2011, the night before the fire, Long was in her apartment with another man when she claimed that an angry Butler showed up and bust out her ground floor window with a fire extinguisher (83:28-29). The window was boarded up, and Long spent the night elsewhere (83:40).

Long further testified that, after the fire-extinguisher incident, Butler kept calling and texting, and that she also received texts on the morning of the fire from "Ms Hot Pancake and Big Money, both unknown to her (83:42). She did not recognize the numbers or the names of these texts, but she knew they were from Butler by their tone (*Id.*). Texts received from Butler's phone also started coming through, with messages such as "And I smell fire while you got ****" ... "Thanks for my movies and da drank, ha-ha. You better go put that fire out" ... "I told you I'm just getting started, ho.

Why I'm guessing you getting ****, your house is on fire, ho, haha" (83:45-46). Long thought these texts were motivated by Butler's jealousy about her watching his movies with the new boyfriend (83:47-48).

As for the texts from Big Money and Pancake, Melveretta Bradford explained that these names were her children's cell phone signatures (83:76). Bradford knew Butler through his uncle, who lived with her, and Butler sometimes spent the night (83:74-75). Butler was in her house, using her children's cell phones on the day in question (83:77).

The parties delivered closing arguments on March 29, 2012, and the verdict forms were submitted to the jury that same day (85:54-56). The jury reached verdicts the next day, finding Butler guilty of arson and both counts of first-degree recklessly endangering safety. The jury was hung on the criminal damage to property count in 11-CF-958, and Butler has never been retried.

Sentencing occurred on June 19, 2012, with the court imposing an aggregate sentence of 24 years of initial incarceration and 10 years of extended supervision (87:47).

Butler brought a postconviction motion claiming that his conviction for arson and two other counts was based on unreliable opinion testimony from nonexpert witnesses (48:1-8; App. 107-13). His specific claim is that neither of the state's two witnesses (Officers Brian Brosseau and Eric Draeger), who testified about the use of cell phone tracking technology to track Butler's supposed movements to and from the scene of the arson, qualified as experts in the use of cell phone tracking technology, and, in any case, they did not

demonstrate that their testimony was the product of reliable principles and methods.[2]

Butler mounted a two-prong challenge: the officers did not qualify as experts and their testimony was unreliable. Both officers testified at a hearing on April 11, 2014, which was characterized as a *nunc pro tunc Daubert* hearing. Because trial counsel failed to object to the officers' trial testimony, this April 11 hearing sought to determine whether the officers would qualify under *Daubert*. If so, then Butler was not prejudiced by trial counsel's omission. However, if they did not meet the *Daubert* standard, then Butler was prejudiced by trial counsel's performance for not seeking to disqualify the officers as witnesses. Then, a hearing under *State v. Machner*, 92 Wis. 2d 797, 804, 285 N.W.2d 905 (Ct. App. 1979), must be held to determine whether trial counsel's performance was deficient, that is, can counsel offer a strategic reason for failing to object to the officers' testimony.

Butler suffered prejudice, he claimed in the motion, for the evidence connecting him to this crime came from the officers' testimony about cell phone tracking and Butler's location. It was the only evidence placing Butler around the location of the fire, and he now contends that these officers should not have been allowed to testify in the first place.

At this *nunc pro tunc Daubert* hearing, held on April 11, 2014, both officers Brosseau and Draeger testified.[3] Officer Brosseau testified that he created the map (Trial Exhibit 10) of part of Milwaukee on which he plotted the

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[2] The postconviction motion also challenged the imposition of the DNA surcharge. The trial court vacated this surcharge, as reflected in the amended judgment of conviction (62:1-3; App. 126-28).

[3] Officer Brosseau described his training and experience as 12 days of government communications training and multi-day training sessions sponsored by the Department of Justice and the North American Technological Investigator's Association. He also had several years of experience with the Fusion unit (89:9-10). Officer Draeger also described many multiple-day seminars (89:24-25).

location of cell towers and drew pie slices showing the areas of service for particular cell towers (89:7). He created this map from tower locations GPS coordinates, and street addresses based on information supplied by Verizon (89:8). Officer Brosseau agreed that when he put information from the cell phone company on the map, he was not "changing anything ... analyzing anything" (89:11).

Every phone tower covered 360 degrees, broken up into three sectors represented by the pie slices on the map (*Id.*). Each sector had an antenna pointing in a different direction, defined in degrees, for a total of three antennae per tower (89:16). Each sector also had an equal range in terms of width, but Officer Brosseau did not know the strength of the towers or their signals because he is not an "engineer" (89:18).

Tower 317 provided cell phone service to the area where the arson occurred (89:8). Officer Brosseau explained that the location of Tower 317 on the map was the visual depiction of the data from the cell phone company (89:14). Although Officer Brosseau could not say the exact location of a cell phone within the sector assigned to Tower 317, he was sure that call would have originated in that sector (89:15-16).

Even though Officer Brosseau admitted that signal strength determines the cell tower to which a cell phone connects (a call goes to the tower with the strongest signal), he also said that much depends on line of sight and, for any given phone call, the tower with the strongest signal may not be the closest tower (89:18). He estimated that a cell tower's range of service was about one-and-a-half miles out (89:21).

The officer was unaware of any study of reliability or error rate for cell phone tracking based his method of placing calls in the sectors or pie slices representing the range of coverage of a tower's particular sector (*Id.*). He admitted that

obstructions, such as weather, tall buildings, and trees, as well as tower maintenance, the volume of cell phone traffic, and whether the phone is being used indoors or outdoors can influence whether a cell call goes to the nearest tower (89:19). None of these factors, however, were accounted for in the records supplied by the cell phone company (89:20).

In response to the same question about reliability and error rates, Officer Draeger responded that "we catch people every day on their phones using this exact same technology" (89:24). He based his opinion on both his personal experience and that of his unit, but he had no idea if it had ever been tested outside the law enforcement community (89:29-30).

When asked about the meaning of "granulization theory," Officer Draeger defined it as "something that allowed the agent to determine coverage overlap of two towers ... It's the theory by which how we make those shaded areas, how we plot that on the map" (89:27). During the trial, he was never asked to distinguish whether the phone was in an area of overlapping coverage (89:28).

In deciding against Butler, the trial court found that the officers' testimony was not expert testimony; it was lay opinion testimony under Wis. Stat. § 907.01 (91:7; App. 120). None of the mapping of the cell phone tower locations involved expert testimony. Both officers were qualified to map the cell towers that received the calls in question, and the officers readily admitted that they could not "tell with certainty where the cell phones in question were at the time the calls were received by the cell towers" (91:8; App. 121). The officers did not offer expert testimony, the trial court found, and they merely translated the data received from the cell phone companies. They were "expert" enough for this limited purpose (*Id.*).

Previously, the trial court asked the parties to file supplemental briefs on the potential applicability of *U.S. v. Antonio Evans*, 10 CR 747-3 (N.D. Ill. 2012) (90:2-3). In *Evans*, federal district court disallowed nonexpert testimony on the use of granulization theory to identify a cell phone's location. But, after briefing, the trial court concluded the testimony was not the same as that excluded in *Evans* because here, unlike in *Evans*, "the detectives made only general statements about cell phone location [and] never gave an opinion about the location of the defendant at the time the cell phone calls were made [and] acknowledged they could not say where the cell phone was" (91:9; App. 122).

For these reasons, the trial court found that Butler was not prejudiced, for "the detectives acknowledged they could not pinpoint any location where phone calls were made ..." (91:10; App. 123). Any *Daubert* challenge raised at trial would have been denied, and the trial court therefore found no basis for a *Machner* hearing on the ineffectiveness of counsel to lodge an objection (*Id.*).

## ARGUMENT

### OFFICERS BROSSEAU AND DRAEGER DID NOT QUALIFY AS EXPERTS UNDER *DAUBERT* FOR THE PURPOSE OF CELL PHONE TRACKING, NOR DID THEIR TESTIMONY QUALIFY AS LAY OPINION.

#### A. The Officers' Expertise Fell Short of the Requirements of *Daubert* and Wis. Stat. § 907.02.

In *Daubert v. Merrell Dow Pharms., Inc.,* 509 U.S. 579 (1993), the U.S. Supreme Court laid out non-exhaustive general criteria for assessing the reliability and validity of an

expert's testimony, including whether the expert's methodology can be or has been tested, whether it has ever been subjected to peer review and publication, the methodology's known or potential error rate, and whether the methodology has attracted widespread acceptance within the relevant scientific community. Wisconsin adopted *Daubert* on February 1, 2011, as a result of 2011 Wis Act 2. Reflecting the *Daubert* standard, Wis. Stat. § 907.02 provides: "…a witness qualified as an expert by knowledge, training, or education, may testify thereto in the form of an opinion or otherwise, if the testimony is based upon sufficient facts or data, the testimony is the product of reliable principles and methods, and the witness has applied the principles and methods reliably to the facts of the case." Butler contends that the state never established the expertise of Officers Brosseau and Draeger, or the reliability of their methods.

The court has a gatekeeper role in determining the admissibility of evidence. Three inquiries guide whether proposed expert testimony meet the requirements of *Daubert* and the corresponding Wisconsin statute. First, was this historical cell phone site data the type of scientific, technical, or specialized knowledge that required an expert witness? At least one court has found that translating cell records into the location of the phone requires "specialized knowledge in skills not in possession of the [jury]." *Wilder v. State*, 991 A.2d 172, 200 (Md. Ct. Spec. App. 2010). Similarly, the U.S. Court of Appeals for the Tenth Circuit held that it was error for the trial court to admit lay testimony from a police officer about how cell sites processed calls. *U.S. v. Yeley-Davis*, 632 F.3d 673, 685 (10th Cir. 2011).

Second, did the officers qualify as experts? The answer should be "no." An expert is someone with scientific, technical, or other specialized knowledge, who offers

testimony based upon sufficient facts and data and the reliable application of principles and methods to these facts and data. *See* Wis. Stat. § 907.02. The key question here is whether the expert has sufficient knowledge and has reliably drawn conclusions helpful to the case. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 156 (1999). In evaluating testimony about an expert's qualifications, it is relevant to assess the expert's rate of error and the general acceptance of the methodology employed. *Id*. at 151.

Third is the issue of reliability. Even if the officers qualified as experts, their methods were of dubious reliability. They operated under the assumption that cell calls handled by a certain tower's antenna would have originated within the sector designated for that antenna when, in their testimony, they could not guarantee that any give call would go to the tower in nearest tower.

Fourth, was the methodology accepted within the scientific community? Officer Brosseau was unaware of any study of reliability or error rate applicable to his method of matching cell calls to specific towers (89:21). Officer Draeger did not know whether the methodology had ever been tested outside the law enforcement community and, within that community, could only attest to his personal experience (89:24, 29-30).

At the *nunc pro tunc Daubert* hearing in this case, on April 11, 2014, Officers Brian Brosseau and Eric Draeger testified. Both officers had previously testified at Butler's jury trial back in 2012.

Officer Brosseau summarized his training as a three-day course from the Department of Justice's Department of Criminal Intelligence, a 12-day course in "government communications," and training in cell phone mapping from the North American Technological Investigator's Association

(89:8-9). Officer Draeger also recounted his training as "multiple-day seminars specifically dealing with electronic surveillance, methods of communication within criminal organizations which covers cell phones, information coming from cell phone companies. He went on to describe his participation in an association of technical investigators, an FBI-sponsored roundtable, and classes from the Department of Criminal Investigation in Madison. His training and experience enabled him to distinguish between records from different cell phone companies, *i.e.*, Verizon and AT&T (89:26).

In his testimony, Officer Brosseau described creating a map of the city that was used at Butler's trial as Exhibit 10. This map, Officer Brosseau said, showed "pie slices" reflecting the areas of service for the sectors of particular cell towers (89:7). Officer Brosseau referred to Exhibit 22, which was an "excerpt ... indicating the tower locations, GPS coordinates and street addresses, locations, along with the sectors for these calls" (89:8). All of the tower information came from the phone companies, and Officer Brosseau admitted that did not "analyze" anything (89:11). Officer Brosseau merely placed the shaded areas on the map, each one 360 degrees for each cell tower, divided into three equal pie-shaped sectors (89:7, 12).

Cell towers have antennae that point out in different directions to pick up cell phone calls, which theoretically originate in area facing the antenna. Officer Brosseau testified that the area covered by a cell tower can be broken down into sectors corresponding to the tower's antenna (usually three). At any point in time, a cell phone may "see" up to seven towers and can pick any of those towers to connect a call. *See* Matthew Tart, et al., Historic Cell Site Analysis – Overview of Principles and Survey Methodologies, *Digital Investigation*, 2012, 8 (1) pp. 185-

193. Each antenna points in a different direction, covering a range defined in degrees. But even though a cell call goes to the tower with the strongest signal, it does not necessarily go to the nearest tower (89:18, 21), Officer Brosseau admitted that he did not know the relative strength of the towers or their signals because he was not an "engineer" (89:18). The officers simply assumed that a call would go to the closest tower (89:15-16).

The officers testified about creating a map, using cell phone calls and the location of towers, to plot Butler's supposed movements and proximity to the crime scene. Officers Brosseau and Draeger were unqualified to be experts. They merely plotted areas on a map based on information given to them by the cell phone companies. Anyone could testify about the locate of the cell tower sites, but an expert is needed to explain the use of cell phone records to determine the location of the call, given all of the potentially confounding variables.

Officer Brosseau sounded confused about the degree of certainty he could say a particular call really originated within the sector assigned to it. The State asked him:

> Q: You could never say, for example, if someone could prove to you in fact the person was making the call from Bayside here on our map but happened to be in Tower 317, you could say for sure that could never happen? I'm saying I'm representing from this map what I got on those records?
>
> A: Correct.
>
> (89:15-16)

And upon cross-examination, Officer Brosseau answered:

Q: Well, is the tower with the strongest signal the tower that receives the particular cell phone call?

A: I don't know the strength of the towers themselves. I'm not an engineer.

(89:18)

When asked about the reliability or error rate of this form of cell phone tracking (the probability that a phone call is going to the closest tower), Officer Brosseau was unaware of any study that had been done (*Id.*).

Officer Brosseau also agreed that weather, tall buildings, trees, tower maintenance, the volume of cell phone traffic, and whether the cell phone was being used indoors or outdoors were among the factors that could prevent a cell call from going to the nearest tower (89:19-20). None of these confounding factors were accounted for in the records supplied by the phone companies – nor were they considered by Officer Brosseau in creating his map (89:20, 22).

When Officer Draeger's turn came, he admitted, during direct examination, that no attempt had been made in this case to distinguish between areas of potentially overlapping service (89:28). He also said that the records used against Butler merely showed that "service was being provided by this tower in this sector and this is the service area for that tower ... Nothing more, nothing less" (89:28-29).

Upon cross-examination, Officer Draeger again explained that his method was purely based on receiving information from the cell phone company and plotting it on a map (89:29). He could not point to any acceptance of his method outside the law enforcement community or its acceptance by the scientific community in terms of peer review, publication, and scientific consensus (89:30).

The officers were not experts in the *Daubert* sense; they just put dots on the map and could not say with any certainty – or range of certainty – whether any particular call really originated in the particular tower's sector or zone of coverage. Officers Brosseau and Draeger could locate cell towers on a map and draw the area covered by the tower's sectors, but they could not say for sure if any particular call at issue here originated in the sector they assigned to it. Nor could they describe the topography and other confounding factors that might influence which tower – the nearest or some more distant tower – received a particular call. Again, none of these factors were memorialized in the call detail records from the cell phone company.

Any account of these factors surely would entail a sophisticated scientific and engineering analysis. But these officers simply placed dots on a map representing the locations of cell towers and the expected sectors of coverage, based on the information provided to them by the cell phone company. While acknowledging the impact of factors such as topography, trees, tall buildings, weather, and cell traffic, they could not account for how these factors could have affected whether the closest tower actually received the cell phone calls in question. Without knowing or attaching a probability, the officers merely assumed that the relevant calls originated in the zones of coverage that they assigned to these towers.

Nor could the officers estimate any error rate associated with this form of cell-call tracking, either taking into account or not accounting for the confounding factors listed above. The officers could not say how any of these factors may have affected the calls on the day in question. They also were unfamiliar with any study, conducted either within or outside the law enforcement community, testing the reliability or error rate of the type of cell phone tracking that they presented to the jury. The officers recognized the factors

that affect the receptivity of cell towers, but they could not account for them or measure them. The evidence supplied by the officers was unreliable in assisting the trier of fact because of the lack of a 1:1 correlation between cell calls and their connection to the nearest tower.

Because the officers suggested to the jury that these calls originated in certain areas when they were unable to attach a probability to this belief, their testimony created bias and prejudice against the defendant. They relied on the scientifically unsupported assumption that a cell phone connects to the nearest tower. The jury was left with the inference that a cell call connects to the nearest tower. The problem with the officers' testimony is that it was presented with a certainty and simplicity that was not warranted, which made it highly prejudicial. It was quickly embraced by the jurors because it made their job easier.

### B. The Officers' Testimony Also Did Not Meet the Test for Lay Opinion Knowledge under Wis. Stat. § 907.02

In denying the postconviction motion, the trial court decided that *Daubert* did not apply, for the officers' testimony was lay opinion testimony under Wis. Stat. § 907.01, given that the "officers' testimony revolved around plotting data on exhibit maps for the purpose of tracing a history of cell phone usage to and from the defendant in this case on the date in question" (91:7: App. 120). They did not try to "pinpoint" the location of the cell phone and admitted that "they could not tell with certainty where the telephones in question were at the time the calls were received by the cell towers" (91:8; App. 121).

Opinion testimony from a lay witness is defined under Wis. Stat. § 907.01:

> (1) Rationally based on the perception of the witness;
> (2) Helpful to a clear understanding of the witness's testimony or the determination of a fact in issue;
> (3) Not based on scientific, technical or other specialized knowledge under s. 907.02(1).

This rule permits a lay witness to offer an opinion on matters for which the witness has actual competence, such as personal observation, experience, or knowledge of a sensation. *York v. State*, 45 Wis. 2d 550, 558-59, 173 N.W.2d 693 (1970). "It is admissible only to help the jury or the court understand the facts about which the witness is testifying and not to provide specialized explanations or interpretations that an untrained layperson could not make if perceiving the same act or events." *United States v. Peoples*, 250 F.3d 630, 641 (8th Cir. 2001). In essence, lay opinion testimony is based on a witness's perception, reflecting a process of reasoning familiar in everyday life.

Evidentiary issues are reviewed under the abuse-of-discretion standard. *State v. Shomberg*, 2006 WI 9, ¶10, 288 Wis. 2d 1, 709 N.W.2d 370. An error is not harmless if it undermines confidence in the outcome of the proceeding. *Martindale v. Ripp*, 2001 WI 113, ¶32, 246 Wis. 2d 67, 629 N.W.2d 698. Any error in this case cannot be harmless because the sole evidence placing Butler around Long's residence at the time of the arson came from the officer's cell phone tracking testimony.

The precise question is whether the maps created by the Fusion officers accurately depicted/described the area or sector of coverage for antennae of the particular tower and the location of cell calls within that area. Here, despite the occasional caveat, the officers clearly inferred that Butler's phone was in the zone of coverage: that was the point of their testimony (*see* 82:88-91; 83:8-13). But they did not have the experience and knowledge to infer the phone would be in the pie-slice sectors that they drew on the map, given their

admissions of confounding factors and tower signal strength (89:18-20). While the use of GPS coordinates to map the locations of the towers is simple enough, it is an entirely different matter to describe a zone for each antenna of the tower without accounting for all the potentially confounding factors that the officers acknowledged.

The officers' "lay opinion" testimony was not "helpful to a clear understanding" of their testimony for they could not be sure that any particular cell call actually originated in the area they assigned to it. Their testimony was that they drew maps of sectors of coverage of the cell towers that received the calls from the cell phone in question, based on information supplied by the cell phone companies, but they could not say the exact zone of coverage, that is, whether the call received by the tower actually fell within the zone they assigned to it with any degree of accuracy. Their testimony did not reflect actual competence or real perception.

Two cases illustrate this point. In *Poston v. Burns*, 2010 WI App 73, 325 Wis. 2d 404, 784 N.W.2d 717, the defendant had taped noises, including conversation, coming from the plaintiff's house as grounds for a nuisance complaint. The plaintiff turned around and successfully sued for a violation of privacy, alleging that the defendant used more highly sophisticated and sensitive recording equipment that what the defendant said. This was improper, the Court of Appeals held, because "a jury may not be invited, or encouraged, to speculate on matters which are not common knowledge, and as to which there is not a scintilla of competent evidence in the record." *Id.* at ¶25. Similarly, in *Black v. General Electric Co.*, 89 Wis. 2d 195, 212, 278 N.W.2d 224 (Ct. App. 1979), a witness with many years of experience repairing televisions could not offer a lay opinion on whether a defective design was the cause of a particular problem.

Here, the jury was "invited to speculate" that the cell calls in question originated in the zone of coverage the officers assigned to each tower. And there was "not a scintilla of competent evidence in the record," for the officers did not have the necessary scientific and technical background. As Officer Brosseau admitted, "I'm not an engineer" (89:18). The officers wanted to have it both ways: disclaiming the ability to know whether any particular call originated in the sector of coverage they assigned to the cell tower while showing the jury their map on which they assigned Butler's cell calls to sectors of the cell tower.

Officers placed the location of the cell towers on a map, but it is another huge step, to give the range of a particular cell tower in relation to other towers in the area – and impress upon the jury that the cell calls in question originated in the coverage sector that the officer drew on the map. Despite their insinuations, the officers could not say, given all of the potentially confounding factors, that the nearest tower actually received the call. The factors that influence a cell phone's ability to connect to a particular tower were beyond the perception of an untrained layperson and required scientific, technical, or other specialized knowledge. That is beyond lay opinion.

## CONCLUSION

For the reasons set forth, Mr. Butler respectfully urges this court to vacate the judgment of conviction or remand this case for *Machner* hearing.

Dated: October 20, 2014

Respectfully submitted,

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## CERTIFICATION OF LENGTH AND FORM

I certify that this brief conforms to the rules for a brief produced using a proportional serif font. The length of this brief is 5867 words.

Dated: October 20, 2014

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George M. Tauscheck
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## CERTIFICATION OF APPENDIX

I hereby certify that filed with this brief, either as a separate document or as part of this brief, is an appendix that complies with s. 809.19(2)(a) and that contains, at minimum:

(1) A table of contents;
(2) The findings or opinion of the trial court; and
(3) Portions of the record essential to an understanding of the issues raised, including oral and written rulings or decisions showing the trial court's reasoning regarding those issues.

I further certify that if this appeal is taken from a circuit court order or judgment entered in a judicial review of an administrative decision, the appendix contains findings of fact and conclusions of law, if any, and the final decision of the administrative agency.

I further certify that if the record is required by law to be confidential, the portions of the record included in the appendix are reproduced using first names and last initials instead of full names of persons, specifically juveniles and parents of juveniles, with a notation that the portions of the record have been so reproduced to preserve confidentiality and with appropriate references to the record

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**CERTIFICATE OF ELECTRONIC FILING**

I hereby certify that pursuant to Wisconsin Statutes (Rule) 809.19(12), I have submitted an electronic copy of this brief, excluding the appendix, which complies with the requirements of s. 809.19(12). I further certify that this electronic brief is identical in content and form to the printed form of the brief filed as of this date. A copy of this certificate has been served with the paper copies of this brief filed with the court and served on all opposing parties.

Dated: October 20, 2014

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## INDEX TO APPENDIX