The end is near for ‘Breaking Bad,’ and it all boils down to chemistry

By SARA SMITH
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Walter White treats the world like his personal chemistry set, but when he needed a street name for his criminal alter ego, he turned to physics.

He has relished his menacing nickname. During one of “Breaking Bad’s” spaghetti Western-style desert showdowns, he made sure his reputation had preceded him.

“Say my name,” he commanded his new business partner, who wearily replied, “Heisenberg.”

After five relentlessly grim seasons, AMC’s critically acclaimed drama ends Sunday, and it won’t be with a family picnic in the sun. “Breaking Bad” finally won its best drama Emmy last weekend, adding to the fan frenzy and endless speculation: Will Jesse (Aaron Paul) blow up the bad guys in a meth lab? What about the poison cigarette Walt made? Will science come to the rescue one more time?

The show’s influence has been slowly building since 2008, when Bryan Cranston first brandished a gun in the New Mexico desert in his button-down shirt and tightie-whities.

Ratings have been gradually building — 8 million viewers are expected to tune in for the finale — but “Breaking Bad” also helped change the equation from appointment TV to marathon catch-up sessions. The deeper fans got into their Netflix queue or stack of DVDs, the less they saw of that desperate high school teacher battling lung cancer and more of the cold-blooded mastermind Heisenberg.

The real Werner Heisenberg was an early 20th-century physicist and pioneer of quantum mechanics. His work might hold answers to Walt’s motivation — and maybe even what will happen Sunday night.

“What he’s most well-known for is something that’s called the Uncertainty Principle, and I think this is probably why Walter White chose that name,” said Daniel McIntosh, an astronomy professor in the physics department at the University of Missouri-Kansas City.

McIntosh, who is such a big “Breaking Bad” fan that he “twists everybody’s arms” to get them to watch it, said Heisenberg’s Uncertainty Principle is about understanding the nature of matter.

“Basically, when we’re thinking about little particles, which is what all matter is made of, we can’t know exactly where the particle is and how fast it’s moving — or what its energy is — at the same time,” he said.

“No matter if we make the most precise measuring machine in the history of the universe, we still can never know where the particle is and how fast it’s moving. It’s a fundamental aspect of the universe.”

We can never know? That doesn’t sound like a motto for a guy whose control freak tendencies take center stage every week.

“There’s something mysterious about the true nature of matter, and maybe he’s trying to be mysterious by using that name, that he’s suggesting that you can’t know him with certainty,” McIntosh said.

One thing is certain: “Breaking Bad” creator Vince Gilligan didn’t just Google the phrase “famous scientists” to choose that name. Gilligan has spent five years scattering clues for fans like breadcrumbs in the dark forest.

“Breaking Bad” seems to be headed for a showdown involving Walt, his old partner Jesse and neo-Nazi gangster Jack Welker’s crew, who have been making Jesse cook batches of the good stuff while shackled to the ceiling.

Werner Heisenberg had some dealings with Nazis himself. He wasn’t a fan of their ideology, but in 1939, after a Gestapo questioning session, he agreed to join the German push for an atomic bomb. His notoriety made Robert
Oppenheimer’s team work even more frantically on the Manhattan Project.

Eventually, his pessimistic report to Albert Speer threw a wet blanket on the project. Heisenberg claimed later that this was a ruse, because “the idea of putting an atomic bomb in Hitler’s hand was horrible.”

Some historians take him at his word, but after examining Heisenberg’s post-War debriefing by the Allies, some scientists determined he couldn’t have pulled it off if he’d tried. Heisenberg died of cancer in 1976.

Walt, who looks like he’ll be dying of cancer soon himself, was last seen in a New Hampshire bar, watching Charlie Rose interview his old friends Elliott and Gretchen Schwartz. They’re on TV to distance themselves and their company from Walt, now that he’s a notorious drug lord.

“The sweet, kind, brilliant man that we knew long ago — he’s gone,” says Gretchen.

Walt doesn’t even finish his drink before bolting out the door. What got him off that bar stool and into a car with a machine gun in the trunk is still unclear.

Maybe he’s going to confront the Schwartzes again about getting the credit he deserves. Maybe the news that Blue Sky meth is still on the market made him realize Jesse is still around and needs killing, or even rescuing. Maybe he doesn’t appreciate being denied the spoils of his life’s work a second time.

The neo-Nazis, who took $70 million of Walt’s money and killed his brother-in-law, probably top his take-care-of list.

“Those stupid white supremacist guys have to go,” McIntosh said, echoing popular sentiment. “And anybody that’s gotten in Walter White’s way has been defeated.”

Walt might have to get in line. Jesse, who has been force-fed misery for the show’s entire run, is a ball of rage trapped in the gang’s midst. He’s seen Walt kill using the ingredients at hand. And they aren’t concerned with wearing gas masks in the lab.

Of course, no amount of shootouts or toxic fumes will keep Walt’s wife, Skyler, out of prison. Would Walt turn himself in to save his family? He’s wearing the black hat again, but we still don’t know his true nature. Which brings us back around to that aggravating Uncertainty Principle.

“It bothered Einstein so much that he said, ‘God doesn’t play dice,’” McIntosh said. “But Heisenberg was right and Einstein was wrong.”

Where to watch

The series finale of “Breaking Bad” airs at 8 p.m. Sunday on AMC, followed by an hour of analysis on “Talking Bad.”

What’s a “Felina”?

The title of Sunday’s episode is an anagram for “Finale,” but it’s also three chemical elements, scientific names Fe (iron), Li (lithium) and Na (sodium). Those are essential ingredients in blood, methamphetamine and tears.

A dying fugitive walks into a bar …

The New Hampshire bartender Walt met last week flipped the channels on the TV for him, right past a rebroadcast of a 1998 college hockey game. The Denver Pioneers lost to the Wisconsin Badgers 7-4. Denver’s mascot was once Pioneer Pete.

Badger and Skinny Pete, fans will recall, are Jesse’s surviving lieutenants, last seen discussing a “Star Trek” script idea involving a rigged pie-eating contest. Chekov cheats by having his stomach contents beamed into outer space.

Chekhov’s Machine Gun

Speaking of Chekov, keep your eyes out for Vince Gilligan’s last shot at using the narrative device known as Chekhov’s Gun. Russian short story master Anton Chekhov famously declared, “If you say in the first chapter that there is a rifle hanging on the wall, in the second or third chapter it absolutely must go off. If it’s not going to be fired, it shouldn’t be hanging there.”

“Breaking Bad” Chekhov’s guns include a single hollow-point bullet, a box cutter, a lily of the valley plant and most recently that M60 Walt picked up at a Denny’s.

The most polite sociopath on TV
Todd Alquist, played by “Friday Night Lights” alum Jesse Plemons, has been giving us the creeps since he appeared as an eager-to-please exterminator for Vamanos Pest Control. He’s known online as Dead-Eyed Opie, Big Head Todd, Todd Bundy and Meth Damon.

“Just so you know, this isn’t personal,” Todd said in the penultimate episode during a cold-blooded execution. And that was after he guaranteed Skyler White wouldn’t squeal to the DEA by appearing in a ski mask at her baby’s crib, then patting her tenderly on the shoulder. “You really don’t want us coming back.”

Todd’s ringtone is Thomas Dolby’s “Blinded Me With Science,” so here’s hoping someone throws a beaker full of acid in his face.

And he’s still mad about it

A long time ago, Walt founded a company called Gray Matter Technologies with his college friends Gretchen and Elliott. He was dating Gretchen, but walked out on her after a crisis of confidence brought on by meeting her privileged family. He sold his share of the company to Elliott for $5,000 and ended up as a high school chemistry teacher. Gretchen and Elliott got married, and in 2010, Gray Matter, making pharmaceuticals using Walt’s breakthrough techniques, was worth $2.16 billion.

They offered to pay for Walt’s cancer treatment, but he turned them down. Instead, he started making meth to pay his medical bills, but he told his family he was taking their money after all.

After his criminal enterprise was exposed, Gretchen and Elliott appeared on TV to disavow any real ties between Walt and Gray Matter, saying his only real contribution was to name the company.

So you do have a plan! Yeah, Mr. White! Yeah, science!

Just some of the MacGyver chemistry tricks Walter White has pulled out of his hat:

• Synthesizing thermit for a bomb from the aluminum powder inside old Etch-a-Sketches.
• Killing two bad guys by locking them inside his RV after creating a deadly cloud of phosphine gas.
• Jump-starting that same RV with a makeshift battery made from sponges, brake pads and loose change.
• Blowing up a jerky stranger’s car engine with a well-placed windshield-cleaning sponge.
• Escaping plastic handcuffs by melting them with an electrical arc after chewing through a coffee pot’s power cord.
• Erasing the incriminating hard drive of a laptop in police custody by creating a giant electromagnet from 42 car batteries.

Who’s Wyatt Earp on this show?

“Scarface” is how the show’s creator described Walter White at the end of his journey into evil. Now Walt’s got nothing to lose and a big gun, so he might go out in Al Pacino, say-hello-to-my-lil-friend fashion. But between bouts of coughing up blood in the desert, a gunfight of OK Corral proportions and a vendetta ride on his agenda, he’s starting to look more like Doc Holliday than Tony Montana. Holliday spent his last years on the run from the law, but he died peacefully in bed a free man.

Who’s the ricin for?

We saw Walt retrieving a cigarette filled with deadly poison (he made it himself) from his baby daughter’s room during his return to Albuquerque, so he probably intends to use it. He could take it himself, march into DEA headquarters to spill his guts and die a few days later. Or he could meet with Lydia “I’m going to need more Stevia” Rodarte-Quayle, the distributor who wants his wife dead, and slip it in her chamomile tea. After seeing her step over fresh corpses in her red-soled Louboutin stilettos, no one would be sad to see her go.

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