

Chapter 1
excerpted from the novel

Powerball 310

K.T. Reid

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All men are equal: nation, race, and creed,
United in a brotherhood of greed.
How well they plot to carry out their schemes,
But find it's not so easy as it seems.



Chapter 1.

The afternoon of Sunday, July 3 was hotter than usual. Four men were meeting in the dingy interior office of an auto body shop in a blue-collar neighborhood on the west side of Philadelphia. The shop sat in a dirt lot full of junked cars with meager prospects for repair. The place was a dump, but they were sure there were no security cameras and no one was watching.

The men sat around a painted steel table marked by cigarette burns and coffee mug rings. Pale green concrete block walls were decorated only by a swimsuit calendar displaying the beauty for last December. A window-mounted air conditioner set on max cool couldn't keep up with the heat. But it wasn't just the heat that made them sweat: this was the last meeting before D-Day.

In spite of their serious task, the afternoon started with a round of laughter. Rodger McCormack was explaining his excuse for being away from home on the holiday weekend. "I told my daughter I was going to the Math Club. Isn't that what we are all about?"

Trevor picked up the joke, "It's all about numbers, isn't it? I do numbers: a million at a pop, certainly a couple billion by the end of the day." Trevor Harding ran a bank in Philadelphia. He was in his early 40's, younger and better looking than Rodger, and rather better dressed.

To Rodger's right, Amrik Salahuddin laughed, "This is applied number theory. Our gross will be over \$300 million. I can do that kind of math."

Rodger explained, "Amrik has to laugh at my jokes, he works for me at the Lottery."

Amrik shot him a cynical look. "Not for long if we pull this off." Amrik was a young man, in his mid-twenties,

casually dressed, but in expensive clothes. He was second generation Pakistani, with dark skin, a movie star profile, and brilliant white teeth. Amrik was a computer programmer.

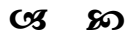
Rodger McCormack liked Amrik, and trusted him, or trusted his apparent love of the good life. Rodger was in charge of security at the Pennsylvania Lottery; his main responsibility was on-line games, including the multi-state Powerball lottery. Rodger was in his fifties: thick, graying sandy hair, bulldog jowls, a spare tire, and a florid, friendly Irish complexion. The banter went on. The men spoke excitedly, not because of coffee or cocktails, but because of the anticipation of winning a vast sum of money.

The fourth man sitting several feet back from the table with crossed arms finally spoke up. "There are numbers larger than any of you can comprehend."

Amrik flashed a smile, ignoring the veiled insult. "Yeah. That's where you come in, professor. Do you have the magic numbers?"

The man made a dismissive gesture. "The numbers will be ready when you are."

Rodger smiled, "Etienne, join us. We have a lot to talk about." The fourth man shrugged and pulled his chair closer. Rodger continued, "Maybe this is just a 'math club'. Today, we are speaking only in hypotheticals – possible scenarios. We are exploring." The other men listened. "Suppose ..." he began.



The hypotheticals – meaning idle speculation about what might happen – had begun nearly a year earlier when Rodger met the flamboyant French mathematician, Etienne de Villiers, at a number theory conference held at the University of Pennsylvania. De Villiers claimed to have proven

the Riemann hypothesis, an important, but extremely arcane theory on the distribution of prime numbers. He had posted his proof on the Internet; Rodger had actually tried to follow it, relying more on leaps of faith than his ability to duplicate any part of it.

Rodger routinely kept company with a few others who shared his amateur interest in math. To outsiders, this group of braggarts spent an inordinate amount of time playing poker – “applied probability” as they called it. De Villiers would not normally fraternize with someone like Rodger, but flattery went a long way with the Frenchman. Few others at the conference had even attempted to read his proof and none was willing to hear him go on about its importance.

Rodger invited Etienne to dinner at the conference hotel’s deluxe restaurant; de Villiers picked out an expensive wine. By the time the sommelier opened the second bottle they got to talking about lottery security.

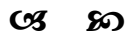
Rodger complained about how the state’s home-brew security system seemed to bog down – something to do with the way it used prime numbers to encrypt communications between the merchant point-of-sale terminals and the main computer that handled on-line games like the Powerball lottery. He joked that de Villiers should tell them what to do, but as soon as the words were out, Rodger regretted insulting one of the world’s top theoretical mathematicians with a suggestion that he soil his hands with applied work.

Quite to the contrary, de Villiers became very interested in the problem. He asked insightful questions about the security system and a processing delay that plagued it. Rodger followed his reasoning. By the time the second bottle was finished it was clear that de Villiers had ideas not only about how to fix the problem but also about how to make it a whole lot worse. The implication was not lost on either of them: enough delay would effectively allow some-

one to post-date a lottery ticket after the drawing, guaranteeing a winner. They eyed each other over dessert, wondering if the other had come to the same unspoken conclusion.

At the end of the evening, de Villiers suggested that they get together again. He was visiting for a year in Washington D.C., only a short drive away and Philadelphia had more character than the nation's capital. Rodger agreed that they seemed to have found something in common worth pursuing.

Over the course of the next year, they traded e-mail on the subject, always encrypted for fear of spies. By the time Rodger had recruited Amrik and Trevor, the plan appeared solid, although not entirely foolproof.



Amrik grew impatient for his turn to enlighten them. When Rodger paused he impulsively filled in, "When the jackpot is pushing three hundred million bucks, people go crazy, the merchant traffic is insane, and things naturally slow down."

Trevor put a hand on Rodger's arm, "Wait a minute, I was asked to provide specialty banking services. I am lost with this." He wiped the sweat off his forehead with the back of his hand.

Rodger shook his head and replied, "Really, it's not all that hard. Amrik, explain how we get our winning ticket."

Amrik cleared his throat. "You know the cutoff to buy a ticket here in Pennsylvania on the day of the lottery is 10 p.m., right? But the machine will still generate a valid ticket later than 10 p.m. as long as the ticket is already in the system. In other words, the transaction was started before 10 p.m." His large brown eyes blinked as he looked from one to the other of them. "Are you with me so far? Good. Well,

Rodger figured out that sometimes a ticket bought just before ten might not pop out right away if the system is still using its encryption codes to validate the tickets." He glanced toward Etienne. "That's where our professor comes in. The codes are based on prime numbers."

Turning in Trevor's direction, he said, "Just so we have a level playing field, a prime number is an integer with no divisors other than 1 or itself, which is trivial. So 15, 16 and 18 are not prime, but 17 and 19 are prime, because no whole numbers can be multiplied together to make them."

Trevor smiled thinly. "Amrik, I run a bank. I know what a prime number is."

Amrik sighed, raising his hand.

Rodger explained, "Using de Villiers' scheme that looks for gaps between the primes, the computer spends extra time just handling security. The delays all add up. It occurred to us that there were conditions under which completion of a ticket could be stalled a long time – long enough in fact to find out what the night's winning numbers were."

Amrik took over. "And, the ticket seller can edit a ticket if there is a mistake, like too many numbers, or if the slip scanner results are not clear. What's important is this: lottery sales continue until just an hour before the drawing of the winning numbers on TV. With a ticket validation delay of at least sixty-three minutes, we would know the actual winning numbers, and it might be possible to 'edit' a ticket and have it count as a real winner. Sort of like you have a little time machine." He grinned.

Trevor raised an eyebrow. In his mind this scheme was not as simple as just helping a friend whose job prevented him from playing the lottery. "You sure this doesn't break any laws?" He searched their blank faces.

Amrik continued when Rodger failed to answer. He felt a trickle of perspiration run down the back of his neck.

“Not that I know of. I mean, there are guidelines for running the code, but if we don’t actually *change* the code, we ought to be okay.” He paced the room as he continued speaking. “Well, this is not what is actually intended for the lottery, so it must be against some bureaucrat’s rules. And maybe it can’t happen anyway. I have done a few tiny tests to see how sensitive it is and to see if it raises a red flag on the security monitor. The answer so far is ‘no’ and ‘no’, meaning no, I can’t do much to increase delay and no, it isn’t caught by security.”

Etienne gave a short snort of contempt. Rodger replied, “There are a lot of prime numbers and the computer is very fast. We are not tinkering with the computer, exactly, so we can’t just make it do what we want.”

“That is where I come in,” Etienne pronounced decisively. All eyes turned to him, but before he could say a word, Rodger again raised his hand. “A bit of background. Professor de Villiers studies number theory. He claims to have proven the Riemann hypothesis.”

“Not claims to prove. It *is* proven, Rodger,” Etienne corrected, his tone of voice revealing a distinct irritation, as if Rodger were a beginning student who failed to grasp a simple algebra problem. “But it takes better than a fool to understand the proof and most of my colleagues are not able to take it on. I consider your little problem to be an application of my work, a field trial, in effect. As Rodger says, there are a lot of primes, but in some places, there are not as many as you might expect. Riemann spoke to that.”

Amrik sat down again. He took out a deck of cards with the mark of the Trump Casino in Atlantic City. The deck had a hole drilled through it to prevent it being used again in casino play. Amrik began absently dealing blackjack hands. Trevor frowned at the odd behavior. Rodger spoke, “Amrik, can you concentrate on our business?”

“Be cool, I’m listening. Hand?” Amrik looked from one

face to the next. Rodger shook his head, but Amrik dealt him anyway. Despite himself, Rodger lifted the corner of the cards to look and scratched them twice with his forefinger. Amrik dealt him another card face up. "Bust?"

Rodger grimaced. "I'm not sure what our young friend is trying to prove, but you need to know that 'zeta' was Riemann's name for the fudge factor that predicts exactly how many primes there are less than a certain number."

Etienne quickly added. "And the zeta is what allows us to produce the delay we need to post date our winning ticket. It's that simple."

It was obvious that Trevor grasped little of what had been said. "Simple to you, maybe. I still don't quite get it," he said.

Amrik flipped through the deck, pulled out five cards, and spread them face up on the table in front of Trevor. They were a full house – a pair and three of a kind. He took Trevor's hands and held them like a window over the cards. "The security software is old. This is how it reads numbers: just what is in the window, only so many cards." He took another card and used it to slide the poker hand to one side. "The cards are still there, but now one is outside the window so you don't read it. You see a different poker hand – two pairs. That is how we will use the professor's numbers: find places in the computer where the numbers we want are almost there, shove a few zeroes in front that nobody will see, and bingo."

Trevor shook his head. "Whatever. I trust you guys to know the technology. As long as it is legal, I can help you." He didn't seem convinced. "Of course, we will be cautious. A lot of money is involved. I understand that."

"Rodger and I have worked it all out. It is simple, and the time is now. Trevor, you are a banker, what do you do for a client that has millions of U.S. dollars and values privacy a whole lot?"

Trevor pushed back in his chair. "Well, it is complicated. The money has to be legitimate, of course, there are a bunch of federal safeguards against transferring illegal funds." Only Amrik had the faintest smile on his face. Trevor paused and declared sternly, "You can't launder money, but legal funds are good anywhere in the world. I'd recommend the Bahamas: good banks, interest isn't bad, no taxes, discreet. Legal funds of course."

Rodger quipped, "Right. Legal. Nothing we are talking about breaks any federal laws." The ghost of a smile played across his lips.

"We can set up an offshore trust, that's probably the best option." Trevor interjected.

Rodger continued, "But what we have is a peculiar problem. It isn't a matter of law exactly, certainly not U.S. government law. Suppose Amrik or I had a winning lottery ticket, but our employment agreement says we aren't allowed to play the lottery because of our job. Still, the money is up for grabs."

Trevor responded. "If it is legal, I can open a Bank of Pennsylvania account and then work with other, offshore banks to legally transfer funds to them. Sometimes there are tax issues, but it is frequently done."

Amrik smiled, "And the money is still good in the U.S.?"

"Yes, just like a foreign tourist's money. Maybe a few taxes, a few fees. Like I said, it is done." Trevor paused. "The ticket, though, has to be claimed and presented by a legal person. These are not customary banking services." There was silence. Trevor looked enquiringly at Rodger McCormack who seemed to be preoccupied.

After a long silence, Etienne, the fourth man, reached out and slapped his palm on the table. "We are getting ahead of ourselves: first, we must have a winning ticket. This is an opportunity to put number theory to the test, and you will see, my idea will work. But why win just ten or

fifteen millions to be split so many ways? The prize money now is enormous; rarely does the lottery grow so big. If young Amrik is ready, I say let's go. We will worry about the fate of the money later."

Rodger raised a hand, "Proof of theory is important to you, Etienne; the fate of the money is important to everyone else. Once we have a winning ticket, what do we do next? Which of us is going to run it in?" They all looked blankly at each other.

Rodger said, "Certainly not me or Amrik – we're insiders. It would call way too much attention to us and it would be instantly disallowed."

Etienne scoffed, "I would love to pick up a few hundred million, but I have a little visa problem. Between your IRS and my *fisc*, there would be nothing left. Why not have the banker himself turn in the ticket?"

Trevor laughed without humor. "Even if I didn't care about publicity, I'm going through a divorce. Until I am completely free, half of what I have is hers – the bitch has a good lawyer, and she is greedier than the IRS. I can't move an inch until everything is settled. Wait a half year and then I can help you."

"Can you find someone else?"

"I don't know. Maybe a buddy. I've got a few contacts." Trevor pointed at Rodger. "It's not really an issue until the money is in the bag."

Rodger clapped his hands. "It is almost in the bag. We feel confident Dr. de Villiers' plan will work. The bigger worry is what happens to the ticket and the money once we have it. Suppose your fees were a quarter share of the ticket. Could you manage everything from there on out? The current jackpot is going to be ... "

"We project \$310 million," Amrik filled in. "Based on the previous jackpot and the history of last minute tickets. If you take cash value instead of the thirty-year payout, it's

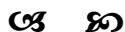
less money, and mandatory federal withholding taxes take a chunk, but still, there'd be better than \$100 million in the bank. If we have the right bank."

Trevor did some quick mental arithmetic. He smiled, "I think that will cover the fees. I have our guy, my friend Sidney. I'm sure he would be happy to run for \$100 grand. What is the timing?"

Rodger sighed. "Well, it's now or never, right lad?" He pointed a thumb at Amrik.

Trevor then outlined what would be needed: a domestic trust to pay taxes, then to invest in offshore trusts controlled by each of them. Amrik asked whether there should be a contract – something written – to keep everyone honest. Rodger and Trevor both held up their hands in refusal. Etienne shrugged. "Naturally, we are all honest, but I think no one is going to sign his name."

There was a long silence. Amrik dealt a few blackjack hands to no one in particular and the air conditioner rattled behind them. Finally Rodger spoke, "It will happen or it won't. If Etienne finds his magic numbers, Amrik and I will have a go at it. If we have a winning ticket, Trevor will take care of it. If it fails, we forget it. Agreed?" They shook hands all around and filed outside.

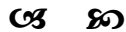


The setting sun glinted on the lot of junked cars. The heat was unpleasant. Amrik approached Etienne who had opened the doors of his dusty, white Dodge Neon, to air it out and said, "Whatever happens, you gotta ditch that ugly ride." Etienne looked at him blankly. "You need class with muscle, like that." Amrik pointed to his own midnight blue BMW.

Etienne shook his head. "In France, we have an expression, in effect, 'big car, little cock.'"

Amrik chuckled. "Yeah, but my saying is 'fast car, fast women'. I don't think your mother would ride in your car."

Etienne regretted tolerating familiarity from a subordinate. He gave an order, "You will meet me Monday afternoon, Starbucks in Chestnut Hill, 1400 hours. Bring your notebook computer."



Rodger parked behind a row of modest brick-front two-story town homes built around 1940. It was late – almost 2 a.m. He didn't want to wake his daughter or her baby. He carefully let himself in the kitchen side door. The room was lit only by the fluorescent light at the back of the stove. He went to the pantry cupboard where he retrieved the large gin bottle from behind glass doors. He poured two inches into a water glass.

The evening had gone poorly. After the "math club" meeting at the auto wrecker lot Rodger had gone to play Texas hold 'em at a club he favored in South Philadelphia. All during the game, he felt his luck was going to change; it never did. Promising hands backfired, but he stuck it out and around midnight, he had lost maybe a thousand dollars. Finally he had pocket kings and a king on the turn, but a crazy kid, a newcomer, went all in and filled an inside straight. Rodger had written some checks that probably were going to bounce tomorrow.

He drank off half the gin. A note on the kitchen table read "Dad – dinner in the fridge." It was signed with a heart. Sweet, Rodger thought, shaking his head. He opened the refrigerator and took out a plate of food covered with plastic wrap and set it on the Formica counter top next to the old porcelain sink. Melissa had made meat loaf; he was touched. She was a good kid who had made some bad choices and ended up back at home. Never had a husband,

but she sure had a baby. At least she was trying hard to get a professional credential, raise a kid alone, and help Rodger with the house. He knew *he* wasn't trying very hard; she deserved better. He stuck the plate in the microwave.

There were mashed potatoes and broccoli. Rodger picked up the slice of loaf with his fingers, and had a bite. It had good flavor, but his stomach was in a tight knot. He dipped into the rewarmed gravy and potatoes and ate a little more. Then the edge of his hand wiped the rest of the food into the garbage disposal. He ran water on the plate and left it in the sink. It looked like he had eaten it all. Under the heart on her note, Rodger wrote "thanks!"

Rodger refilled his glass, flipped off the kitchen light and slowly walked to the corner of the dining room where he kept his home office. He sat down heavily in an oak chair.

After a long minute, he fished a small silver cigar-shape from his pocket. It was a personal dictation machine that he had brought to the meeting that afternoon. He opened the case, flipped out a miniature tape cassette, held it between his thumb and forefinger, and shook his head. What had he gotten himself into.

The dining table was old walnut veneer with an ornate edge. The two halves could be pulled apart to accommodate an extra leaf so it could seat more guests. A long time since that had happened, Rodger thought, as he jerked on one end of the table and retrieved a folder from the gap exposed in the middle. Rodger scribbled a few notes, scotch-taped the miniature cassette to the sheet of paper, and replaced the folder in its hiding place.

He sat down again, slowly drinking off the rest of the gin. He forced himself to deal with the reality of a very bad situation. All the past year – while de Villiers was working out the scheme to fool lottery security, even after Amrik had gotten involved as a needed insider with technical skills –

Rodger had kept a file, persisting in the delusion that he was just doing his job, uncovering a weak spot in security. He realized now it would be a tough sell to convince his superiors that he was really a good guy when he was so deeply involved in the plot. A key part of the delusion was thinking that the whole scheme was de Villiers' idea.

Then there was the matter of money. Rodger was pretty much broke. He owed money on his house, his car, his credit cards, his gambling debts, everything. He had promised Melissa he would pay for her paralegal degree. He wanted to do that much, help her get on her feet, but he wasn't sure he could with what little he had. The gambler in him needed a big win.

Rodger eyed his empty glass. He had pretended that nothing would come of the lottery scheme and so he had never confronted the question of whether it was right, whether he was betraying his employer's trust, or what might happen if he were caught.

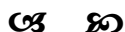
Now it looked like the scheme might work. Was Rodger going to play his hand or was he going to fold?

He rose absently and wandered to the corner of the room where a gilt-framed portrait of the Virgin Mary had been carefully placed to be a part of family life without being too obvious to visitors. Rodger studied the kind, luminous face. In the near darkness, the portrait looked a lot like his dead wife. It was her family heirloom. Her name was Mary Pat; another Mary, that was almost too much. Rodger remembered that she actually prayed out loud and he strained to hear an echo of her words, but the room was silent.

He realized that the two Marys had been watching him for the past three years, watching him fail. He hadn't looked after the house or the garden. He hadn't even looked after his only kid; he'd let her get into trouble because he wasn't there when she, too, was grieving. He

wanted to call it bad luck, blame someone else, but it was he who had squandered life. Now there were no moral choices left.

Grimly, he toasted the Marys with his empty glass. It was 2:30 in the morning when Rodger finally understood what it meant to be beyond salvation.



Monday was a holiday, Independence Day. Because of the neighborhood parade, it took Amrik some effort to find a place to park in upscale Chestnut Hill. He found the Starbucks coffee shop and searched unsuccessfully for de Villiers. Amrik was only ten minutes late, no big deal, so he ordered coffee and sat on the bench outside watching thirty-something moms pushing expensive baby carriages and chatting into cell phones. Another ten minutes passed and he began to be annoyed. He'd had to make excuses to his parents why he couldn't be there for the holiday.

A waiter came with a slip of paper. "Someone called. There is a message." By way of pointless explanation, the waiter said, "He described you." Amrik shrugged and looked at the scrawl on the slip: a phone number. Amrik dialed on his cell. A voice answered telling him to go to another coffee shop about three blocks away. Amrik protested to a dead line, shouldered his notebook computer case, and headed down Chestnut, his annoyance mounting.

After he had only gone a block, de Villiers whistled to him from a side street. Amrik was even more annoyed, but joined him. "What's up with all this? Where were you? I've got work to do!"

Etienne smiled thinly and touched a finger to his lips. "Shut up, Amrik. We will sit over here. He pointed to a bus stop bench. You wouldn't know if you were followed, but I would. Besides, Starbucks is full of wi-fi. They have a cam-

era, but you can't see it."

"You're a crazy fucker. I don't like to drag around the city on a hot day. Besides, who would follow me?"

Etienne just smiled. He pulled out a small Swiss Army style pocketknife that opened to reveal a computer memory stick. "Have some zeta."

Amrik nodded, opened his notebook computer and connected the memory stick. While Etienne watched, Amrik opened a professional program editor that displayed Etienne's files and several others in columns, highlighting the parts that were the same. Amrik was trying to find a pattern. "Looks like we have a dozen likely candidates." He unplugged the Swiss Army knife memory stick and handed it back to Etienne. "You know, I can't make any promises for this."

"Yes, I know *you* can't promise." Etienne replied "But I can. You only look at numbers and numbers and numbers. There is a little bit of theory here, too. If this works, it will prove at least to you that Professor de Villiers knows his stuff, eh?"

"Yeah, right. I'll show it to Rodger, see what he thinks."

"Don't bother. He's an amateur. If he backs down it will be because he is afraid, not because he doubts the math."

"Yeah. He has been hard to read lately. He is the only one who can pull the access we need; there's a kind of electronic interface key that isn't going to be easy to get." Amrik mused. "I guess we really only get one shot at this."

Etienne placed a heavy hand on Amrik's shoulder. "*Ne merdez pas,*" he muttered under his breath. Then louder, "Don't fuck it up." He pocketed his memory stick and was about to leave. "And one more thing. You can say I am just a crazy French mathematician, but *m'ami*, I know the human animal, too. Rodger is not a reliable person. He has stupid ideas of right and wrong; he worries about loyalty and duty.

Until we have the money. Money tranquilizes the American mind. I know he wants the money. Rodger will be very dangerous if the scheme falls apart.”

Oblivious to the holiday crowd, Amrik continued matching patterns until he felt more confident. No shit. It would only take a short line of leading zeroes to maximize the delay. No numbers changed. Not a real hack. Hardly against the law. Rodger will be pleased that Etienne’s scheme might actually work.



Late Monday afternoon, Amrik was at his office, relieved that since it was a holiday, no one else was around. He had been looking for Rodger all day – he had promised to meet him. Where is he, some fucking barbecue? Amrik pictured portly Rodger swilling beer and chewing a pork rib. His irritation contributed to an unaccustomed gnawing anxiety. The numbers Etienne de Villiers had delivered earlier seemed charmed: with only a shift of a few decimal places in the input seed, the numbers produced a real starvation slowdown in the test run Amrik had tried. The crazy Frenchman may actually know what was going on with the prime number equations.

Only Rodger could pull this off, though. Only Rodger had a prayer of getting access to lottery merchant terminals without a blatant paper trail. Amrik knew what had to be done, but he himself wasn’t high on the trust ladder within the Penn Lottery organization. He resented the phony emphasis on seniority.

The time seemed as ripe as it was going to get, but Rodger wasn’t answering his cell phone. Three hundred and ten million dollars. Damn! Of course that was only a fraction of the money that went through the multi-state lottery every year. Amrik only wanted his tiny share.