By the time Juan Rivera was taken to Lake County for questioning on Oct. 27, 1992, the search for Holly Staker's killer had gone cold. Two and a half months had passed since the 11-year-old girl was raped and stabbed while baby-sitting for two little children, and with the killer still at large, neighborhood-watch groups had formed and wary parents kept their children indoors. The Lake County police had pursued nearly 600 leads and interviewed about 200 people but were not close to making an arrest when they hooked Rivera up to a polygraph machine and began questioning him about his whereabouts on the night of the murder.

A 19-year-old with a ninth-grade education and a history of psychological problems, Rivera was interviewed by the police a few weeks earlier and told them that he was at a party near the crime scene and that he noticed another partygoer there acting strange. This time around, he repeated the same story for two days before finally admitting it was a lie. Still, he denied murdering the girl.

What followed was 24 hours of near constant interrogation, and around 11:30 on the morning of Oct. 30, after banging his head on a cell wall, pulling out a clump of his hair and being handcuffed behind his back and placed in leg shackles, Rivera finally provided
investigators with a detailed confession.

In his sworn statement, Rivera detailed how, on Aug. 17, the morning of the killing, he bought two joints and a half gram of cocaine, snorted the cocaine and smoked one of the joints and then headed across town, at which point he came upon Holly standing in front of a two-story apartment building on Hickory Street, just north of downtown Waukegan.

"Ain't you Rebecca's brother?" Holly asked him. His younger sister once introduced him to Holly, and he couldn't believe this girl, a striking blonde with an identical twin sister, was only 11. She was baby-sitting a 5-year-old boy and a 2-year-old girl, and Rivera said she told him that she was lonely and invited him up to the second-floor apartment to keep her company.

"I played with a little boy and little girl, because I really like kids," Rivera told police. When the 2-year-old got tired, he took her to the bedroom to rest, and the boy left the apartment to play. Soon, Rivera said, he was naked and trying to have sex with Holly, but he was unable to get an erection, and she began making fun of him. When the 2-year-old started crying and he went to the bedroom to comfort her, Holly followed him and grabbed his crotch and insulted him again. "Is that all you got?" she said.

"This is when I got really mad, and she kept making fun of how small I was and that I could not get hard," he said. He ran to the kitchen, grabbed a knife from a dish rack and returned to the bedroom. Holly grabbed his wrists and tried to fight him off.

"If she would have stopped yelling and fighting me, I would have stopped cutting her, and she would not have gotten hurt anymore," he said. Rivera described how he pushed her onto a bed and had intercourse with the bleeding girl, whom he stabbed 27 times. He did not remember if he ejaculated. When he was finished, he washed the knife and his hands in the kitchen sink and ran out the back door. On the way out, he grabbed a mop and bashed the door to make it look like a robbery, then wiped the mop with a towel to remove his fingerprints. Once outside, he broke the knife, tossed it in the backyard and ran home.
Rivera's grisly, three-page confession became the key piece of evidence against him in his murder trial in 1993 -- and again in two subsequent re/trials, the latest in 2009. Each time, Rivera was convicted, and he is now serving a life sentence at Stateville Correctional Center near Joliet, Ill. His lawyers are seeking an outright reversal or a fourth trial before the Illinois Appellate Court, arguing that there is no physical evidence and no witnesses linking Rivera to the crime; that his confession was coerced; and, perhaps most significant, that DNA testing in 2005 definitively ruled him out as the source of the semen found inside Holly Staker's body. (At the time this article went to print, a decision from the appellate court was imminent.)

"This is a rape and murder of an 11-year-old child, and the semen found inside the girl excludes Juan Rivera," Jeffrey Urdangen, one of Rivera's lawyers, said. "According to the state's perverse theory, the girl, the unfortunate victim, was having sex with another man who was not the murderer. It's ludicrous."

In the years before DNA evidence was introduced to the legal system, little was known about the extent of wrongful convictions and the situations in which they occurred. That changed in 1986, when an English scientist used DNA testing to help exonerate a man accused of raping and killing two teenage girls (the evidence also led the police to the real killer). Since then, DNA testing has helped exonerate 280 convicted felons in the United States and has exposed deep flaws in our legal system, including misconduct by the police and prosecutors and egregious mistakes made by witnesses and forensic scientists. In his 2011 book, "Convicting the Innocent," Brandon Garrett, a law professor at the University of Virginia, examined most of the case files for the first 250 DNA exonerations. Garrett found that 76 percent of wrongly convicted prisoners were misidentified by a witness and half the cases involved flawed forensic evidence. The testimony of an informant, often a jailhouse cellmate of the accused, was pivotal in 21 percent of the cases. Perhaps most surprising, 16 percent -- virtually all of whom were subjected to interrogations lasting several hours and, in many cases, days -- confessed to crimes they didn't commit. Garrett pointed out another, striking detail in the false confessions: in 38 of 40 false confessions, the authorities said defendants provided details that could be known only by the actual criminal or the investigators, thus corroborating their own admissions of guilt by revealing secret information about the crime that could only have been provided by them.
The issues raised by DNA exonerations have led to an overhaul of the criminal-justice system. Some states now require that evidence be preserved; others require mandatory videotaping of interrogations. Several states, including Illinois, New Jersey and New York, abolished the death penalty largely because of concerns about executing an innocent person. North Carolina, meanwhile, has created an independent commission to review innocence claims. And some prosecutors' offices, including those in New York and Dallas, have created conviction-integrity units.

More often, though, the fate of an inmate with powerful new evidence of innocence still rests with local prosecutors, some of whom have spun creative theories to explain away the exculpatory findings. In Nassau County on Long Island, after DNA evidence showed that the sperm in a 16-year-old murder victim did not come from the man convicted of the crime, prosecutors argued that it must have come from a consensual lover, even though her mother and best friend insisted she was a virgin. (The unnamed-lover theory has been floated so often that defense lawyers have a derisive term for it: "the unindicted co-/ejaculator.") In Florida, after DNA showed that the pubic hairs at the scene of a rape did not belong to the convicted rapist, prosecutors argued that the hairs found on the victim's bed could have come from movers who brought furniture to the bedroom a week or so earlier.

"They essentially argued that there were naked movers," said Nina Morrison, a senior staff lawyer at the Innocence Project, a New York-based group that seeks to exonerate wrongfully convicted inmates.

Why prosecutors sometimes fight post-conviction evidence so adamantly depends on each case. Some legitimately believe the new evidence is not exonerating. But legal scholars looking at the issue suggest that prosecutors' concerns about their political future and a culture that values winning over justice also come into play. "They are attached to their convictions," Garrett says, "and they don't want to see their work called into question."

Few offices have fought post-conviction evidence with as much gusto as the Lake County state's attorney's office, which is coming under increased scrutiny for what defense lawyers and law professors suspect is an alarming number of wrongful convictions. One
murder case has unraveled, and several other rape and murder convictions are now being challenged. "They can never admit a mistake," said Kathleen Zellner, a lawyer who is suing Lake County on behalf of a man named Jerry Hobbs, who spent five years in jail for killing his daughter and her friend; he was released last year after sperm found inside one of the girls was linked to a convicted rapist and accused murderer. "They have to solve cases quickly, and if a problem develops or doubt develops about a person's culpability, they feel like they have to press on," she said. "It's a self-defeating philosophy."

Lake County encompasses some of Chicago's wealthiest suburbs, like Lake Forest and Mettawa, but Waukegan, which sits along Lake Michigan on the eastern edge of the county, is a world apart from those communities. It is a once-thriving factory town that in recent years became known for its noxious Superfund sites: remnants of an asbestos plant and an outboard-motor manufacturer. The county legal system is controlled by a relatively small group, almost all Republicans. The state's attorney is Michael Waller, who has held the job since 1990, when he was appointed to fill out the term of his predecessor. Until recently, Waller's wife, Jane, was a long-serving Lake County judge. (Waller declined to be interviewed for this article.) Of the three dozen sitting judges in Lake County, three are Democrats. Two-thirds are former prosecutors, mostly from the office of the Lake County state's attorney. The current sheriff is a Republican and also a former Lake County prosecutor.

In 2009, when the former head of the county's Republican Party, Tom Adams, was sentenced for the possession of child pornography, he received 30 days in jail and 30 months' probation as part of a plea agreement, prompting complaints that he received light punishment. "There is no challenge to the orthodoxy," said David Rutter, who was editor of the local paper, The Lake County News-Sun, from 2006 to 2008. "No one is going to run and challenge a judge or prosecutor on reform grounds."

Jed Stone, a local defense lawyer, described the legal community as "an echo chamber." "The problem with everyone coming from the same background, from the same state's attorney's office, from the same narrow political spectrum, is there is a failure to see the other side," he said. "You begin to view people as others. And when you begin to see people as other than you, they begin to become expendable."
Lake County certainly isn't the only county in the United States dominated by one party and an insular political and legal culture. (Neighboring Cook County, for instance, has long been controlled by Democrats and has its own ignoble history of wrongful convictions.) It may be the only place, however, with a prosecutor as obstinate and as gifted as Mike Mermel. A 60-year-old widower, Mermel joined the state's attorney's office in 1990, after a stint as a prosecutor in Cook County. The first time I contacted him and said that I was from The New York Times, Mermel immediately announced that he was conservative. He agreed to speak with me on the phone, and later in the lobby of the state's attorney's office, but he refused requests for subsequent interviews and sought to retract all statements from our previous conversation.

Defense lawyers described Mermel's office to me, with a photo of Charlton Heston and a book by Ann Coulter on display. "The first time I was in his office, he played me a videotape of Rush Limbaugh," Stone said. "It was a diatribe on Bill Clinton."

While some of Mermel's tactics have drawn the ire of defense lawyers, others give him grudging respect for his skill in the courtroom. "He's a very effective trial lawyer," Stone said. "But his view of the world is very narrow." In the case of Juan Rivera, Lake County prosecutors have been able to convince juries, not once but three times, that he was the murderer, despite DNA evidence in the last trial that powerfully suggested otherwise. (Mermel was the lead lawyer on the third trial and assisted in the second.)

"We don't fold our tents and run," Mermel told me when we spoke this spring. "We don't quaver because somebody holds up three letters: DNA."

When I asked him specifically about the Rivera case, Mermel said that sometimes post-conviction evidence is irrelevant. "The example I like to give people is next time you go to a motel room, bring a plastic bag, because the dirtiest thing in that room is the remote control. Everybody has sex and then rolls over and goes, 'I wonder what's on?' " he said. "O.K., so you can find DNA in the form of sperm from 10 different people in that room from that remote control or even on a person who has touched it. And that woman gets murdered in that room tonight, and you are going to have a lot of DNA. Is it all going to be forensically significant?"
His theory for why there was sperm that did not come from Juan Rivera inside 11-year-old Holly Staker on the day she was murdered is, to his mind, simple and straightforward. She and her twin sister, Heather, were sexually active, Mermel argues, and Holly must have had sex with someone else before Rivera came along and raped (but didn't ejaculate) and murdered her. There was scant evidence to support this sexual-activity theory, but Mermel dismissed that objection. "Nobody is going to admit to having sex with an 11-year-old girl, even if the statute of limitations has run out," he told me. "But there was a lot of evidence that came to our office that these two girls were sexually active."

It was not the first time prosecutors in Lake County offered such a theory. In one case, Mermel is fighting efforts by a convicted rapist to clear his name after DNA testing excluded him as the source of sperm found inside the victim. Though Lake County prosecutors initially argued that the sperm came from the rapist, Mermel is now arguing just the opposite: that it came from an unnamed lover. In another case, Mermel opposed a new trial for a man convicted of killing an unidentified woman. When her identity became known years later, it turned out that her former husband once admitted that he killed her. Mermel dismissed statements from the husband, who is mentally disturbed, as the rants of a "one-armed Cuban feces-covered masturbator." When asked about the case last year, he told The Chicago Tribune: "The taxpayers don't pay us for intellectual curiosity. They pay us to get convictions."

But few cases have damaged Lake County's credibility as much as the one against Jerry Hobbs. In the spring of 2005, Hobbs arrived in Lake County after a two-year stint in a Texas prison for chasing a rival for his girlfriend's affections with a chain saw. His plan was to reconcile with the girlfriend, who was now living in Zion, Ill., and to become reacquainted with their three children.

A few weeks after he arrived, his daughter, Laura, went outside to play with a friend, Krystal Tobias, who was 9. The girls never returned, and that evening the family began looking for them and eventually called the police. After a frantic night of searching, Hobbs said he came across the girls' bodies in a remote wooded area around 6 a.m. They were lying on their backs, fully clothed, with multiple stab wounds and bruises, particularly around their necks and faces.
Hobbs was brought back to the Zion police station by 7:30 that morning, and the questioning began. Investigators thought it was suspicious that an ex-convict who was new to the area discovered the bodies before local residents and the police, and they thought his reaction to finding the bodies was also odd. According to police reports: "Hobbs referred to his daughter Laura and Krystal Tobias as 'them girls' and didn't use Laura's name. Hobbs also didn't show any emotion and avoided looking at us when we talked about Laura." After maintaining his innocence for about 20 hours, Hobbs finally relented and signed a confession stating that when he went to get Laura to come home, the girls resisted, then Krystal pulled out a small knife, and the two girls attacked him. Hobbs said he hit them both and eventually got the knife from Krystal and began stabbing her, then stabbed Laura. "Things just got out of hand, and I lost it," he said.

He was charged with the murders, and prosecutors vowed to seek the death penalty.

An initial examination found no evidence of sexual assault in the case, and Hobbs never mentioned it in his confession. Two years after his arrest, though, a private laboratory hired by his lawyers discovered that there had been sperm in Laura's vagina, anus and mouth, and they tested a sample. The defense lawyers immediately announced that DNA analysis showed the DNA did not match Hobbs's.

When Mermel heard about the findings, he dismissed them and suggested that Laura could have got the sperm on her while playing in the woods, where couples might have sex.

Hobbs remained in jail, awaiting trial, for more than two years before the DNA was found to match a friend of Krystal's older brother named Jorge Torrez, who was already serving a sentence in a Virginia jail for attacking three women, one of whom he raped, choked and left for dead. (He was eventually sentenced to life in prison for those crimes; currently he is also being charged for the 2009 murder of a 20-year-old naval officer.)

In August 2010, Michael Waller, the state's attorney, told reporters he was releasing Hobbs because they could no longer prove his guilt beyond a reasonable doubt.
Lake County has yet to charge Torrez for the murders of Laura and Krystal, and Mermel said he still suspected that Hobbs was the killer and that the sperm was not related to the crime. One plausible scenario, he says, is that Torrez masturbated while visiting Krystal's brother, and then Laura got it on her hands and unknowingly transferred it elsewhere.

"They have popcorn-movie night, and the little girl is in the same bed where this guy did it," Mermel said by way of explanation. "How do we get colds? We touch our mouths, we touch our nose. What does a woman do after she urinates?" We were in the lobby of the prosecutor's office, and Mermel answered his own question by standing and pulling his hand between his legs, as if wiping himself. "Front to back, O.K.?"

Hobbs, who is now 41 and lives in Texas and trims trees for a living, told me he confessed to the crime because he hadn't slept in days and figured the truth would come out. "I found my daughter," he said. "She didn't even have eyes in her head. I was already broken. They didn't have to break me."

He said that he didn't understand why Lake County wasn't pursuing Torrez for the crime, and that he had filed a lawsuit against the county for wrongful prosecution.

"Why haven't they charged him as fast as they railroaded me?" he said.

I met Juan Rivera this spring in a stark conference room at the State/ville Correctional Center near Joliet. He wore dark blue prison pants, a light blue work shirt and white unlaced high-top sneakers. His black hair was slicked straight back, and he had a trim goatee.

He was bigger than he was the last time I saw him, 18 years ago. He's 39 now, 6-foot-3 and 200 pounds, his arms decorated with menacing prison tattoos. Once we started talking, though, Rivera smiled easily and became relaxed, almost serene, a fact that he attributes to a religious conversion in prison. "The only thing that is incarcerated is my body," he said. "My mind is free here."
The first time I met Rivera was in April 1993, when I interviewed him at the Lake County Jail. At the time, I was the police reporter for the newly opened Lake County bureau of The Chicago Tribune. Holly's murder came to dominate much of my reporting over the next year, and as the story unfolded, I began to have doubts about the case against Rivera.

For one thing, a prosecution witness, who claimed Rivera confessed to him in jail, tried to sell me case documents at a local McDonald's.

"I never touched that girl," Rivera told me when I first interviewed him. Despite the claim in his statement that he had met her through his sister, he now said: "I don't even know her or her family. I'll keep saying I'm innocent, because I am."

Seven months later, on Nov. 19, 1993, Rivera was convicted of murder. While I was hardly convinced of his guilt, I moved on to other jobs and largely forgot about him. Occasionally, though, his incarceration would nag at me, and last fall, after reading stories about Jerry Hobbs, I began checking in with lawyers again and asked Rivera if I could speak with him in prison.

In the small concrete-block conference room, behind two sets of locked gates, Rivera sat across from me as a prison official hovered nearby. When I asked him why he confessed, Rivera said he blacked out and doesn't remember the specifics. "Coercion is just not physical, but it's also mental," he said. "There's different ways to actually break a person down." He added: "I know that it is easy to overbear a person's mind if you continuously barrage them with questions and accuse them. And that's exactly what they did with me."

Rivera moved to Waukegan about a year before Holly's murder, and while he worked a few jobs, he mostly hung around on the streets and got high. He had a minor criminal record and twice tried to commit suicide. On the night of the murder, he was confined to his home by an electronic leg monitor for stealing a car stereo. The monitoring system was supposed to alert authorities if Rivera left his house, though the system was prone to malfunction. He said he routinely violated his home confinement, infractions that were noted by Lake County authorities, who eventually sent him to prison for them. On the evening of Aug. 17, however, records for his monitor show he was at home.
Rivera said he learned about the murder from a friend who was at a party that night near the crime scene. She was the one who noticed one of the partygoers leave and then return later, acting strange. When he was sent to jail that September for violating his home confinement, Rivera repeated his friend's story, putting himself at the party to protect her, because she had an outstanding warrant. His cellmate contacted police, and Lake County detectives arrived to question him in prison on Oct. 2. Later that month, on Oct. 27, with all their leads turning into dead ends, they took Rivera to Lake County and began questioning him intensively.

Three days later, on Oct. 29, investigators directly accused Rivera of Holly's rape and murder. He became agitated and swore and tried to leave the room. Over the course of that night, detectives continued to press him about inconsistencies in his story. Just after midnight, Sgt. Charles Faga asked Rivera, "Juan, you were in that apartment with Holly Staker, weren't you?" Rivera nodded and began sobbing. He then told detectives that he killed Holly, but only after she attacked him with a knife because he refused to have sex with her. (Fagan did not respond to requests for comment.)

Shortly after detectives left the room at 3 a.m., Rivera began banging his head against the wall. One jail official later testified that he was unresponsive and stared straight ahead afterward. He was moved to a padded cell, and a nurse who went to check on Rivera later said he was pacing back and forth, speaking incoherently. The nurse testified that he was in a psychotic state and was "not in touch with the reality of what was going on around him."

Around 5 a.m., investigators called Holly's mother and woke her up with news that they had caught the killer. The rest of the Lake County task force was informed of the confession and told to report to work. When Fagan returned to talk to Rivera shortly after 8 a.m., he described the suspect as handcuffed and shackled but nonetheless coherent and cooperative. The detectives read back the confession that Rivera had made earlier, and he signed it.
But there were problems. Even though Rivera admitted to killing Holly, many of the details in his confession didn't match the crime scene, and investigators thought it was implausible that Holly was the aggressor. They gathered in Waller's office at 9 a.m. on Oct. 30, four days before his election as state's attorney, to figure out what to do next. They decided a fresh team of detectives was needed to interview Rivera again to resolve the discrepancies in his statement.

When Lou Tessmann retired from the Waukegan police in 2005, the Illinois House of Representatives passed a resolution praising his two decades of service. The resolution noted that Tessmann, a former Marine, is "well known for his interrogation techniques on suspects of crimes."

Since then, Tessmann has traveled the country offering seminars to police officers on how to investigate homicides and interrogate potential suspects. "Mr. Tessmann has obtained over 80 homicide confessions during his career with only three instances where he was unable to obtain a confession from a homicide suspect" -- a 96 percent success rate -- according to the Web site of his employer, Wicklander-Zulawski & Associates.

It was Tessmann who was sent in to interrogate Rivera around 11:30 a.m. on Oct. 30, along with Sgt. Michael Maley of the Illinois State Police. In the hour or two before the interview began, Rivera was hitting his head against a glass window and was then on the floor with his wrists and ankles cuffed behind him. Tessmann, however, described Rivera as "very comfortable, very relaxed" during the interview.

Though Tessmann arrived at the police station roughly seven hours before the interview, he testified that he wasn't aware of Rivera's previous confession. (One of his colleagues testified that he gave Tessmann the statement that morning.) He said that Rivera willingly recounted the crime, which then cleared up many of the issues that prosecutors considered problematic. He described how Rivera borrowed a pen to show how he stabbed Holly, and in what was portrayed as a smoking gun, Rivera confessed that he used a mop to bash in the back door to make it look like a burglary. Tessmann said this was the first he had heard of the mop, but a polygrapher testified that Tess/mann told him about it prior to Rivera's confession.
The confession was not recorded, but investigators typed it up and presented it to Rivera, who, according to police, corrected several typos before affixing his signature.

In his closing argument in the third trial, Mermel told jurors that the case basically came down to whom they believed: the police or the DNA evidence? "Is there anything in the makeup of any of those men that would lead you to believe that they were the kind of people who had dedicated their lives to this profession, yet just decided to just frame this poor innocent Juan Rivera because they were tired of investigating and wanted to go home?" he said.

What the jury didn't know was that Mermel had already successfully argued against the admissibility of any evidence that might cast doubt on Tessmann's credibility. For instance, Tessmann said in a 1990 deposition and in an official biography that he earned an English degree from the University of Wisconsin. But the school's 13 four-year colleges have no record of him ever attending. (In fact, he graduated from Northeastern Illinois University.) In 1989, Tessmann and four other police officers were sued for allegedly breaking into the wrong home during a police raid and injuring a woman who was seven months pregnant. The woman's lawyer accused the police of writing reports to cover up their conduct and charged that Tessmann "took the lead in creative drama."

According to documents provided by defense lawyers, a judgment was entered against Tessmann and the other officers for $48,500 in that case, and two years later, another judgment of $71,500 was entered against Tessmann in a case brought against him by a man who was wrongfully arrested for robbery.

A decade later, in 2001, a woman named Colleen Blue was charged with murder after she confessed to killing her newborn. Tessmann, then a commander, said to a reporter for The Chicago Daily Herald, "She told us she had six kids already and just did not want to deal with another one." He added: "She said she gave birth to the baby when she was all alone, put him in the bag and walked off. She told us she could hear the baby crying until she got close enough to the street that the passing cars drowned out the sound."
Charges against Blue were dropped when DNA testing revealed it wasn't her baby.

When I called to speak with him about the Rivera case, Tessmann said that three different juries found Rivera guilty. "The guy is guilty as the day is long," he said, before abruptly hanging up. He did not respond to a written request to answer subsequent questions. Sergeant Maley, Tessmann's fellow interrogator, agreed with Tessmann's assessment. "I can tell you 100 percent that Juan Rivera did the murder," he said. "He told us things that we later investigated that were found to be true that only the killer would have known."

In the spring I went twice to visit Heather Staker, Holly's twin sister. In the first visit, in her apartment on the second-floor above some offices in downtown Waukegan, Staker, a slight blonde, now 30, wore a bright pink sleeveless shirt, a pink headband and pink pajama bottoms covered with images of Tinkerbell. It was, of course, like looking at a grown-up version of Holly, a fact that Heather knows all too well. "I've never been known as Heather Staker," she said. "I'm known as Holly Staker's twin." She described how she and Holly were best friends when they were kids, that they slept on a bunk bed and shared everything. "We always played games on people because they could never tell us apart unless they saw the mole on my back," she said. "April Fool's, we'd switch classes."

By her own admission, Heather has led a troubled life. She left home at 15, has been arrested multiple times, spent time in prison and battled heroin addiction. Recently, she suffered a stroke, which she says may have been brought on by her unhealthful lifestyle. Her two children are being raised by her mother. She told me that she was the one who was supposed to baby-sit on the evening her sister was murdered, but Holly volunteered to take her place. "I've been a screw-up my whole life because of it," she said. "I just try to live day by day."

Heather was an important witness in Rivera's 2009 trial, testifying that she and Holly were forced to perform oral sex on a friend's brother when they were 8. She also told jurors that they had shown each other how to masturbate. Prosecutors did not present other evidence that Holly was sexually active.
When we talked, though, Heather said it was simply not true. "We were not sexually active," she told me, although she did not deny that they were abused earlier. Still, she made it clear that she had no doubt that Rivera killed her sister. When I asked about the sperm that doesn't match Rivera's, she suggested that maybe someone else was involved along with him, or maybe her sister was raped by another man before the murder.

"Why would you confess?" she said. "If I am getting charged with murder, I am not going to fess to something I did not do and then explain the whole night and how I did it and why I did it and everything like that if I didn't do it."

Earlier this year, Heather got a tattoo on the back of her neck, next to the mole that distinguished her from her sister. It says, "My Missing Half" and "Holly," with wings on the side and a halo above it.

"I think about her a lot," she told me the last time I saw her. She had dyed her hair pink since my previous visit. "I wonder how it would have been if she were here. You know, right now. The two of us running around, you know what I mean?"

On a chilly May morning, on a street not far from where Holly was murdered, Jennifer Linzer, from the Center on Wrongful Convictions at Northwestern University, and Cynthia Estes, a private investigator, visited the home of a man who was arrested for sexually assaulting a boy shortly before Holly was killed. They began by asking what he remembered about the evening of Holly's murder, which wasn't much. They talked about his criminal record, and he pointed out that he liked boys, not girls. Then they asked him if they could get a saliva sample in order to eliminate him as a possible suspect through DNA testing.

"I said, 'This case is probably coming around again, and we are going to give a list to the cops of people who they should look at and test,' " Linzer said. "He said: 'Great. I'll do it.' "
Rivera's lawyers would like to obtain a new trial with a different judge. They believe the judge who presided over the previous three trials unfairly favored the prosecution and should not have allowed prosecutors to introduce evidence about Holly's alleged sexual past, among other supposed judicial errors. But even if Rivera is granted a new trial, with a new judge, there is a realization among his supporters that he could once again be convicted. The crime is simply too heinous, the confession too powerful.

Perhaps the only way to win Rivera's freedom is to prove that someone other than Rivera killed Holly Staker. Which is where Linzer comes in. The wife of Northwestern's provost, Linzer began working as a volunteer at the center a decade ago, after she grew restless as a stay-at-home mom. Before the end of the year, she was working full time, organizing files, directing student volunteers and reviewing innocence claims from inmates. She heard about Rivera's case and eventually began speaking regularly to him on the telephone.

When Rivera lost his third trial, Linzer compiled a spreadsheet of potential suspects and, along with Estes, set about trying to find a killer by asking potential subjects for DNA samples. There are plenty of leads within blocks of the murder. Police reports show that at least two other men told friends that they killed Holly, one of them saying he stabbed her so many times he got tired. There were also at least three convicted sex offenders in the neighborhood, one of whom was convicted of molesting his 11-year-old stepdaughter, and around the corner was a boarding house full of transients. An elderly man a few blocks away supposedly drove around the neighborhood naked and masturbating. When police arrived to interview him, there was a picture of Holly and an envelope with her name on it in his house. A high-school senior had a picture of Holly, too, tucked in his wallet.

"Either this crime touched a lot of people, or there is an inordinate number of perverts in town," Linzer said.

Typically, she and Estes show up at a suspect's home and simply ask them for a saliva sample. If that doesn't work, they resort to other measures. In one instance, they retrieved a cigar butt that a suspect discarded in an alley. In another, they saved a plate of discarded chicken wings that someone had eaten.
Even if Rivera's defenders don't find the killer, Rivera told me he remains optimistic that he will ultimately be freed. "I believe in God," he said. "I believe that everything comes around. . . . Things should come correct. I don't know when it will happen, but I do have faith that one day I will go home."

If Mermel is worried about Rivera's walking free, he doesn't show it. He says that Holly Staker's killer is already in prison, that the sperm found inside her is a red herring. "People love to link the murder and the sex," he said. "It's like peanut butter and jelly." It was his job, though, to separate sex and death, to "look at the evidence," as he put it, "and go, 'What does this add up to?'"

CONVICTION COUNTY: Andrew Martin in Lake County, Ill. nytimes.com/magazine