

UNDISCLOSED, the State v. Adnan Syed

Episode 8 - Ping

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[00:55] Rabia Chaudry Hi, and welcome to the eighth episode of *Undisclosed: The State v. Adnan Syed*. My name's Rabia Chaudry. I'm an attorney and national security fellow, and I blog at SplitTheMoon.com. I'm joined with my colleagues Colin Miller, who is an associate dean and professor at the University of South Carolina School of Law and is also the blog editor of the *EvidenceProf* blog. We're also joined with Susan Simpson, who's an associate with the Volkov Law Group in D.C., and she blogs at *The View from LL2*.

So, last time we discussed the key piece of evidence that the State of Maryland used to corroborate Jay's story, and that evidence, as we all know, was the cell phone records. From what we understand, Adnan's case was actually the first of its kind in Maryland. Never before had cell site location data been used as evidence in a trial in the entire state. Remember, this was 1999. That's back when pagers were the norm and cell phones were still catching on. So the prosecution broke new ground by using cell evidence for two specific reasons: first, they use a call log to show who was called and when, which we're going to discuss another time, and more importantly, what towers were pinged to determine the location of the cell phone at the time the calls were made.

Now, it might surprise some of you to know that Susan, Colin, and I didn't know each other before *Serial* broke this case. And Susan Simpson first caught my eye when I read a blog that she wrote about the cell phone evidence. Uh, I think it was a blog she posted, uh, online and then somebody had linked it to Reddit or somewhere else, and I was fascinated. I thought, "Who is this person?" and "I got to, like, stay on top of her blog because she's bringing another level of analysis to the cell phone data and to the case in general."

[2:40] Susan Simpson When I first started blogging about *Serial*, I was all about the cell phone records. I was convinced that there was something useful to be had there, and that if only we could understand what the cell records were telling us, we could understand the case. I fell into the trap of believing that the answers could lie there in the cell phone records. It turns out they

don't. That's not how it works. That's not what the records were showing, and that's not what they can be used for. So after a lot of time spent going through all the files, all the cell records, all the data, I eventually realized what I know now: that although useful in a limited respect, the answers to this case do not lie in the cell data.

As a result, it feels almost silly to be talking about it now. What's the point? Any value that those records could have really had were thrown out by shoddy investigative tactics, and even Urick and Murphy would seem to agree with that. For instance, at trial at the closing arguments, Murphy argued the following:

"Think about it. The witnesses could not have known what cell site they were in when they were making calls and they certainly couldn't control that. They were probably unaware that the calls were even being recorded in this fashion. Do you think Jay Wilds when confronted with these phone calls said, oh, L608C, I better put Kristi's ['Not Her Real Name' Cathy - *Ed.*] house into this. No. The witnesses can't control it, and they weren't aware of it and that's why you can't get around this evidence."

[Closing arguments at second trial, Feb 25, 2000, p. 63]

And as Urick explained in his interview with *The Intercept*, "Jay's testimony by itself, would that have been proof beyond a reasonable doubt?' [...] 'Probably not. Cellphone evidence by itself? Probably not.'

"But, he said, when you put together cellphone records and Jay's testimony, 'they corroborate and feed off each other--it's a very strong evidentiary case.'"

Problem is, those two things aren't independent. Jay was confronted with the cell phone records, and he changed his story to match those records. This isn't a theory. This is fact that was testified to by the detectives:

[4:36] Kevin Urick

What happened that made you want to speak to Mr. Wilds again?

Detective MacGillivray

I had obtained cell site information as a result of the cell phone information and, uh, I wanted to talk to Mr. Wilds a second time.

Kevin Urick

And did you speak to him a second time?

Detective MacGillivray

Yes, I did.

Kevin Urick

As a result of information you obtained from that, what, if anything, did you do?

Detective MacGillivray

He actually took us on a ride, and the cell site information that we had didn't correspond to his statement at first, at which time we narrowed the time frames down. He started to recall things a little better and, uh, took a second statement.

[Direct examination at second trial, February 17, 2000, pp. 157-158]

[5:21] Susan Simpson The cell phone records can in no way be considered corroborative of Jay's story. All the parties agree, Jay changed his story to match the cell phone records that the detectives showed him. And even if Detective MacGillivray hadn't testified to this fact, we could still prove it happened because when Jay changed the story to match the detective's script, he did so in a way that matched the parts of their script they actually got wrong--like the location of the tower that they thought, incorrectly, was next to Cathy's.

So, if the cell phone records can't corroborate Jay, what use do they have? The prosecution probably would have argued that even without Jay's story the cell phone records are sufficient to prove that Adnan was in Leakin Park at 7 p.m. on January 13th, 1999. That was when two phone calls came in, one at 7:09 and one at 7:16, and both of them originated or triggered or pinged--I'll use those terms interchangeably for purposes of this episode, but those aren't the technical terms--on a tower that was on the northern edge of Leakin Park.

So, we have these two calls that the prosecution can claim show that Adnan was in Leakin Park on the same day that Hae was murdered and presumably buried in Leakin Park. Problem is, we know now from the lividity evidence and from Jay's own statements, in which he has publicly recanted his story about the timing of the burial, that the 7 p.m. burial didn't happen. It's contradicted by the medical record, and Jay himself says it never happened. So there's no reason to think the 7 p.m. calls are in any way related to a burial in Leakin Park.

So, why are we even talking about the cell phone evidence? I mean, it's not corroborative of Jay; it was used to support a narrative that couldn't have happened and even the star witness agrees didn't happen. So what's the purpose? Well, even if its factual use is limited, it was still a pretty huge piece of the prosecution's case. So, let's start there.

To show what we're going to be talking about, let's start with what the evidence looked like and what they were using to draw all these conclusions. Now, when you have a cell phone and you make a call, that call is going to originate or ping or whatever term you want to use on a specific cell site or cell tower. This information then gets recorded in the phone company's billing records, so later on you can go back and pull up records from a phone and show, well, at 5:00 on Sunday, it made a call, and the records show that call was routed through tower 1234.

A party in litigation can then use that data to say, "Well, we know then that this person with this phone was near tower 1234 at 5:00 last Sunday." Or, at least, that's how they'd like to be able to use it and how it often gets used in courts today.

So, for this case, a few days after Hae's body was found, the detectives requested Adnan's cell phone records, and they got records back showing a list of calls that were made, the times they were made, and the tower that the call first went through when the call was made. Now, a single call can be on many towers. It's called a handoff when the phone, say, moves to a new location, and a new tower will take over from the previous tower. So the fact that a call started on one tower does not mean it will end on the same tower.

As we'll discuss later though, in this case, the State only requested information about the very first tower that any particular call pinged on. They could have gotten more data; they didn't. So, we have all the calls Adnan's phone made on January 13th and then the list of cell sites that were the very first cell sites that each call was either made or received on. Now, in addition to using Adnan's cell phone records themselves, at trial the prosecution also used an expert witness who was an RF engineer that worked for AT&T. They had this expert witness perform what is called a drive test, where he drove around and made test calls and recorded what cell sites those test calls originated on.

[09:21] Colin Miller And, by the way, an RF engineer, that stands for radio frequency engineer, and so that's a type of electrical engineer. And they deal with devices like cell phones that are designed to operate in the radio frequency, the RF spectrum, and so that's why this expert was dealing with the cell phones and the cell towers.

[09:40] Rabia Chaudry So, from what we know, the cell phone expert used by the prosecution, you know, the way he conducted the drive test was in and of itself a little bit odd and--I can imagine--may have been a little awkward, but the State's cell phone expert was in a car with both prosecutors, and they drove to lots of different locations. And on his drive test equipment he would read off, uh, the cell tower that would be pinged as he made the calls. And he wasn't doing any independent recording himself. One of the prosecutors, uh, Murphy, was actually recording the cell towers pinged as they went along.

[10:13] Susan Simpson Yeah, so... Murphy is writing down the numbers that the cell expert's reading out, but she's writing them down by hand taking notes and not using the official record of all these sites that the expert was testing. The problem with this is that it means there's no record of exactly where testing was done, which is a big deal when even small movements can cause radical changes in results as to what cell tower's being used.

In this case, however, rather than having the expert do his testing and have his results introduced at trial, because the prosecution tried to avoid at all cost ever putting anything in writing because if they did so they would have to give it to the defense, they told the expert, 'Nah, don't worry about that. Don't record your results. We're just going to write down the numbers as you read them off.'

Of course, this means that we don't actually know where the car was at the time that any given result was made, and it also means the prosecution had full power to choose which results to report. Now, this is crazy. If you're trying to pretend this is scientific, that there's some kind of methodical, useful way of using cellphone data to interpret movements, what you don't do is have the prosecutors take hundreds of thousands of results and toss out every result they don't like and pick and choose 13 to keep. There were many, many test calls made that day by the expert. They drive around all through West Baltimore trying to recreate Jay's crazy ass day. Out of these thousands of results they got, literally 13 were written down by Murphy, and she chose which ones.

When the defense was given the expert's report, all they got was this list of 13 cell sites out of thousands, so the data itself is useless. There's no way to claim that any sort of reliable conclusions can be drawn from data that has basically been cherry picked.

[11:58] Colin Miller That really should have been grounds for Gutierrez to move to have this deemed inadmissible because not only does the expert have to use reliable techniques or technologies, but it also has to be reliably applied to this case, and this would be like, say, having crash tests to determine the impact rating on a car and cherry picking what results. That's not ever something that an expert's going to do. And so, Gutierrez, knowing this information, should have moved to exclude this evidence based upon the cherry picking of these calls done during this drive.

[12:32] Susan Simpson Well, she had no idea how the data was obtained or that this cherry picking had occurred. I mean, she basically knew nothing. She kind of learned a little bit as the trial progressed, but she had a very, very limited understanding of what all this involved.

But in addition to the fact that it's just not scientific and it's not good data, the way the prosecutors did the drive testing here opened up the results to contamination: whether deliberate or unintentional, when you have someone reading out numbers and another person writing them down with no other record of where they come from, it's very easy for mistakes to be made. We know they were made. As we'll discuss later in more detail, at least one of the numbers that Murphy wrote down didn't match what the expert actually read off. But all that's kind of irrelevant because every cell expert I have spoken to agrees: trying to interpret cell phone records based on drive testing done 10 months after an event is pointless and worthless. The changes in the network, the changes in conditions, all of that makes it impossible to use drive test data from 10 months later to say where the phone had been 10 months before when certain calls were made.

[13:37] Susan

So, how many cases have you been, or has your firm been, a... an expert witness on?

Michael Cherry

I think we've been involved in 50 or 60 cases. I'm not sure. Maybe it's 40. I, I really don't know. We don't count.

[13:50] Susan Simpson To find out more about how cell phone location data has been used and continues to be used in courtrooms throughout the United States, I spoke to Michael Cherry from Cherry Biometrics.

[14:00] Susan

They wanted the cell phone expert to drive around to the locations where Jay, the witness in this case, had said he'd been and to make test calls.

Michael Cherry

But you can never recreate the conditions, the probabilistic conditions that, that existed the, the day of, the day, you know, at the time of the event because the load on different towers is always going to be different. If it's SINR, signal-to-interference noise ratio, you'll never get that same setting. So wh--what's the point in driving around later?

Susan

If you do it a drive test immediately after, is it more accurate, or is there any way to know--

Michael Cherry

No. No, it's all probabilistic. You don't know what's more accurate. But the odds of getting, you know, the probability of getting something that closely approximates, uh, what happened th--on a different day in a different time are pretty slim.

[14:57] Rabia Chaudry So, let's talk a bit now about how the prosecution actually used, or misused, the data in this case at trial. Now, although the prosecution made expansive claims in closing arguments about the significance of the cell data, the actual testimony entered into evidence during the trial was really narrow in scope. For example, the prosecution's expert witness testified that he could verify that, if shown a specific location, whether or not it could have made a call on a specific tower. However, what he could not do is show that any particular call was made in any particular location. He actually said this at trial.

[15:30] Cristina Gutierrez

You cannot tell us where the cell phone that made any call, on that exhibit I believe is still in your hands, was at any point any call was made, can you?

Abraham Waranowitz

No.

Cristina Gutierrez

Did you hesitate to *[inaudible]*?

Abraham Waranowitz

Yes, I did.

Cristina Gutierrez

But your answer is no, isn't it?

Abraham Waranowitz

My answer is no. I cannot tell where a cell si--a cell phone is when it originates a call.

[Cross-examination of Abraham Waranowitz at second trial, February 9, 2000, pp. 145-6]

[16:09] Rabia Chaudry So, in other words, if the cell expert was informed that Jay had testified--to take a hypothetical example--that a particular call made while he was at Woodlawn High School, the expert could say whether that testimony was possible based on the cell phone records. If the cell expert was simply shown the cell record for that call, he couldn't say whether it had been made from any specific location at all.

So, in addition to the background info on the cell technology, the prosecution had its expert testify to exactly four facts in Adnan's case: number one, that Jay's story about paging Jenn from Edmonson Avenue was consistent with the cell phone records; number two, that Jay's story about going to Cathy's was consistent with cell phone records; three, that Jay's story about going to Gelston Park [actually, Gilston Park - *Ed.*] was consistent with cell phone records; and four, that Jay's story about receiving calls at Leakin Park was consistent with the cell phone records. That's it. Full stop. He did not testify about the cell site locations for any other calls beyond these four examples.

[17:09] Susan Simpson

Problem is, three of those four examples were manufactured by the prosecution. They never happened, at least not in the way that the expert was asked to testify. Let's start with Gilston Park.

At trial, Prosecutor Kevin Urick got the cell expert to confirm that his testing and the cell phone records were consistent with a hypothetical series of calls that Jay never testified to.

Question: "Now, if there was testimony that someone had dropped someone off at [a] school to go to track practice and the person who had the car went to Gilston Park, parked for a while, and then went back to pick the person up, if [they had] called at Gilston Park, one or more incoming calls were received [...] and then you found [that] cell phone records that had calls from the L654 cell site, would that functioning of the AT&T network be consistent with the testimony?"

[Direct examination at second trial, February 8, 2000, pp. 102]

The cell expert responded, "Yes." Except Jay never actually testified to any of that. Jay testified that he was 3.6 miles away at the time of those calls... at Cathy's apartment.

At trial he testified in direct to this:

Question: "And what did you do at that point?" Meaning, after dropping Adnan at track.

Answer: "I left, and I went to [Kristi's] house."

[...]

Question: "And what, if anything, happened next?"

Answer: "It was real short, maybe like half an hour. I received a phone call from [Adnan] saying that he was at school. I went there [and] I retrieved him, and then I came right back to [Kristi's] house."

[Direct examination of Jay Wilds at second trial, February 4, 2000, p. 144]

[18:44] Colin Miller Now, Susan, if I'm correct, Gilston Park was part of one of Jay's recorded interviews. Maybe the second recorded interview on March 15th?

[18:54] Susan Simpson It was mentioned briefly, except Jay has never said that a call was made or received from there. So in no statement that Jay has given has Adnan called to say track was over while Jay was at Gilston Park.

[19:05] Colin Miller Right. So, basically, Urick is referencing Gilston Park, which Jay never brings up at trial. He did bring it up earlier in an interview but not in the same context that Urick is raising at trial.

[19:25] Susan Simpson Next example: Urick had the expert testify to the following:

Question: "Now, if there were testimony that someone were in a car traveling westbound on Edmondson Avenue and that two calls were made on an AT&T Wireless [...] phone, and you found cell records that had first [L653A] and then a [...] minute or two later a call originating [on L653C], would that functioning of the network be consistent with the testimony?"

Answer: "Yes, that would be consistent."

[Direct examination at second trial, February 8, 2000, pp. 100]

Urick's question refers to the 8:04 and 8:05 calls, which were to the number for Jenn's pager. But Jay testified that he thought he was at Westview Mall when he paged Jenn, which is not consistent with L653C or A.

[20:05] Colin Miller And that's not an insignificant part of Jay's story because recall that Jay says they're at Westview Mall dumping the shovels used in the burial at one of the dumpsters there. And so, to say that this is consistent with Jay's story at all--no, Westview Mall is not consistent with the L653 tower, and therefore, this is an incorrect assertion of the facts where really this cell tower ping does not match up with Jay's story.

[20:29] Susan Simpson Well, Jay's story there was already a mess because he says he got to Westview Mall and paged Jenn to pick him up from his house. So that's the part where Jenn, again, does not match Jay's story in any significant respect because she says she picked him up at Westview Mall, not that he's paging her from there.

Anyway, that brings us to the third example out of the four that the cell expert testified to at trial. And that's where Urick had the expert testified to the following:

Question: "Now, if there were testimony that at [Kristi's apartment] two people were visiting other people and two or three incoming calls were received on [an] AT&T wireless [...] phone at that location, and the cell phone records indicated the cell sites you listed for [...] 655A and 608C, would that functioning of the AT&T network be consistent with the testimony?"

Answer: "Yes."

[Direct examination at second trial, February 8, 2000, pp. 101]

Problem is, that is inconsistent with the cell expert's actual results. He did not find that a call from Cathy's would be made on L655A. Although the report that the prosecution wrote up and gave to the defense claimed that the expert's testing had found that a call made from Cathy's could be made from L655A, that wasn't true. His testing found that L655B was triggered from the area near Cathy's apartment.

So, a cell tower or cell site has typically three sectors, and those sectors represent three different antennas that are pointed in separate directions although their ranges overlap at the sides. So you have the A antenna, which usually points kind of north; you have a B antenna, which usually points more towards the south; and a C antenna, which points more towards the west, although they're all--most of the time--spaced equally apart from one another, so each would be about 120 degrees from each of its neighbors.

So, L655A and L655B would be two antennas in the same tower each pointing in different directions. So, in the report that was given to the defense, the prosecution wrote down that L655A was triggered at Cathy's apartment because there was a phone call made at a little after 6 p.m. on January 13th that triggered L655A. And according to the prosecution, the phone was at Cathy's apartment at that time, so therefore, L655A has to be triggered from Cathy's apartment. Well, whether it was an accident or not, that's not actually what the expert found. His testing, which we can see from some maps that we'll explain later, shows that he actually triggered L655B.

Now, it could be a coincidence; it could just be that while Murphy's writing down what the expert was reading off from his test equipment, she made a typo and wrote down A instead of B. But it's hard not to be suspicious when someone makes a typo that just happens to fit their case when the real result would have contradicted it--at least, according to their interpretations of the cell phone evidence.

[23:27] Colin Miller Yeah, I mean, it's almost like you had a medical examiner performing an autopsy and stating out to the prosecutor a certain type of hemorrhage or a, a certain type of illness. And, obviously, there's going to be some problems there. That's why we have the rule against hearsay. We've all played that game of telephone where things change when you tell it to someone else. So, yeah, was it a mistake? Was it not? This is exactly why this was completely improper and unreliable, the way that the prosecution conducted this entire cell tower investigation.

[23:58] Susan Simpson Either way, the testimony that the expert gave--not based on reality because according to his testing, those calls weren't consistent with testimony that the phone was at Cathy's at that time.

So, even though Jay was with the phone for 22 of the calls on January 13th, at trial the prosecution only had the expert confirm that four of those calls matched Jay's story. Of course, of those four, three of them--as we just discussed--are flat out wrong. The cell expert verified testimony that Jay never gave or verified cell sites that he didn't actually find in his testing but the prosecution had mistakenly claimed he'd found.

So, that brings us to the fourth call that the expert testified to at trial, the Leakin Park call or calls. The expert testified that the 7:09 and 7:16 calls were consistent with calls received at the burial site on a sector called L689B, the Leakin Park tower.

Of course, there's problems there, too. There never was actually any testing done at the burial site where Hae was found. Instead, as with all locations, the expert drove around with the prosecutors and took readings from his car. They didn't go into buildings; they didn't leave the road to go out into the woods to check places where Jay said they'd been. And this is a problem because, well, for one, being in a building could affect cell coverage. If a wall is blocking a cell site or a certain tower, that call will naturally originate on a different tower instead. So, yeah, the fact that the testing's done outside on a street instead of in a building does affect the results, and we have no idea what the expert would have found if he actually went to places to replicate those calls.

Likewise, he never went to the burial site. The burial site was, depending on which map you use, 114 to 127 feet from the roadside. And rather than getting out of his car and trekking his equipment back into the woods, they drove by and took testing from the roadside. However, although the expert did testify that L689B was the only tower that could really get into that area,

