Practical Applications of Game Theory

A Novel by A. T. Breslin
Author’s Note

This story does not take place in the universe as we know it, but in a reasonably close parallel one. The prisoner’s dilemma is the most famous example from the realm of mathematics known as game theory. As such, Remy Martin, the game theorist who finds himself at the very center of it, would probably realize that this is far too convenient, and that he must therefore be a character in a novel, subsequently facing an existential crisis. He’s very clever and would figure it out. For the sake of spinning a good yarn, we just have to pretend that the game theorists of this world never used the specific example of the prisoner’s dilemma to illustrate this type of conflict. While this pushes the entire tale into the realm of the surreal, it beats the alternative in which the protagonist would simply stop performing for our amusement and begin plotting to escape from the book.
Chapter 1  The Prisoner’s Dilemma

*A holding cell. Mid 1990’s. Somewhere in the Midwest.*

“Well, It’s not looking good,” the haggard, over-worked and under-shaved public defender conceded. He dropped a stack of papers onto the bare concrete floor of the holding cell, swore in Latin, then stooped to pick them up, managing to drop a few more.

“You might even say it’s looking bad,” he suggested as he gathered up his documents. “If you were a pessimist. And you consider several years in a state penitentiary to be a bad thing. But it’s just a matter of how bad, really. You’re definitely going up the river, but it’s up to you how far.”

The prisoner, Remy Martin, a bedraggled, wiry, whiskered rascal, covered with dirt and stinking of guilt, slowly dragged his gaze upwards. The single 40-watt bulb dangling on the other side of the bars behind the attorney struggled to illuminate the barren cell, leaving his face barely visible in the shadow.

“Tell me more,” Martin said, raising one eyebrow with exaggerated interest, falling just shy of obvious, mocking contempt. His accent was an exotic chimera, the aural pastiche of an itinerant vagabond who’d run away from his Louisiana home as a boy and taken up with assorted unsavory rogues in far-flung regions, speaking an eclectic smorgasbord of patois and argots. Yet it was elegant, crisp and sonorous, his enunciation slow and flawless, like a ballerina performing an exquisite *legato développé,* and ever so discreetly extending a raised middle finger for the briefest instant as she goes into a pirouette.
“The state has more than enough evidence to convict you and your accomplice on burglary and theft. We can’t beat that rap. They’ve got witnesses, fingerprints. Your partner was actually wearing some of the stolen merchandise when you two were arrested, so that’s pretty much a smoking gun. Oh, and a gun, too. The cops found a gun, but it can’t be directly tied to you guys, which makes it a little bit less like a smoking gun, speaking metaphorically rather than structurally. But the evidence that they have is enough to convict you both. Guaranteed.”

“I see,” Martin said, nodding slowly. “But I get the impression that you have another shoe to drop. Metaphorically.”

“Well, the state can’t prove everything that they suspect that you did. I mentioned that gun they can’t directly tie to you. There’s a small matter of an armed robbery in Groversdale.”

“I—”

The attorney waved his hands to shut Remy up.

“Hey hey! Come on. Be careful what you say! I’m your attorney. I’m not interested in whether you did it or not. Unless you didn’t do it.” He paused for a moment and Remy remained silent. “Like I said, I’m not interested in whether you did it or not. The point is, they can’t prove anything about that armed robbery. But they want to offer you a deal.”

“A deal? Is it from the bottom of the deck?”

“Clever puns. Yeah, I hear juries love those. Listen: if you confess to the robbery and testify against your partner-in-crime, Mr. Vicker” he pronounced the name of Remy’s associate with obvious disgust, as if the word itself had a foul taste, the speaking of which
would necessitate extensive gargling. “You do that, and they’ll cut you a break. You’ll only do two years. Without any testimony from either of you, both of you are going up for four years on the other charges. Guaranteed.”

Remy pondered the offer. “And if I testify against Mack? What will he get?”

The lawyer shrugged. “He’ll get ten years. If he stays quiet and you testify he’ll get ten years.”

“But the state is making the same offer to him, aren’t they?”

“Of course they are. Wouldn’t be fair not to give him a tantalizing moral dilemma too. And if you don’t cooperate and he testifies, then you’ll be the one scratching hatch marks on the wall for a decade.”

“What if we both give in, take the state up on its oh-so-generous offer. What then?”

“They’ll knock a couple of years off for the confession. You’ll each get eight years.”

As your attorney, I strongly advise you to take them up on the offer and testify.”

He left some paperwork with Remy then turned and called for the officer to come and let him out of the cell. He and the taciturn turnkey began to walk down the hall when the attorney swiveled back around with an afterthought.

“There really isn’t much to think about. You haven’t got a thing to lose by testifying. Doesn’t matter what Vicker does. If he sings and you stay mum, you’ll get ten years, instead of the eight you would have gotten if you’d cooperated. If he keeps quiet and you do too, you’re gonna get four years, but you’ll be out in two if you go stoolie in that case. Think about it.”

“I’ll give it the deepest consideration,” Martin said evenly.

“I guarantee you, Vicker’s already thinking about it. Thinking hard.”
Remy nodded as his lawyer turned again and disappeared down the hallway. After he was out of earshot the prisoner mumbled aloud.

“So another game has begun.”

Chapter 2  
Ancient Greek Mathematicians

“Remy, your father is calling you.”

“Un moment.”

His mother opened the door without her usual perfunctory courtesy knock. Her twelve-year-old son was seated on his unmade bed, a hulking text opened in his lap. On the mattress beside him lay a notebook, covered with messily scrawled symbols and diagrams, intimidating and inscrutable.

“What is so important that you have to keep your father waiting, eh?” Her accent had diluted only slightly through the generations since Acadia, while her son would never develop more than a hint of it, flavoring his overall elocution.

“I am reading, Mamere,” he announced without the briefest glance toward her. As if to demonstrate the truth of his assertion, his eyes continued to scan a complex proof.

“Ah have two eyes, Remy. Ah kin see that. Stop reading and go see your father in the shop. He wants to show you how to make a bench.”

“Carpentry doesn’t interest me.”
His mother folded her arms across her chest and glared down at the single ungrateful fruit that had somehow managed to spring from her loins. “Well fuh shore! You’ve made no secret of dat! Do you want to break your poor father’s heart? Is that it? Break your father’s heart? Quo’ faire?

“I don’t want to break anyone’s heart,” Remy said, finally looking up. “I just don’t want to learn carpentry. That’s all.”

“Oh, dat’s not good enough for you, eh? It was good enough for your father and your papere, but it’s not good enough for Remy Martin.”

“I have nothing against carpentry, Mother. It just doesn’t interest me.”

“And what does?”

“Mathematics,” he replied, diving back into his text on Diophantine equations.

“And how do you expect to earn a living? Who is going to pay you for mathematics?”

“Plenty of people.” He shrugged, not entirely certain he believed it, but fairly sure that he didn’t care.

“Is that so? Whare are dese people, eh? Ah go to the hospital sometimes. The doctor, he gets some money. I go to make the groceries, eh? The grocer gets some money. But ah never needed a mathematician. You goin’ to set up a little math shop on Maple Street, eh? Or were you plannin’ to go door to door?”

“That’s not—”

“ ‘Excuse me madam,’ ” his mother mocked. “ ‘I’m a wandering mathematician, and ah was wondering if you have any troublin’ equations lying around.’ Well, madam, I can solve for X, an’ I’ll throw in Y for half price.’ ”

“That’s not the way it works.”
“Well you should start thinking about how you are going to make some money. If you want to go off to college and study mathematics, it’s going to cost a pretty penny.” She rubbed the tips of her thumb, index and middle fingers together. “You may as well make it doing carpentry. Dere’s math in that. You have to measure tings. You would love it.”

“I don’t need college. I can learn everything from studying books.”

“That’s some fantasyland, you live in,” she said, shaking her head. “Everyone just sits around reading books all day. Do you tink you are back in ancient Greece, is that it? You read about dem all the time, but do you know what Remy? They’re all dead.”

“Yes, I’ve heard. It’s a shame.”

“Don’t sass me, boy. And do you know why they are dead, Remy?”

“No,” Remy said dourly. “Why?”

“Because dey were too concerned with mathematics and philosophy, and not enough about the real world. With carpentry to build better catapults and tings like that!”

“There weren’t any catapults back then, Mamere, and when the Romans attacked Syracuse, it was Archimedes, the mathematical genius who devised defensive—”

His mother snapped closed the textbook he’d been reading.

“While dose Greeks were trying to find the square of the hippopotamoose, the Romans were making spears and chariots. When a Roman legion is marchin’ down the street, all your trigonomometry don’t amount to a hill of beans.”

Remy could not help thinking about triangles, but kept these notions to himself.

“And you know why those Greeks had time to waste with all their points and lines and circles? Because dey had slaves, Remy. Dat’s why. None of them had to sweat and toil in a field or a smith or a shop, so dey had all the time in the world to do their algebra!”
“The Greeks were geometers,” Remy corrected, risking maternal wrath. “They didn’t have algebra. That was the Arabs.”

“How many times do I have to tell you not to sass me? Answer me dat, my little mathematician!”

“Sorry.”

“Well isn’t that sweet?” his mother replied, cocking her head to the side, batting her eyes in absurd exaggeration. “Alors. The boy is sorry!”

Her face softened a moment later and she reached down, cupping her son’s chin.

“Now, Remy you know ahm only lookin out for your best interest. What good is all dis going to do you?” she swept her hand in an arc to reference the equations and calculations scattered around him.

“I’m going to be a famous mathematician.” Remy stated confidently.

She shook her head, smiling sadly, “You’re going to wind up begging or stealing, my p’tit boug.”

Mother was always right.

Chapter 3  Cellular Automata

Clink!

Metal on metal, the latch shut with an echoing, piercing crash, redolent of finality, the sound of freedom vanished. The gate closed and locked behind Remy, the
onomatopoetic origin of one of prison’s inveterate nicknames reverberating through the long concrete hallways as a bored corrections officer escorted him into cellblock A.

Neither Remy nor Mack had turned evidence against the other, both receiving four-year sentences at the conclusions of their separate, speedy trials. The authorities sent Mack to another prison on the other side of the state, dividing now in the hopes that they would conquer later, convinced that, separated by many miles, one of them would eventually betray the other. Preferably both.

Their court-appointed public defenders had rolled over and played dead even faster than usual, faced with the overwhelming evidence against their doomed clients. These plea-bargains were for the lesser charges of burglary, trespassing, and theft. In spite of tantalizing circumstantial evidence, nothing concrete linked them to the far more serious armed robbery, but it hung over them like the shank of Damocles. The state could haul either of them out of the big house and into the courthouse to stand trial, if any evidence presented itself. But if they both remained silent, each would spend four years behind bars, Remy here at Longacre State Penitentiary, a maximum-security facility, though he felt far from secure. Taunts, whistles, catcalls, random threats and unbidden blown kisses were hurled at him as he was led to his cell.

“Here’s your new luxury suite, Martin,” quipped the guard, a portly white guy with thick glasses and a thicker neck. His nametag identified him as “Jones,” but like everything and everyone at Longacre, his nametag couldn’t be trusted.

“Normally you’d go into the fish tier first,” Jones said, “but the warden wanted you to go directly into gen pop, and lucky you, we got a nice cell all ready.”

“Why is that?”
“Because he said so. That’s all the reason he needs. And if you want to know the reason behind any of our rules and regulations here, save your breath, because the answer is always going to be the same. You’re still a fish though, so you’re locked down and unclassified. You’ll get a work assignment soon. And common area and yard privileges. And don’t forget that those privileges can be taken away. But you’ll be spending most of your time right here until we get all the paperwork in order.”

Remy stepped to the bottom bunk and dropped down his set-up kit. This consisted of a copy of the prison rules and regulations, a couple of sheets, a tube of toothpaste, and a toothbrush, which, the manual failed to note, it was considered standard procedure to transform into a shank almost immediately. He looked around at his new home, estimating its dimensions. About 6 feet wide, 12 feet long, and 7 feet high. While there were two bunks in the cell—metal slabs sticking out from the wall, each with a thin Bob Barker brand mattress on it—both were empty. There were no other occupants, though pictures of naked ladies and baseball stars adorned the walls.

“I have this expansive mansion to myself, do I?”

“Of course you don’t. Your cellie’s in the hole. He’ll be back soon.” Jones pulled the cell door closed, the lock engaging with another clinking sound, then disappeared down the hall.

“Ah,” Remy said aloud to no one. “In the hole. Doubtless for strangling his previous cellmate in his sleep.”

He surveyed the 504 cubic feet of space that was to be his home, finding it, as he found everything, full of mathematics. Rough approximations of idealized geometric forms surrounded him. The bunks were rectangles. The bars, vertical parallel line
segments, broken up occasionally by intersecting horizontals, forming right angles, favorites of the ancient Greeks. He had at least the next two years to unlock those geometric mysteries. At least two years, and maybe longer.

On the backs of the clothing he’d been issued was a number that would serve as his primary identity for the foreseeable future. He and all his fellow prisoners had been symbolically reduced to numbers. Many would consider this a degrading and dehumanizing transformation, but Remy had a great deal of respect for numbers. He got along with them far better than he did with most people. Numbers had not, for example, ever attempted to kill or rape him. Remy was correct in guessing that a number of people soon would.

The number on Remy’s back was 547298. This was his identity in the eyes of the state. Remy Martin was, for the time being, a non-person. Only 547298 remained.

Few of the other prisoners spent much time contemplating the number assigned to them. They quickly committed it to memory and gave it little further thought. In contrast, Remy immediately set about subjecting his new identity to rigorous numerical analysis. He held no mystical beliefs that this would provide any significant revelations, as the gematriasts, Pythagoreans and other number magicians had in the past. He was interested solely in amusing himself. He had several years of time to kill, and most of the weapons one might employ for such an assault were tightly controlled contraband. But they could never take numbers away.

The first thing he did with his new identity was reduce it to its prime factors. Unlike toothbrush shankcraft, this was not standard practice at the Longacre State Correctional Institution, but wasn’t forbidden by either the official prison handbook or the far more
important unwritten convict rules. He discovered three primes. They were 2, 17, and 16,097. The first he established instantly, the second with a little more work. The third took some concentrated effort, but 16,097 wouldn’t divide evenly by any of the primes up to its square root. Indivisible, it, like Remy, was going nowhere.

He spent his first day behind bars establishing the prime factors of his new name and analyzing it for additional mathematical peculiarities. That left him 729 days left to go, at the very least, if he were to deal with the devil and turn evidence against a steadfastly loyal and tightlipped Mack. 1460 if they both stayed quiet. 2921 if they turned on one another. 3651 if Mack stabbed him in the back.

After exhausting the entertainment potential in analyzing all these numbers, he sought further amusement to fight the mind-numbing boredom. He was pleased to find some chalk his missing cellmate had used to scratch a few lines of verse on the wall in the corner near the toilet.

Inside these prison walls I sit
Straining just to take a shit
If I should die before it’s out
Hacks will have something to bitch about

Remy did a lot of math in his first week at Longacre, alone in his cell, not yet officially admitted to the general population. The chalk and the wall came to rescue him from tedious solitude as he drew a 5-by-5 tic-tac-toe grid and arbitrarily filled some of the boxes with x’s.
This was cellular automata, a favorite plaything of mathematicians. Each individual box is called a cell. X’s are distributed throughout the grid, leaving some cells empty and some occupied. Specific rules are then applied and the resulting conditions are determined. You can repeat this as often as you want, until some deep, career-defining insight emerges, for example, or until your own cellmate returns from the hole and decides to make you his bitch, which is another good place to stop.

Remy was playing around with a popular variant of cellular automata, in which some of the cells would come “alive” or “die” depending on whether or not they were overcrowded or completely isolated, and this struck him as poetically apropos. The prisoners, in their cells, were reduced, in the best-case scenario of their custodians, to automata, caught between the conflicting forces of loneliness and crowding.

It was once considered a wise practice to place all prisoners in solitary confinement for the entire length of their sentences. Most of them followed the same basic plan to adapt to the unbearable isolation, which was to go stark raving mad. It took prison-keepers a while to figure out that the total absence of human contact is not therapeutic, and they initially thought the resulting madness was a direct result of masturbation. Men confined to a tiny cell for 24 hours a day with absolutely nothing to do, and they expected them not to masturbate.

The smell of stale semen, always conspicuously present in the air of Longacre, made it clear that this coping strategy hadn’t lost its appeal, and the frequent frenzied screaming and sobbing, especially in the middle of the night when it wasn’t buried in the general cacophony of cell block A, was a convincing testament that madness was still a
fashionable alternative. Remy still had his math, though. A form of mental masturbation perhaps, but it kept him from going mad. For now.

Chapter 4 Statistical Anomalies

Roulette is a sucker’s bet. Any good mathematician would tell you that, if you could drag him away from the blackjack table, which would be no mean trick. Intimate with the laws of probability and exactly when, where, and how those laws can be broken or at least advantageously bent and twisted, mathematicians abjure the spinning wheel, the rotational action of which creates invisible waves, irresistibly drawing the mathematically challenged through some as yet poorly explored physical force. The house enjoys a bigger edge at the roulette table than anywhere else in the casino, 5.26%. You are definitely going to lose in the long run. Chances are pretty good you’re going to lose in the short run too. Many a feckless amateur mathematician has devised complex, flawed schemes to win, discovering errors only after expensive experimental analysis.

In contrast, a reasonable degree of mathematical proficiency can earn a blackjack player a tidy profit. The difficult part is making rigorously applied logic look like dumb luck. Card counters make small bets until the deck favors the players, then increase their wager to exploit a fleeting advantage. It’s a simple and effective system, but the methodical bet modulation is a dead giveaway. Remy had picked up a few hundred the previous evening, exiting just before he’d won enough to draw attention to himself. He was back again tonight, but wary of the scrutiny he might attract spending another night at the blackjack table, making bets in a pattern that practically sent a telegram to the pit
boss that he was a card counter, he decided to explore the rest of the casino. Like a
sentry, sensitive to a cracking twig or a whiff of odor on the breeze, he was on edge,
primed and alert for statistical anomalies.

As a good mathematician, Remy normally spurned the roulette table, dismissed it
disdainfully and looked upon its enthusiasts with contemptuous pity. But unlike the
mentally constructed universe of idealized mathematics, the real world allows for a
certain probability that the machines aren’t working properly.

Surfaces chip. Wood decays. Metal oxidizes. Particles of dust and moisture collect
and accumulate inside and on the surface of roulette wheels. It’s rare but not so rare that
it can be excluded from probabilistic consideration. Throughout the use of the machine
there is a small but growing chance that it will begin to exhibit results unlikely to be
produced by an unbiased random number generator.

Remy settled at the craps table, but only because its position afforded an excellent
vista to observe the three nearby roulette tables. Craps offered almost even odds, the best
game in the casino outside of blackjack. He expected to lose, but he expected to lose
slowly, and while he was losing slowly he was gathering information. He viewed the
small wagers he placed, always betting with the shooter and declining the dice himself, as
rent paid to occupy the valuable real estate.

“Cocktails?” invited an attractive blonde waitress about his age, mid thirties or
thereabouts. The craps players barraged her with orders, Remy requesting a glass of red
wine, stressing that he’d prefer a genuine Bordeaux, meaning no offense to the great state
of California.
He did his best to appear casually interested in the craps game on which he repeatedly placed the same small bet, as he strained to hear the wheelmen announce the results at the nearby roulette tables, followed by the cheers and groans of the gamblers assembled around them. The waitress returned with his wine, a nice Chateau des Graviers. Remy tipped her and continued to analyze the roulette tables while making small bets at craps. He sipped his drink, listened very carefully, and calculated.

After the roulette wheels had gone through about fifty spins apiece, Remy had a sufficient pool of data to analyze. Two of the wheels had some minor spikes, a few numbers represented more than chance would have it, given its druthers. But as further spins were executed, these submissively obeyed the laws of probability and flattened out. He stopped paying attention and focused on the third wheel, which did not behave. As it was spun more and more, the anomalously skewed representation of numbers persisted. It wasn’t glaring. It wasn’t blatant. It was very subtle. But it was there.

While 19 and 12 seemed to be coming up slightly more frequently than was to be expected, 8 was clearly the most biased number. In the world of idealized mathematics, an eight showing up on a roulette wheel six times in 100 spins is a perfectly normal statistical anomaly, and is mathematically independent of the probability that it will show in future spins. These anomalies are bound to happen. If you spin the wheel enough, eventually you’ll get a hundred eights in a row, though you’d have to spin it many googols of times before that would be statistically likely. By then the casino, along with the universe to which it is attached, would have ceased to exist as all matter was drawn by the inexorable pull of gravity back to the center in a cataclysmic “big crunch” or, alternately, reached a state of maximum entropy and heat death. Either way, all bets
would long since have been declared off. Six eights in a hundred spins is comparatively small statistical potatoes, but it’s still moderately persuasive evidence of an unbalanced wheel.

These anomalies are scarce and treasured commodities. Casinos are run by highly motivated professionals, always on the alert for opportunities such as these in which clever number-crunchers might turn the laws of probability against them. Biased wheels rarely remain in operation long. Subtlety is the key to exploiting the infrequent occasions when the fates smile and present opportunities, little islands of positive odds in a vast boiling sea of losses. When you find a goose laying golden eggs, it’s best to be content with a steady supply of small ones. Never try to squeeze out the jumbos.

He excused himself from the craps table, where he’d managed to come out ten dollars ahead, which was in no way surprising, though he knew with absolute mathematical certainty that he would lose this back and everything else if he kept playing long enough. Having tipped both the stickman and the waitress five dollars each, he thus came out dead even, not counting one glass of fine red wine, a gift from the gods of chance.

He sauntered to the roulette table with the faulty wheel and put a twenty-dollar chip on the 8. The wheel came up 14. Twenty bucks gone. He repeated his bet. It came up 23. Another twenty gone, but he was mathematically assured of positive odds, and had calculated a 90% chance that he’d hit the eight before his funds ran out if he bet twenty bucks each time. If he bet much more than that, he risked being wiped out before he could successfully exploit this gift of fortune. Any less and he’d be wasting it. He dropped 180 more dollars, twenty at a time, before 8 showed up. The 8 paid 35 to one, and he collected $700 in chips.
“Well, this must be my lucky day,” Remy said, as he scooped up his hard won booty, tipping the wheel attendant a five dollar chip. “Guess I better quit while I’m ahead before the luck runs out.”

He believed in no such thing, of course, but was only doing his best impression of a typical gambler with nothing but the most nebulous, imprecise understanding of probability, plagued with superstitions about “luck,” “streaks,” and assorted aleatory voodoo. He was quite certain that if he continued to play, he would win again. He didn’t win because of luck, which never runs out for the simple reason that it doesn’t exist in the first place. He won because the roulette wheel was broken, and the likelihood that it would spontaneously repair itself was inconceivably close (though not quite equal) to zero. But someone would notice something soon, the probability of that was very high, and he wanted to be gone and forgotten when that happened. Not that he’d broken any laws or rules, but if he were identified as someone who knows what to look out for, the management would make sure to look out for him.

It wasn’t easy, but he tore himself away, lest he be left with a few golden eggs and one dead goose. He cashed in his chips, briefly visited the lavatory where he tucked the large bills discreetly in his shoe, then exited, planning to hit another gambling venue where his face had not grown familiar at the blackjack tables. Encouraged by his success in turning the almost unbeatable game of roulette to his advantage, not through sheer dumb luck but methodical statistical analysis, Remy was feeling cocky and careless, which is inevitably when fate decides to pull rugs out from beneath people. Fate, ever sadistic, usually waits until they’re carrying something fragile, or, as in the present case, a big wad of cash. He
had the bug now, and he cut through a side alley to get to the next casino as quickly as possible.

He found the shadowy side street strewn with garbage, creative local residents having discovered that it made for a serviceable dump, saving them the trouble and expense of hiring waste management professionals to haul their junk away. As he was navigating the detritus, he heard a voice behind him.

“Don’t turn around or I’ll blow your head off.”

Remy reluctantly retracted his earlier assertion that this was his lucky day.

Chapter 5  
Time

Every prisoner at Longacre State Penitentiary was, soon after his arrival, formally introduced to Warden Nelson Riems, universally known among the institution’s incarcerated population as “Father Time.”

Although nearly a decade past standard retirement age, the warden had no intention of stepping down before time itself claimed him. Always fair and blonde, his hair had gone stark white years ago. He let it grow long and kept it pulled back into a pony tail that looked like an albino snake hanging off the back of his head. Father Time’s beard did not comprise long, flowing, snowy whiskers tumbling to the floor. It was short and neatly trimmed, but was as white as a bleached skull.
Remy had seen a portrait of his keeper back in R and D. That’s receiving and departure, not research and development, though the warden, a sociologist by training, was a biologist at heart, devoted to the laboratory experiment. Controlled settings and easily manipulated variables were freely at his disposal. Longacre was his lab, the Corrections Officers his graduate students. And he had about 2,000 lab rats on which to test his theories.

Harry Bigger, Captain of the guard, escorted Remy to the warden’s office. The Captain was a huge, chiseled black man, with a football player’s body, a movie star’s chin, and a perfect set of teeth, which rarely made an appearance as he was almost never seen to smile. The top guard was widely referred to as “Uncle Tom” by the black inmates, an obvious and uncreative racist epithet by the Aryans, and something unflattering and untranslatable in Spanish by the Hispanics, but only behind his back. To his face the widely despised and even more widely feared head C.O. was almost always addressed as “Captain Bigger, sir.”

“Did the warden finish his chess game yet?” Bigger asked a newjack—prison parlance for a novice corrections officer. This one was a tall and gangly white guy with a distractingly prominent Adam’s apple. He had two day’s growth of coarse stubble and hair a bit longer and more unkempt than the administration would have preferred, but they had to settle for what they could get. Anyone with enough sense and discipline to shave could probably get a better job.

“Yeah, that old con won,” replied the hirsute neophyte, whom the inmates had already dubbed “Shaggy.”
Bigger glared down at Shaggy. A physiognomical athlete, the captain managed to frown, scowl, and smirk all at the same time. “That old con is Solomon, and he’s not like most of the dirtbags in here. In the last 25 years, he hasn’t gotten so much as a ticket. Don’t turn your back on most of these guys, because they can and will cut your throat if you give them half a chance, but treat Solomon with a little respect, okay? Probably the one con in here who deserves it.”

“Sorry, Captain.”

“Besides, he always wins. I didn’t ask you who won, did I?”

“No, sir.”

“I already know who won. Warden’s played Solomon one game just about every afternoon for getting on twenty years now, and he hasn’t won yet. If it’s over, take this guy in to see the boss.”

“Your biggest problem was your black bishop, sir,” Solomon explained, as he moved the pieces from the checkmate position backwards through the final moves, the brief endgame, then to the midgame and the opening, temporarily reversing time. Almost as old as the warden, Solomon was the only person who had been at Longacre longer. The grizzled convict hadn’t seen the outside in nearly forty years. An imposing figure for a senior citizen, his brown skin was pulled taut over solid muscles, which he kept toned by hitting the piles a few days a week. Though his real name was on record somewhere in the massive file cabinet looming over the small chess table, nobody, not the inmates, not the guards, not even Father Time himself, who called every other prisoner by his number, ever called Solomon anything else.
Father Time, still deeply enmeshed in the post-mortem analysis of his game, didn’t give the briefest word or gesture to acknowledge the prisoner and the CO standing in the doorway. Remy correctly inferred that he was to do his most earnest impersonation of a statue just inside the door until the warden addressed him. He didn’t speak. He didn’t fidget. He resisted the urge to scratch his itchy crotch.

“You see how his freedom of movement was impeded by the placement of your own pawns and pieces?” the master explained. “That bishop was trapped by his allied forces, while mine had full mobility. Everything else was well positioned but the absence of that firepower when it was needed on the queenside made all the difference. When your weakened defense started to crumble, I gained space and momentum. After that it was just a matter of time.”

“Hmm,” the warden said, looking at the board from different angles, cocking his head this way and that, finally nodding and grinning sourly. “Damned black bishop.” He scratched at his white beard as he continued to stare at the board on which things now made so much sense. “Of course. It’s all so clear now, but I can’t turn back the clock.”

“No, sir, I guess not, sir.”

He extended his hand and Solomon took it, clasped the warden’s palm in a firm grip, and they shook. “Good game,” Solomon said.

The warden laughed, then gave Solomon a friendly punch on the shoulder. “I never had a chance. But it’s starting to take you just a little longer to beat me. Thanks for the lesson, Solomon.”

“My pleasure, sir.”
Solomon stood up and walked out of the room. He barely looked at Remy as he passed him, briefly nodding in a manner that was almost amiable, a closer approach than he’d thus far seen from any of his fellow felons.

The warden put the set into the starting position with slow and deliberate attention to minute detail, each piece in the absolute center of its square, all four knights’ heads pointing directly forward. He set the chess clock up against one side of the board, exactly equidistant from either side. This ritual was performed in silence, but for the ticking of several other clocks in the room. Father Time surveyed the assembled black and white armies, adjusted a few of the soldiers just a hair and then noded in satisfaction before strolling over to take a seat in a big plush red chair behind a massive oak desk.

“Come,” the warden said, looking down at his notes. Remy approached and stood at attention. Perched majestically on the end of the desk was a large, antique hourglass, beautifully decorated with ornate silver filigree. The warden flipped this over and the sand began to flow. Remy made a few cursory calculations, estimating that it would take about ten or fifteen minutes to run to the bottom.

The warden had been overseeing Longacre for longer than the average prisoner behind its walls had been alive, whether you go mean or median. These were 32.9 and 31.4 years, respectively. Warden Riems had been at the helm for 34 years. None of the five wardens who preceded him had lasted more than six. Riems was a fixture. He was certain posterity would cast him as the J Edgar Hoover of Longacre State Penitentiary. The man who defined the institution.

He sat back imperiously in his plush red throne. Behind Remy, just to the left of the door, a bulky bookshelf bulged with books. Atlases. Dictionaries. Encyclopedia. And
volume after volume on criminology, penology, and anything else addressing
philosophical and practical matters concerning the caging of human beings. The room
smelled of pine scent, a refreshing olfactory diversion from the rest of the prison’s
distinctive musky, musty stench.

“547298,” the warden said, looking down at his notes.

Remy shifted uncomfortably. “Yes sir.”

“Good to see you’ve accepted your new identity.” He looked up and met Remy’s eyes
for the first time. “Some of the corrections officers may call you by your old name,” he
glanced down at his notes, then pronounced the name with undisguised distaste, “‘Martin.’
But I’m old fashioned. I believe that in order to rebuild the delinquent personality, one
must start from scratch. Tabula rasa.”

“Yes, sir.”

“I am Warden Riems,” he said, the introduction mere formality as Remy knew
perfectly well who the old man was. “You have been convicted and sentenced to four
years under my expert supervision, 547298.” He smiled slightly.

Remy’s lips curved upward a scintilla. An inmate must quickly master the delicate art
of prison smiling and other subtle but deathly important social conventions. He’d already
learned not to smile at any of the guards, unless they smiled first, and not to smile at
another prisoner, whether he smiled first or not. To the latter, the ideal countenance to
cultivate was a specialized species of pseudo-sneer, a face that said, “fuck with me and
I’ll fuck with you harder,” but which did not offer a direct threat. You don’t stare a guy
down, but you don’t look away. You meet his eyes and nod in an assertive but not
provocative way. It’s a very thin line, a razor’s edge along which prisoners must
constantly tiptoe, a line between inviting exploitation and looking for trouble, and if they do not exercise great care in walking that thin line, they will soon learn how disturbingly appropriate the analogy of the razor is. But when the warden smiles at you, you smile back, because here is a man who, more than the biggest, meanest, most vicious mass murderer doing life without the possibility of parole, could, on the slightest of whims, with neither effort nor fear of reprisals, make your life a living hell.

“I make it a point to greet all our new arrivals,” the warden said. “Let them know what is expected of them. And make sure they know who is in charge here at Longacre.”

“I’ve no misunderstandings on that point, sir,” Remy said, his voice a study in practiced obsequiousness.

“Well, you are half the way to rehabilitation. You’d be surprised how many miss this rather simple concept. Wouldn’t you agree, Captain Bigger?”

Remy swiveled around to see that the captain of the guard had returned, replacing Shaggy, the hairy newjack. Remy hadn’t heard the top officer enter. Bigger was like a hulking, ill-tempered cat.

“They all learn it sooner or later, sir,” he said, tapping his baton into his hand for emphasis.

“Ah yes. Sooner or later. Sooner or later. Sooner is by far the less painful route. Follow the rules, 547298, and I think you’ll find this to be one of the finest correctional facilities in the entire penal system.”

Behind the warden and to his left, just beside the enormous window that overlooked the main yard, stood a beautiful antique grandfather clock, the wood a brightly polished mahogany. The gleaming brass hour hand, pointing skyward, was at that moment joined
by its longer, faster colleague, and the clock began its noon count, twelve clear and resonant tones filling the room in sonorous succession. The warden closed his eyes, his smile slowly expanding as he sat back, finding a brief but pure rapture in the twelve o’clock countdown. Remy and the captain stood at polite, slightly awkward attention while the warden reveled in the tintinnabulation.

As he waited, Remy reflected idly on the subject of time, specifically the difference between continuous and discrete time in game theory. Continuous time games were considerably more difficult to analyze, requiring infinitesimals and what the mathematicians call “non-standard analysis.” Standard analysis was bad enough.

When the last of the notes had sounded, the final lingering vibrations fading into inaudibility, the warden slowly opened his eyes again and smiled, the look of a junkie in that magical moment when the height of the last rush has just begun to pass but the desperate jones for the next one hasn’t yet kicked in.

He reached into his vest pocket and pulled out an old pocket watch, glistening gold on a silvery chain. He nodded, a smugly satisfied look overtaking his face, and an observer could only infer that the watch was right on the money. He returned the timepiece to his pocket, then shuffled through a few papers. He put his finger to his lip as he scanned one of these, Remy still standing at attention, the room dead quiet but for the steady ticks of the clocks and watch. The warden looked up again at his new prisoner, gazing out above the glasses that perched low on his beakish nose.

“But 547298, yours is a somewhat special case.”

“How is that, sir?”
“I have an interesting letter here,” he said, briefly holding up the document. “I understand that you were given an opportunity to testify against your partner in crime, in order to earn a lighter sentence for yourself. Yet you did not accept this generous offer. May I ask why?”

“It wouldn’t have been right, sir. My associate and I are innocent of those charges.”

The warden shook his head. “Somehow, I had gotten the feeling that you were different from the rest of these reprobates.” He waved behind him. “But you know, that is what they all say. Every last one of them.” He let out a long sigh, gravid with scorn and contempt.

“I’m . . . sorry to disappoint you, sir.”

“No matter,” the warden said, waving Remy’s apology away as he looked down again at his papers. He nudged his glasses along his nose, then brought the DA’s letter up again and squinted at it.

“Well,” the warden said, the paper he held before his face preventing any eye contact. “I’ve been talking with Sergeant Gaines who you may remember from your arrest and District Attorney Chalmers, who you might recall from your trial.”

“All too well, sir. Those distinguished gentlemen are indelibly etched in my memory.”

Father Time set the paper down, stared at Remy squarely, sizing him up anew.

“Yes . . . of course,” he said in a slow drawl. “Well, these distinguished gentlemen asked me to cooperate with them on a certain matter. They wanted me to make it clear that it isn’t too late.”

“Too late, sir?”

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“No. It isn’t too late. If you should have some sort of... recollection of repressed memory... and decide to come clean about what you and your partner did, well, the state will try both of you on those armed robbery charges, but you will be given leniency. Atypically generous leniency. You have at least two years to think about it. And if it all comes back to you, that’s all you will do. You can walk out of here after that.

Otherwise, you will do four, and that’s only if your partner doesn’t turn against you. And just between the two of us, 547298, he’s no boy scout.”

“No, sir. I’m more a scout than he. Much better with knots, for example.”

The warden scowled, then looked back down at his papers as he continued. “Well you best hope that your partner’s amnesia holds as well.”

Remy looked over and noticed the last few grains of sand were slipping from the top of the hourglass into the bottom. He was eager for the interview to end and so drew the warden’s attention to it.

“There goes the last of the sand, sir.”

The warden reached over and flipped the hourglass onto the other side. The sand began to flow anew.

“Remember, 547298,” he said, looking him squarely in the eye. I’m in charge of time, here. I can always add more.”
For someone as intelligent as you are, Remy thought, you can be quite the idiot when you really apply yourself. He cursed himself for taking the ill-advised shortcut through the alley, an egregious strategic blunder, a foolhardy move in the complex game of life. Now he could expect to lose his day’s profit, and if that were all he lost, he’d have to count himself lucky, after all.

He replied to his unseen antagonist, his speech remaining slow, clear, and deliberate, even in this crisis situation. “Okay, my friend, there is no need to do anything rash. I’m sure you are a reasonable man.”

“Yeah, and I’m sure you’re reasonable too. And the reason you should do what I say is that I’ll shoot you dead if you don’t. That’s a pretty good reason, ya gotta admit. Now put your hands up in the air nice and slow, or you’re going to have a few more holes in your body. You don’t want that, do you?”

“No. I have the optimal number right now.” Up went his hands. Slowly. Nicely.

“How much money have you got?”

“Not much, I’m afraid. I had a bad night with the cards. If I’d gotten lucky, I’d still be in there, giving it all back.”

“Wallet. Let’s have it. Slowly. Keep your right hand in the air and get it out of your pocket with your left.”

Remy did as he was told, tossing the wallet behind him.

“Okay you have my money. I don’t know what you look like. No need for any violence,” Remy reasoned. “Do you want me to count to 100 before I turn around?”
“What do you think I am, some kind of tourist?” the mugger retorted. “I do this for a living, pal. I know what I’m doing. This is my job. You think I don’t know that if you had a lot of cash on you, it wouldn’t be in your wallet? Take off your shoes.”

Remy silently visited harsh imprecations upon both the mugger and himself in equal measure. Several C-notes were folded into a square in his left shoe. The wallet contained only a ten and a few ones, decoys that had abjectly failed their mission.

As he was bending down to remove his tightly laced Converse high-tops, he managed to steal a surreptitious glance behind him. The guy was big, but not enormous. Had a thick neck, red hair, and a bushy beard that was even redder. He probably weighed in at 200 or thereabouts, so he had about 30 pounds on Remy. Roughly the same height, an inch or two shy of six foot, but with a lot more meat clinging to his bones. Most importantly, Remy saw that his assailant had no weapon. No gun. No knife. No tire iron or heavy stick. He was armed only with a convincing bluff.

Bluffs and threats are essential elements of strategic play in many of life’s conflict situations, and their frequent effectiveness is a strong testament to the prevalence of non-zero sum games. Threats are tactically worthless in two-player, zero-sum games, like chess, where your opponent’s loss is always your gain, and vice-versa, but they can be marvelously effective in non-zero sum games.

Getting mugged is a non-zero sum game. Getting shot loses you points in this game, but it gains the mugger nothing. He can take the wallet off your live body or off your bleeding carcass, and he still gains the same amount, while your choices affect how much you lose. That’s what makes it a non-zero-sum game. Your loss is not necessarily your opponent’s gain.
Sometimes you can manipulate the situation so that your opponent’s best move is to do what is best for you, and you want him to know what’s in his own best interest. A mugger wants to make it very clear that failure to surrender the wallet will result in the highest loss of points for his opponent. That’s a threat. And sometimes you can’t manipulate the situation, but you can achieve the same result if your opponent believes you can. That is a bluff. The mugger’s overall strategy was quite sound, but he’d made one critical tactical blunder.

“Hurry up!” the mugger ordered. “I haven’t got all day!”

“My apologies. The shoelace . . . it’s in a knot . . . just give me a minute.”

Remy hopped haphazardly on his other foot as he made a show of working at the obstinate shoelace, cursing loudly.

“Keep it down, asshole” the mugger instructed, “Just get that shoe off. And if you turn around, you’re a dead man.”

Remy hopped on his one foot as he fumbled with the shoe until he was within reach of a wooden leg from an old card table, now smashed and laying in scattered pieces. He pretended to fall, grabbed the weapon as he got back up to his feet, and spun around, swinging wildly, catching the mugger solidly in the gut.

The thief doubled over and fell to the ground, reaching for a jagged piece of metal beside him. Loath to let his advantage slip, Remy cracked the table leg across his opponent’s wrist, producing a piercing yowl. He followed up with another jab in the guts for good measure. The mugger collapsed with an agonized groan.

Remy squatted over his foe, the table leg poised menacingly above his face. “Give me one good reason I shouldn’t just kill you.”
The mugger panted, his breath returning to him slowly.

“Because I could . . .” he gasped again, then puked a little. “Because I could have killed you, but I didn’t.”

Remy paused to consider this, mathematically, game theoretically, finding that it rang with truth. His opponent could easily have just smashed his skull and looted his remains, and this would, theoretically, have been his best move. Though most muggers are motivated by the promise of financial rewards, and don’t necessarily want to hurt anyone, they nevertheless have strong incentives to do just that. And most muggees would willingly surrender their cash without a fight, but often get beaten up or killed anyway. Such is the tragedy of sub-optimization in non-zero-sum games. The mugger had actually done his intended victim an enormous courtesy and had taken the first step toward the establishment of a stable cooperative equilibrium, but of course he didn’t know that.

“Fair enough,” Remy said, sitting down and setting the table leg at his side, but keeping a close eye on the now less threatening but still potentially dangerous adversary. The mugger rolled over and pushed himself into a sitting position with great effort and lots of groaning. He heaved a little, then turned to face Remy.

“Thanks.”

“No problem. I’d appreciate it if you’d return my wallet.”

Remy gripped the table leg as the mugger reached into his pocket and retrieved the wallet, tossing it over to Remy who glanced inside to ensure that all the contents remained.
“If it’s any consolation, “ Remy noted as he took inventory, “you definitely could have taken me in a fair fight. I make it a point to avoid those if at all possible.”

“Thanks,” the mugger managed. “That’ll definitely help my bruised ego.”

“How did you know my money was in my shoe?” Remy inquired.

“Lucky guess.”

“Ah,” Remy replied, raising an eyebrow. “Well you must be lady luck’s paramour. Why waste your time strong-arming people when you could be winning money in the casinos yourself?”

“I like to work outside.” The mugger rubbed his injured wrist. “So, um, aren’t you going to take my money now?”

“I’m a gambler, not a mugger.”

The other man laughed. “Well, I’m not a very good mugger, obviously. Maybe we should switch.”

Remy pondered deeply. While his unshakably logical mind rebelled against the much-touted “idea so crazy it just might work,” he now had one that he couldn’t shake.

“While I’m sure your job is rife with perks, I’m going to pass on beginning a career in mugging people, but perhaps you should take up gambling. I have a scheme, a good one, but it’s a two-man con job. I need a partner.”

The mugger looked up. “No kidding?”

“The potential for profit is high and the risk is small. You play poker?”

“Hell yeah I do! I’m not bad at it. I’m not a pro either.”

“You don’t have to be. I’ll be adjusting the odds in our favor. Leave that to me.”
He stood up, offering his hand. “Well, a garbage strewn alley is hardly the proper venue
to discuss serious business proposals. Let’s go.”

The mugger gripped Remy’s hand in a big meaty paw, nearly pulling him down as
Remy tried to pull him up.

“What’s your name, anyway,” the bigger man asked as he arose.

“Remy. What’s yours?”

“Mack.”

Remy cast the table leg back into the depths of the alley as they moved back toward
the main road. “Well, Mack, I don’t think I’ll need that anymore. We have to prepare for
that poker scheme to which I alluded, and right now I’m weary of thinking in terms of
probability. Geometry would be refreshing. Let’s go have a few drinks and shoot some
pool. What do you say?”

“Hell yeah. I love both of those things. You’re buying right? Things haven’t been
going too well at work lately. The last job I was working on sort of fell through . . .”

“Sure,” Remy said, then paused and raised an eyebrow. “You’re pretty good?”

Mack smiled smugly. “Yeah, I’m good.”

“Excellent. Perhaps we can even pick up a few bucks.” They started to walk. “So,
billiards it is, then. How much trouble could we possibly get into?”

“Let’s find out.”
Remy was starting to stink. He’d been putting it off, delaying the inevitable, but sooner or later he had to take a shower and wash off the accumulating grime festering beneath his orange jumpsuit. Now was the time. He resolved that under no circumstances would he drop the soap.

Technically, this would be his second prison shower. When he was first admitted, he, along with the other new fish, were deloused and hosed down in accordance with admissions protocol. But that had been at least marginally under the supervision of corrections officers. This would be his first time rubbing naked elbows with the general population, and he’d been dreading it. Over the last couple of weeks, his only ablutions had consisted of the occasional wash at the sink in his cell, serving to dilute the filth, but not removing much of it. And if you smell bad enough, the other inmates might be less inclined to rape you, but after you reach an intolerable level of olfactory insult, someone may simply kill you, just to be rid of the stench.

Your anus isn’t the only thing exposed and vulnerable in the shower. All that soft flesh around it is undefended as well, from head to toe. There is nothing stuffed beneath your shirt to partially turn a shank, and you have precious few places to hide a weapon of your own. There’s nowhere to run. The guards don’t go into that wet, slippery deathtrap, so they allow the rule of the jungle in there. Only after the prisoners are safely locked down in their cells will a couple of corrections officers occasionally venture in to pull a soggy corpse out.
Trying to project an aura of confidence and psychopathic danger, Remy strode as casually as he could to the end of the short line that formed outside the shower. The other men, a pair of skinhead Aryans, their toned, muscular bodies covered in swastikas and white power tattoos, paid him scant attention. The Nazis were swapping tales about the many women they’d enjoyed on the outside, exploits of dubious authenticity.

Another prisoner came out of the shower and one of the skinheads went in. The other turned around and met Remy’s eyes for a brief instant. Remy looked up. Didn’t look away. Didn’t smile. Didn’t grimace. It was a coldly calculated look, cultivated by all prisoners who are serious about getting out alive. It said, “I mean you no disrespect. None whatsoever. But I am not afraid of you and I will kill you if I have any reason.” The skinhead said nothing, his head nodding almost imperceptibly before he turned back around.

A fat, hairy biker, with a beard like a Brillo pad, came up from behind. He stepped between Remy and the skinhead, clomping the latter on the shoulder. The skinhead spun around instantly, hands up, the left balled into a tight fist, the right in a sort of claw, ready to gauge out eyes, punch throats, whatever was necessary. But he relaxed when he saw who it was.

“Jeez, Turbo. Ya scared the shit out of me. I thought you was one of them fuckin’ rugheads that’s got it in for me.”

“Yeah, you wish,” the biker joked. “I know you secretly want a big black dick up your ass. All you fucking skinheads do.”

“No, I just want to fuck your mother again. That’s what I want.”
Remy ignored the witty repartee. But there was something he couldn’t ignore. Turbo had cut in line right in front of him.

How much was it worth? One place in line. Maybe a two-minute wait, maybe less. For this, would Remy risk getting killed? Certainly not, but this was a subtle game with complex strategies. There was far more at stake.

As casual as Turbo had been about it, he was gauging Remy, who had far more to lose than two minutes waiting in line. At stake was his reputation, the single most valuable possession a man in prison has. He has to guard that with his life, because without it, his life is worth nothing. If you don’t fight back over a place in line, a bowl of jello, or a couple of cigarettes lent out at the standard 100% interest, then you are setting yourself up for constant repeated victimization. On the outside world, a sensible man would never get into a fight over something as trivial as a place in line. But here, if you don’t fight, tooth, nail, and shank for that place in line, that bowl of jello, that apology that was your due because someone bumped you in the chow haul, any of a thousand tiny, virtually insignificant slights and transgressions, then there may as well be a big sign painted on your ass, reading: “come on in!”

Remy paused, considering his move, noticing that another convict was on his way out. He waited for the skinhead to go in. The biker had at least 60 pounds on him. No reason he should have an ally as well. When the skinhead was gone, Remy took his stand.

“I’m in there next.”

The biker turned around, slowly, his face reddening. “What the fuck did you just say?”
“I said I’m in there next. You want to step in front of me to talk to your dawg there,” the prison slang fell awkwardly out of his mouth, “that’s your business. No disrespect intended. But I’m in the shower next.”

It was looking more and more likely that Remy’s first prison shower experience was not to be a pleasant one, but he had little choice in the matter. Backing down, showing weakness: that was certain to hurt him more in the long run, though it might save him a beating in the short run. The game was iterated, and every inmate knew it. Game theorists would represent it something like this.

<table>
<thead>
<tr>
<th></th>
<th>Give up</th>
<th>Fight Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut in line/ take jello</td>
<td>-1</td>
<td>-5</td>
</tr>
<tr>
<td>Turbo</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>Leave alone</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

This is a payoff table, game theorists’ most ubiquitous tool. Each player chooses between two options, and these two choices determine one of the four boxes in the table. The first value in each pair, in the lower left hand corner of each box is for the player on the vertical axis, in this case the attacker (specifically, Turbo). The second, in the upper
right hand corner, is the payoff to the player on the horizontal axis, in this case the victim (Remy, right now).

The attacker receives 1 point, if the victim gives up. A free Jell-O. A place in line. Whatever. Some small reward that makes prison life just a tiny little bit more bearable. The victim loses that Jell-O or that place in line, which is represented by the loss of one point.

If he fights back against a much larger, meaner opponent, the beating he receives will entail considerably more suffering than the loss of the place in line, and so we have a five point loss representing broken bones, lost teeth, etc. Why then would he resist? Because although it causes him considerable discomfort to fight back (a loss of five points, instead of just one), the assailant experiences a small but significant loss as well, as his weaker opponent is still likely to get at least a few solid hits in (one point lost as opposed to a one point gain, as our handy chart shows).

These games are iterated, repeated over and over, and contestants adjust their choice of strategy based upon the strategies the opponent chose on previous encounters. So, although in a non-iterated game, the “give up” strategy is clearly superior, in an iterated game with a rational opponent, the “fight back” strategy emerges as dominant, because the attacker doesn’t care how many points his opponent loses, five points every time in our example above. He just gets tired of losing that one point himself upon each repetition of the game.

Most game theory experiments allow the contestants to define algorithms dictating what strategy they will use against opponents, based upon their previous experience with those opponents. In prison, the assailant chooses opponents based upon the strategies
they are likely to employ. Naturally, they choose opponents who employ the “give up” strategy, as this provides the largest payoff. Players who expect to be playing the game for a substantial length of time (e.g. not up for parole any time soon) are thus advised to shun this seemingly superior strategic approach.

The biker got right in his face. “I could snap you in two.”

Remy just stood his ground. “Maybe you could. But then you’d have a murder rap on your hands. Unless you’ve already got one, I don’t think you want that. Are you in for murder?”

“None of your fucking business, bitch.”

“You’re right. That’s a breach of etiquette, isn’t it?” Remy said, not breaking eye contact, not trembling or flinching.

“Aggravated assault,” the biker growled, cracking his knuckles. Asking what someone is in for can be a serious prison faux pas, but some guys like to brag.

“Well, don’t you have the impressive credentials on your résumé?” Remy said, leaning in a little closer. “You’re obviously not a man I want to fuck with. But if you are taking me for easy prey, you are sorely mistaken. I want to make that clear. I’ve hurt people, badly. If you decide to fuck with me, it will be a grave mistake and you will eventually regret it immensely. I’m just giving you the facts so you can make an informed decision.”

No game theorist, Turbo took a swing.

Remy dodged, the massive fist slamming with a crack into the wall behind him. He shoved his left elbow into the biker’s solar plexus, driving him back. Overestimating the
damage inflicted, Remy let his guard down as he pulled his fist back to pummel his opponent further. Turbo swept his right foot out, hooking Remy’s left leg and knocking him down. He shielded his face with his arms as the kicks came in. Only one of these landed, only partially deflected, the rest bruising his upper arms but doing no more serious damage. Then they stopped, suddenly. Remy looked up and saw Turbo entering the shower, cursing and cradling his right hand.

“You there. What’s going on?”

A guard had just rounded the corner, saving Remy from further injury. Turbo had made his point and had no interest in spending a month in the hole, so he’d quickly shuffled into the shower.

“N-nothing,” Remy said, getting to his feet, slurping up the blood coming out of his mangled lip. “I, uh, slipped. It’s slippery over here. You know . . . water, soap . . .” He spit some blood.

“Uh, huh,” the guard said, not believing this explanation for a second, but willing to pretend he did to save himself trouble and paperwork. “Look, just get down to the infirmary, okay? We don’t want you bleeding all over the place. That’s a health hazard.”

“Yes sir,” Remy said. A direct order from a guard was a godsend at that point. He didn’t want to go into the shower with Turbo in there, but backing down now would have been no better than if he’d given up from the start. As an added bonus, several cons in the shower and the hall had witnessed the altercation and heard Remy’s refusal to snitch, which immediately boosted his reputation, at least a tiny little bit.
He didn’t back down, and he didn’t snitch. Limping off to the infirmary, blood trickling down his chin, the casual observer would be unlikely to guess that Remy had just scored an impressive number of points.

* * *

The infirmary staff patched him up as best as they were able, or at least willing. They wouldn’t give him any painkillers, which they seldom dished out to any but terminal AIDS patients or those beaten into unrecognizable sacks of smashed bones and inflamed nerve endings. But they did give him sterile towels to absorb the blood, and some oral antibiotics, along with a receipt. The cost of the antibiotics was being charged directly to his commissary account. He’d been under the delusion that some incarnation of socialized medicine existed within the prison system, though he had to admit there wasn’t any justification for that asinine assumption.

As he was leaving, he saw Turbo enter the infirmary to see about getting his mildly fractured hand set in a cast or at least wrapped in an ace bandage. He scowled at Remy, but didn’t say a word. A pair of guards seemed to read the biker’s thoughts, tightly gripping the clubs hanging at their sides, ready for trouble. Remy caught his eye squarely, glancing briefly down, then back up again. The injured biker was holding his right hand in his left. Remy applied the cold press to his face, shaking his head from side to side. He allowed the subtlest suggestion of a grin to steal stealthily across his swollen lips, hoping this would convey the idea, “Don’t you feel just a little bit stupid?” The biker returned a look connoting nothing but cold rage.
Now sweatier and stinkier, Remy returned to the shower. There was no line now, only a few others scrubbing up. Four black prisoners were singing a polished R&B number as they washed, their voices remarkably harmonious, evidence of considerable practice. A few others lathered and rinsed in silence.

New fish are inevitable objects of scrutiny. The choir didn’t miss a beat, nor did the others make any overt gestures, but all watched him as he came in. While they made no threatening moves, their searching eyes were nevertheless unwelcome, but Remy ignored it and removed his clothing, drawing more attention as his body art was revealed.

Beneath his shirt, covering most of his chest, back and shoulders, ending just above the elbow of each arm, Remy was decorated with tattoos. This alone was no mark of distinction. Many in the prison sported far more ink, but his tats were different. They caught the eye, boggled the observer, confused, and on some level, intimidated. Others bore swastikas, bleeding daggers, snakes with fangs bared, some rendered so vividly, one could see the reflection of light off the copiously dripping venom. Remy’s tattoos wouldn’t send enormous men with overactive pituitary glands and extra y chromosomes running off in fear, but on some ineffable, visceral level, his were even more disturbing. People fear what they cannot understand, and permanently painted upon his skin, in a dizzying collage covering his torso, were dozens and dozens of mathematical symbols, expressions, and equations.
Chapter 8  Billiards and Euclid

Ancient Greek mathematicians did not, according to all available historical and archeological evidence, shoot pool. A shame, because they really would have loved it. Pythagoras would have executed devastating breaks. Thales of Miletus would have performed devious multiple combinations. Archimedes would have delighted in finely crafted bank shots to sink the 8-ball into the corner. There are few games that make better illustrations of classical geometry. All those parallel and perpendicular lines, reflected angles and so forth. Virtually every geometric principle described in Euclid’s *Elements* can be expressed in some situation that might arise on a pool table. And, if one is a diligent enough student of this branch of applied geometry, there are frequent opportunities to turn knowledge into profit.

But when money does come into play, so too does an entirely different aspect of the game, a meta-game, having nothing to do with geometry or eye-hand coordination, and quite closely resembling poker and similar endeavors addressed by game theory. When people hustle one another at pool, it’s a series of escalating deceptions in which the players pretend to be worse than they are. Knowing when to call a bluff is a delicate blend of gut instinct and cold, reasoned analysis.

Mack was right at home on the green felt rectangle, and his game was far above average. Back in the days of his wild and frivolously misspent youth, he would regularly forgo his classes, choosing instead to haunt pool halls. There he intensively developed his billiards skill, a fiendish nicotine addiction, and the network of business contacts that would come to serve him well in his chosen occupation of lowlife criminal.
Mack was good. Remy was even better, having honed his hand-eye coordination to match his deep geometric understanding of the game. And, his mathematical acumen leaning even more in the direction of game theory than classical geometry, he was considerably more adept at the meta-game.

“So, you’re pretty good?” Remy asked Mack as they made their way down the street in the direction of the pool hall. A light misty rain began to fall and they quickened their pace.

“Yeah. I’m pretty good.”

“How are you at using a pool cue to beat people who welch on billiards wagers?”

“Even better. I may turn pro.”

“Good. Playing well and having the strength to collect are important, but we must also give attention to the hustling end of things, convincing the other players that they are better than we are, when we know they aren’t. Or, rather, when we can ascribe a reasonably high level of probability to the fact that they aren’t. The approach I’ve always found to be effective is to use greed, recklessness and testosterone to our advantage.”

“No problem. I’ve got plenty of all three.”

“Not ours. The other guys’”

“Oh. Right.”

“Now, we will lose the first game, which we’ll negotiate for a mere five dollars, the sort of wager rank amateurs might consider interesting.”

They proceeded briskly down a dimly illuminated side street, the light but chilly rain beginning to dig into their bones.

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“Play as well as you can play but still lose. Don’t knock in all our balls like clockwork and then scratch the eight at the end. They must feel that they could win again, that they will win again, not that they got lucky. And it’s no good letting them annihilate us, and then trying to bet more, as this will advertise the fact that we are sharks.”

“Check.”

“We lose a close game, and then we get a little sore. Not too sore. We get a little sore and say something that feeds their egos.”


“Eliminate reference to felatio and that will do just fine. We are trying to win money at pool, not to become enmeshed in a brawl. Let’s try to stay goal-oriented.”

“I kinda like brawls.”

“Your fond memories of lost teeth will not stuff our mattresses with cash. ‘Ah, you got lucky’ is good. Perfect. They will undoubtedly agree to another. This time for ten dollars. We lose this one too. Just barely, but we lose.”

“Boy, we suck.”

“At this point, it will serve us to act as if we are more intoxicated than we actually are. We do not take our loss well. Again, Mack, let’s steer clear of references to sexual services, but we need something that will appeal to their false sense of superiority, make them feel like they are taking a couple of hotheaded novices for a ride.”

“How about ‘I never saw such lucky bastards in my life.’ ”

“That will do nicely. But don’t get creative with it and start a fight.”

“Your lack of faith wounds me,” Mack said, clapping his closed hand to his chest, then hacking up a loogie and spitting into a puddle.
“We get them to go for twenty dollars a ball on the last game,” Remy continued.

“We’ll flip a coin for the break. We’ll win. You let me break.”

“How do you know we’ll win the coin toss?”

“I’ve got that part covered.”

They stepped into the pool hall, a seedy joint called “Bank Shots,” hoping to find a pair of cocky, drunk, reasonably wealthy suckers to hustle. The smell of beer and cigarette smoke assaulted and battered the nostrils, and at least one of the players, unseen but not unsmelled, was smoking a cheap cigar, its distinctive odor cutting through the other scents and demanding aromatic center stage. The foul, fuliginous atmosphere was poorly lit, though an inverted cone surrounding a single suspended bulb above each table illuminated the green rectangular arenas, oases of light in the desert of dim shadows. Colored neon beer signs glowed through the smoky haze but did little to illuminate it.

The bar did not cater to the refined palate, and, in fact, a refined palate could not help but feel openly mocked. No top-shelf liquor on their top shelf. No micro-brewed beer. It was exclusively bottom-shelf and macro-brewed. One glance at the neon was enough for Remy to infer that his own preference, red wine from the Bordeaux region of France, was out of the question. They got a couple of bad beers and took a table near the center where they could observe the other players.

“Just knock the balls around a little,” Remy instructed under his breath. “No fancy shots.”

“Yeah, okay. I’m not as dumb as I look.”
“I wouldn’t trust you with a long stick if I thought you were,” Remy said with the barest intimation of a grin as he retrieved the rack from beneath the pool table and Mack chalked up his cue. “Now, let’s go trolling for marks.”

“How about those two?” Mack suggested, pointing with his chin to a pair of young guys, one of whom had just sent the cue ball over the side with an overzealous break and was chasing it across the grimy floor.

“I sincerely doubt they could be persuaded to wager much on the strength of their skill. Have patience.”

He racked the balls, a ritual reeking of geometry. Positioning the 15 spheres within the equilateral triangle, placing one vertex of that triangle on the center point of a line segment perpendicular to the long axis of the large rectangle, one quarter from one end, while Mack positioned the cue ball in the center of a parallel line segment, one quarter from the other end.

“Just break,” Remy said, adding quietly, “Play a mediocre game. We’ll find the marks.”

Mack broke, dropping a low ball. He knocked another one in to follow and was sizing up a long bank shot when Remy hissed between his teeth, shaking his head almost imperceptibly from side to side. Mack nodded, almost, but not quite as subtly, and took a shot at a ball close to a side pocket. From the relative position of the cue ball, the target, and the hole, the shot was not difficult; it was impossible. Though many an amateur would have found it an inviting target, thinking he could put it in if he hit it just right, there was no way to make that shot. Barring influence from some external forces, the laws of physics would not stand for it under any circumstances. Mack knew it. Not with
the precise, mathematical certainty that Remy knew it was impossible, but from the experience of having tried and failed that shot countless times in the past. The ball missed the hole, bouncing a few inches back from the cushion.

“Oh shucks,” Mack said, with less thespian skill than he could have mustered, had he made a more diligent effort. Remy sent him a brief, vicious glare.

“Sorry,” Mack said, pulling out a cigarette from the pack in his shirt pocket and lighting it. A little damp from the rain, it sputtered and hissed as it burned.

Remy knocked one ball in, a simple straight shot. He continued to glance around the room as he pretended to survey the arrangement of balls on the table, his gaze falling again on a pair in the corner he’d been clandestinely surveying.

“There they are,” he said, as he made another easy shot. He said it casually but with unquestionable confidence, his eyes darting for the briefest instant over to indicate the pair of marks. He took another shot, intentionally scratching the cue ball into the corner as it caromed off the target, then made a very convincing grimace of frustration.

“I’ve been discreetly observing their play,” he continued, speaking quietly out of the side of his mouth as he moved to retrieve the cue ball. “I can tell by the way they’re playing that they’re good—not great, although definitely above average—but they’re holding back. Don’t turn and look at them. Here. Come take your shot.”

Mack switched places with Remy, moving around to position the cue ball at a convenient point behind the head string, his eyes flickering up from the table a few times to take a gander at the marks. They each made a few shots and missed a few. Mack dropped the last of the low balls, then blew a relatively easy shot on the eight.
“Don’t overdo it,” Remy mumbled quietly. “Don’t miss a shot any novice could make.”

“You worry too much. Nobody’s paying any attention to us.”

“Are you paying attention to the way they are playing?”

“Yeah.”

“Well, it’s never a good strategy to presume that your opponents are idiots. They might not make the best moves available, and you can hope that they don’t, especially in zero-sum games such as this one, where that is always to your advantage. But your own strategy should always assume the opponent will make the best move. Basic game theory.”

“Fine.”

Remy tapped the 8-ball in, ending their game.

“Should we just go up to them now? Challenge them to a game?” Mack asked.

“No. That would send a message that we think pretty highly of our own ability. We want them off their guard. See that group of people outside coming down the side of the building, toward the entrance? They’ll be coming in the door in about 30 seconds. When they do, they will find this table open, because we are going to go to the bar for more beer.”

“Here, here,” Mack enthused with raised pool stick. “More beer.” He hung the cue back up on the wall and leered shamelessly at a passing bosom.

The group outside came in just as Remy and Mack were ordering their drinks at the bar. As predicted, the newcomers took the table they’d just vacated.
“Now look at that,” Remy said. “No open tables.” He scowled at the opportunists who had moved in on his territory. “So now we casually approach those gentlemen over there, asking if they might be interested in playing us, as we timed our beer break so poorly and lost our table. This will reduce suspicion that we are hustlers and put them less on guard than if we simply walked right up and challenged them.”

“Hey, you’re good at this,” Mack said.

“I know. Just be prepared to back me up when I drop the 8-ball on the big money game. There could be violence.”

“Hope springs eternal.”

They finished their beers, Remy leaving half his bottle of Budweiser on the bar, comparing its flavor to moderately chilled equine urine, and not too well chilled at that. This assessment didn’t stop Mack from polishing it off.

“Belch,” Remy suggested discreetly as they strolled toward their marks.

Full of carbonation, Mack easily obliged.

“Hey, uh, you guys up for a game?” Remy mumbled as they approached, adopting more colloquial diction and elocution.

He addressed the idle player, standing off to the side while his buddy made a shot. The unoccupied one was a tall skinny white guy, with a scraggly confusion of dirty brown hair. He wore a leather vest and had a hand rolled cigarette the size of a small cigar clamped in his jaw, the burning tobacco dry, cheap, and stinky.

The one taking the shot was on the chunky side. Of indeterminate though obviously mixed lineage, with a black man’s nose, but very light brown skin. His head was cleanly shaved bald on top, but a thick, untrimmed beard hung on his chin. In the few minutes
Remy and Mack had been surreptitiously observing the two of them, this one had produced no oral expressions save a few grunts. A bead of sweat had run from the top of his hairless head and took the path of least resistance down the slalom of his nose. He wiped it away, grunted, and banked the five into the corner.

“Nice shot,” Remy said, sounding very much as if he were genuinely impressed, though he was not.

“Grunt.”

The tall one took a deep drag on his cigarette, then tapped the ashes onto the floor.

“Lost your table?” he asked

“Yeah,” Remy said, glancing back toward their recently vacated real estate. “Look at ‘em. Couple of kids with their girlfriends. Probably don’t even know how to play.”

“So I guess you guys are pretty good, huh?”

“Yeah,” Remy said, shrugging his shoulders. “We’re not bad, I guess. But, it’s your table. We’ll give it back to you after it’s over, even if we win. We just want to get a game in.”

The squat, chubby one looked up and grunted again, then knocked the two ball closer to a corner but didn’t quite sink it. He grunted.

“You think you might win, huh?” the skinny one said, snickering as he chalked up his cue. “Care for a friendly little wager on the outcome?”

“Jeez, I don’t know Remy,” Mack said. “I don’t wanna lose any money.”

This was not a part of their script, but Remy improvised. “Come on Mack. Um, how about five bucks. How’s that sound?” he diffidently asked the chubby one, who’d
switched places with his partner while the latter made a long shot across the table
knocking the 13 into the corner pocket.

“Grunt.”

The skinny guy looked up. “Sure. Five bucks. That’d make it a little interesting, at
least. We don’t have to finish this one we’re playing.”

“Thanks. I’ll rack,” Remy volunteered.

The skinny guy broke, but nothing went in. The four of them then knocked the balls
around for a while, Remy and Mack holding back in order to reel in their fish. But as
poorly as they tried to play, the others were even worse. Mack got impatient and dropped
a few balls in a row. They were so easy, he couldn’t very well miss them and maintain
the illusion that he was earnestly trying to sink them. He expected a dirty look from his
partner, surprised to receive only a brief knowing grin, though he couldn’t tell exactly
what it was that the grin knew. Remy himself finally made a few easy shots to end the
game.

The tall one set down his cue and pulled out a tobacco pouch to roll another cigarette.

“Ah you guys got lucky,” he said as he twisted up his cancer stick. “But that’s all it
was, luck. Ten bucks on the next game, unless you’re chicken.”
“Rise and shine, Martin,” Captain Bigger ordered from outside Remy’s cell. “Got some news for you.”

A couple of uneventful weeks had passed, weeks full of monotonous days made up of tedious hours composed of essentially nondescript minutes. It was a little before 7 a.m. The morning count had yet to commence and all the prisoners on the block were still locked in their cells. Some of the Muslims were chanting morning prayers, occasionally punctuated by a shout of disapproval from a sleepy infidel, but other than that the cellblock was quiet. In half an hour, lights would be switched on all up and down the tiers, speakers would blare orders, and hundreds of men would scramble to get their clothes on and line up to be counted, but for now all was dim and still.

“Open 31,” the captain barked into a walkie-talkie, remotely commanding one of his underlings at the control station in the center of the cellblock. A second later the door electronically snapped ajar and Bigger stepped into Remy’s house.

“Yes, some news for Remy Martin, and it doesn’t look good for you. Vicker’s gonna sing.”

Remy sat up; raised an eyebrow but didn’t speak.

“Looks like you’re gonna be in here for a long time. Longer than you thought. Sorry to disappoint you.”

“You appear quite devastated, Captain. I appreciate your heartfelt sympathy.”

“Yeah, well you ought to can the sarcasm, Martin. I’m doing you a favor.”
“Really?” Remy raised the eyebrow again, a scintilla higher this time. “How is that?”

“You can cut your sentence down by two years if you turn evidence against him. It would serve that bastard right. You’re going to do ten years if you don’t. You’ll be out in eight if you do. Take what you can get, Martin. I got the paperwork right here. You just have to sign on the dotted line. But you better do it fast, or he’ll cut the deal, be out in two years and you’ll be stuck with ten.”

“And what has moved you to such benevolence, Captain?” Remy asked, his elocution as slow, clear and somewhat spooky as ever.

“It’s simple enough. I know a little bit about the situation and I consider you the lesser of two evils. It would really irk me to see that son-of-a-bitch partner of yours skip out in just two years, that’s all. I don’t particularly give a damn if you do eight or ten, okay? I’m not pretending I have any great affection for you.”

“I thank you for not insulting my intelligence.”

“Yeah. Look, Martin, that rat has turned on you, and I want him locked up as long as possible. Why should he get a slap on the wrist, while you rot away for a decade? Do yourself a favor.” He shoved the papers at Remy.

“I’ll take it under consideration,” Remy said as he reached up slowly to take the forms.

“You do that,” Bigger said as he left, locking the door behind him.

* * *

Maybe it was true. Remy had no way of knowing. Though he was an astute observer of human behavior, alert to the subtle nuances unwittingly expressed through non-verbal
communication, he couldn’t tell. He’d be willing to bet, at steep odds, that the captain was a skilled liar, though he’d have to find a damned foolish bookie.

If true, if Mack had really agreed to testify, then Remy had nothing to lose by turning evidence against him. He’d be out in eight years if he did, instead of ten.

But even if Bigger were lying, he’d still cut himself a break by testifying. He’d be out in just two years if he cooperated with the authorities and Mack didn’t. He’d be in for four if they both stayed quiet.

Whether or not the captain was lying, trying to trick him into testifying, it didn’t change his position much. Either way, he’d be better off if he turned Mack in. Regardless of what Mack did.

Likewise, Mack had everything to gain by testifying against his former partner, no matter what Remy decided to do. And Remy could only guess that if the state, through the persuasive Captain Bigger, had lied to him, it had lied to Mack too, and told him Remy was a snitch, a rat, a stool pigeon, about to sacrifice his partner to save himself. No matter what either of them did, the other was better off jumping in bed with the DA, but they’d each be better off if they both kept their lips sealed than if they both testified. Each would score more points if neither of them made their best move than if they both did. This was a real dilemma, an ethical conundrum of surprising complexity and, like anything that got Remy thinking at all, it filled his head with thoughts of math.

Throughout his life, Remy had been constructing what he called his ethical calculus, a rigid mathematical formalism for deciding whether behavior was right or wrong.
He was a criminal. He stole things. He cheated at cards. He devised complex schemes to hasten the inevitable separation of fools and their money. But only after making extensive calculations, applying logical rules of inference to his basic ethical axioms and incorporating appropriate mathematical treatment of probability to uncertain but pertinent data. He would then act—steal, cheat at cards, club a harp seal—if and only if his equations indicated with a high degree of confidence that the action fell firmly on the side of what he’d defined as ethical behavior.

Remy was not the first mathematician to conceive of a rigorous deductive approach to determining what was right and what was wrong. His hero, Gottfried Wilhelm Leibniz had undertaken a similar endeavor centuries earlier. Even non-mathematicians—such as, merely by way of example, the vast majority of humanity—make ethical decisions on the basis of some sort of rudimentary ethical calculus. Or, more frequently, they rationalize their positions and decisions by constructing a framework that produces the desired conclusions. They do what they want first, then try to built a logical explanation of why it was the right thing to do. The less logical they are, the more likely they are to succeed.

Even without logical and mathematical errors, rational people can still differ in their views on contentious ethical questions. Their ethical frameworks may be based on different sets of axioms, and two systems may each be entirely internally consistent though they produce conclusions wildly incompatible with one another. This is one reason people don’t agree on complex issues, but axiomatic differences are not the most significant factor. Mostly, people just aren’t very good at math.
Remy looked over at Mack and knew immediately that he didn’t need to say a word. Less than an hour earlier, this galoot had tried to mug him, but now he seemed to read his mind as if they’d been boyhood chums, storing many of their skeletons in the same closet. They were trying to hustle a pair of hustlers and now had to radically alter their strategic approach. A single surreptitious wink, delivered by Mack when their adversaries had both turned briefly away, assured Remy that he and his partner were on the same page, probably the same paragraph, maybe even the same sentence.

“No offense, but you guys suck,” Mack said. He relit his soggy cigarette. “I don’t know what I was worried about.”

“Hey it was pretty close,” the skinny guy said, scowling. “We could just as well have won that game.

“Yeah, but you didn’t.” Mack smiled, absolutely delighted that rubbing their noses in it had unexpectedly become strategically expedient.

“Okay, tough guy, how about another game? Ten bucks. You won’t be as lucky this time.”

“You’re on.”

They played another embarrassingly mediocre game, all four players holding back. They managed to successfully pull off most of the easy shots, and even a few tough ones, but never ventured any but the most obvious banks, kicks, or combinations. Remy and Mack played an awful game, by their own standards, shooting moderately well, but completely ignoring strategic subtleties. Their opponents followed suit, deliberately
playing just slightly worse, making an impressive show of grumbling, swearing, and kicking the wall in alleged ire. One low ball remained stranded on the table as Mack tapped the last of the high balls into a side pocket and set his sights on the 8-ball.

“Man, I’m just in the zone tonight!” he gushed, sending the eight hurtling toward a corner pocket from the other end of the table, a shot that might earn an appreciative nod from a beginner, but nothing Minnesota Fats couldn’t have pulled off while making a sandwich and doing his taxes. “Hot damn!” he added at the moment the ball went in, convincingly suggesting that he had some lingering doubt that it would. Remy smiled at his partner’s increasing display of theatrical acumen.

“In the zone,” the skinny one muttered, as he dug into his pockets for a ten spot and a five. “Lucky as hell is what you are.”

“Oh hey, man,” Mack said, “didn’t you see that last shot? All the way from across the table. And to think I was worried about you guys beating us.”

The stocky one finally revealed that he possessed the power of language. “You got lucky, asshole. How about twenty bucks a ball?”

“Asshole?” Mack said, gripping his cue tightly. He sidled over and got in his face.

“Gentlemen,” Remy said, fearing Mack might take his method acting a wee bit too far. “We’re just having a friendly game here. Let’s not get ourselves thrown out of here. Come on Mack. Cut them a little slack. We just cleaned their clocks twice and we’re going to do it again. Twenty bucks a ball, eh? I think we can handle that.”

“Plus fifty for the game,” the skinny one added.

“It’s a deal. We break,” Remy said casually. “We won the last game.”
The pale, thin one looked him in the eye, subtle sparks of suspicion briefly illuminating his countenance. “No,” he said. “We let you break the first game. We’ll flip for this one.”

“Fair enough. Remy said, taking out a quarter and holding it for display. “Call it.” He sent it spinning into the air.

“Tails!”

Remy slapped the coin onto his left forearm, discreetly palming it while leaving another one he’d had pinched between the skin under his thumb. He removed his right hand to reveal George Washington’s profile, then quickly pocketed it to conceal the fact that the father of the country was on the other side as well.

“Heads it is. We break.”

The geometric ritual of preparation was repeated. The shorter, rounder, darker of their two opponents racked the balls, placing the front corner of the triangle in the center of the foot string, lifting the rack off, looking up and grunting.

“Thank you,” Remy said with a slight bow as he prepared for his break, still chalking up his cue.

“Snort.”

Remy set down the chalk. He sized up the break, closed one eye, and brought the cue into position, sliding it back and forth a few times along the raised platform formed by the knuckles of his left index and middle finger, stopping just an inch from the cue ball a few times, then smacked it hard. It slammed into the triangle of balls, just a little to the right of the vertex pointing at him. It was a classic break: a solid hit, haphazardly scattering every ball. Two of these went in, the 3 and the 15. That left six targets to
pursue, either the high striped balls, or the low solids, all of which were now randomly distributed in a finite 2-Dimensional space.

Remy surveyed the arrangement of balls on the green felt, concentrating deeply as he envisioned the cue ball’s tour around the table. He postulated hypothetical collisions, determining where the target ball went, and where that left the cue ball. He calculated possibilities, eliminating unpromising avenues of speculation. There was no way he could possibly foresee a specific sequence of seven balls in a row with any degree of certainty. Nobody has perfect control of the trajectory of the balls, and the slightest deviations from intended placement are quickly magnified after just a few collisions. Sensitive dependence on initial conditions. Elementary chaos theory, but he wouldn’t have to use much of that. Instead he incorporated a probabilistic treatment to his deductive analysis of applied geometry. He couldn’t guarantee that he’d run the table, but he could, with relatively high confidence, determine which ball would be the best one to hit first.

Their opponents paced, casting ghosts of neon shadows that floated back and forth.

“What’s it gonna be?” the skinny guy asked. “Stripes or solid, man? Low or high? This isn’t rocket science.”

“No, that incorporates conic sections, and of course, extensive application of the infinitesimal calculus. The math is quite different here. Mostly Euclid, not Newton and Leibniz.” Remy enunciated slowly, his odd accent and pretentious diction back in full, now that his charade was over. His eyes and attention remained focused on the table as he spoke.

“Just pick one,” his adversary insisted.
Remy slowly swiveled his head around. He delivered a withering sneer to his opponent, managing even to flare his nostrils with menace. He turned back to the table and continued his analysis.

“Low ball,” he said as he chalked up his cue.

“Four in the corner,” he added, taking a moderately difficult shot from the other side of the table.

“Two in the side,” he said, before the cue had even struck the four. It then hit home and the four fell into the pocket as predicted. Remy took the shot at the two a moment after the cue stopped moving.

“Five off the seven,” he said, “into this corner,” he added, pointing to the far corner pocket with his cue. The cue ball smacked the seven, the seven hit the rail, bounced off and struck the five just a little off center, sending it rolling at a slight angle down the long path to the corner pocket.

“Damn,” Mack said before taking a long pull at his beer. “You gotta admit that was a nice shot,” he added jocularly to his now reddening foes.

“Grunt,” the short one replied, scowling hatefully to provide context. Mack just laughed, but subtly inched back from the table, keeping both adversaries in sight, nonchalantly setting down his beer and gripping his cue tightly with both hands, ready to use it if push came to shove and shove came to assault with a deadly weapon.

“And the seven to follow,” Remy said, making an easy close shot. “Six down there,” he added casually before making another long shot. “And the one back there.” He strolled to the other side of the table as the cue came to rest exactly where he wanted it. He pointed back at the far corner pocket, then knocked the one ball off the side at a sharp
angle. It bounced off the opposite rail, avoiding an obstacle course of high balls, zig-zagging its way to its pocket.

“Damn. You’re better at this than I thought,” Mack said.

“I suspected I was,” Remy said, “You’ve done nothing to indicate that you routinely form unrealistically high expectations of people. Now about that eight ball.” He began appraising the final shot, scratching his chin pensively.

Their opponents’ 11 ball sat almost directly in front of the 8-ball, both of them tucked into a tight corner in front of the upper-right hand pocket.

Remy looked at the table. Squinted. Furrowed his brow.

He lined the cue in his hand, backed it up and brought it forward, as if about to take the shot, but braked it within a centimeter of the cue ball, just as the stocky bald one made another rare use of words, yelling out, “miss it!”

Remy looked up at the transgressor, now damp with nervous sweat.

“I thought we were going to play pool for the money,” he said, his voice icy. “If you wanted to fight for it, you should have said so at the outset and my partner and I would have been happy to oblige. Saved us all a lot of time.”

“Oh, is that a threat?” the scrawny guy chimed in.

“It’s an admonition.”

This seemed to stump him, at least long enough for his partner to offer his assessment, finally stringing together complete, complex sentences.

“He’ll never make that, Jake. It’s an impossible shot. We’ll get a chance to run the table, or at least make a safety shot. We can get another ball in there so he can’t get at it from a different angle. We’re still in this.”
“Yeah,” the skinny one agreed. “That’s an impossible shot.”

“Correction,” Remy said, casually looking down for a second and smacking the cue ball before he could be distracted by any further outbursts.

“It’s a very difficult shot,” he explained as the cue moved in a mild arc, heavy with English, coming in just behind the enemy 11 to kiss the 8-ball, which rolled ever so gently to the pocket, teetered dramatically, and dropped in.

“But not impossible.”

There was a moment of shocked silence, broken a few seconds later by Remy. “Well, that’s $190.00 you owe us. Unless my arithmetic is flawed, but that seems highly unlikely.”

“Fuck you. You guys are a couple of sharks,” the skinny one, apparently called Jake, asserted.

“And so are you, are you not?” Remy replied. “We just happen to be better sharks. Great Whites to your Makos, perhaps.”

“Yeah, well, you ain’t getting our money.”

“No?”

“No. Maybe you can take us to small claims court, asshole.”

Remy said nothing but calmly walked up to the guy, pressed his face so close that he might well have bitten him. Jake didn’t flinch, only scowled back, thick waves of braggadocio radiating from both of them, creating interference patterns in the air.

“Give us the money that we won fair and square or my colleague and I will beat you within an inch of your life. And mind you we haven’t brought a tape measure, so we may well be off by an inch or two,” Remy said, then shoved his opponent back a good two
feet. The chubby, still nameless one moved in to defend, his pool cue aggressively
brandished. Mack cut him off and the two of them faced each other, holding their sticks
like Luke and Darth, ready for epic swashbuckling battle.

The scrawny one just laughed, then stepped back and moved his vest to reveal a gun
tucked into his waistband.

Remy’s eyes went to the handle as his mind lit up, calculating revised optimal
strategies based on new information.

“Well, you seem to have us at an unfair advantage.”

“Looks that way, dickwad.”

“Well, I suppose we have to concede defeat.”

“Aw c’mon, Remy,” Mack said, turning slightly but keeping his eyes on his own foe.

“You aren’t going to let this asshole—”

“Armed asshole, Mack. An adjective of crucial importance. Far better armed than we.
Our best move is obvious. Let’s go.”

“Yeah, you lose,” the armed asshole said, smugly relishing his stolen victory.

Remy leaned his cue against the wall and began walking toward the exit.

“Mack?” he called when his partner didn’t follow. “You know what they say about
the better part of valor?”

“Huh?”

“Let me rephrase. Let’s leave now before we get shot.”

Mack turned and leveled a hateful gaze at the armed asshole, who just grinned and
moved his hand closer to his gun.
When they’d stepped outside, Mack was fuming, Remy the picture of serenity and complacence.

“Those fucking assholes!” Mack raved. Remy was silent as he listened to Mack’s outraged complaints, more than a little hypocritical in light of his own strategies for supplementing his income. Remy let him rant as the two of them walked along at a steady, brisk clip.

“They stole a hundred and ninety bucks from us! Stole it! They may as well have just stuck us up with that gun and taken it right out of our pockets!”

“Yes, well speaking of which . . . ” Remy said after a brief silence as he produced a wallet. He opened it up and looked through, then shook his head in disappointment.

“They would have been eighty short in any event. There’s only a hundred and ten in cash here. But I think we could make good use of this credit card to make up the difference.”

“What the—”

“I’ve never been convinced that violence is an especially effective approach to most problems. I took this off the welsher when I shoved him. I had no illusions that this was in any way likely to deescalate the conflict or shift circumstances in our favor. I just wanted to get close enough to lift the wallet. The business with the gun was actually quite convenient. An excuse to make a hasty exit.”

Mack laughed. “You talented bastard. I didn’t know you could do that.”

“Of all the facts in the world, the ones you don’t know represent a vast, overwhelming majority. The same applies to me, but it’s a slightly smaller vast overwhelming majority.”
“Shit man, you could have just taken the wallet from the start. Saved us time and trouble.”

“That wouldn’t have been right.”

Mack laughed again. “I get it. Honor among thieves, huh?”

“Something like that. I’m governed by a rather complex code of ethics.”

Remy had no time to further expound on the subject, for at that moment the door to the pool hall burst open and the wallet’s former owner charged out, screeching threats and profanity, waving the gun. Remy and Mack hauled ass, full throttle into the misty dark.

As they tore down the slick road and wove in and out of alleys, the threat of death on their heels, Mack couldn’t stifle a full-throated, frenzied cackle.

Chapter 11   Games and Meta-Games

The most popular card game at Longacre was what most of us on the outside know as “spades,” though its residents often referred to it by one of its more popular variations: “cut-throat.” This appellation was a vivid reminder of what could happen to someone who pissed off the wrong people, or was just in the wrong place at the wrong time, and when you’re in prison, you’re already in the wrong place.

Since getting his privileges, including the right to use the small indoor recreation area when the tightly regimented Longacre schedule permitted, Remy’s primary pursuits had been avoiding trouble and playing cards, though he had far more of a knack for the latter. He missed the ambiance of the casinos. The green felt. The free drinks, delivered by
attractive, amiable waitresses. He missed the friendly dealers, highly trained in the art of
making people feel good about surrendering their money. He even missed that adrenaline
rush he got when he was doing well, and was certain that at any moment he’d be
identified as a card counter. His chief worry back then was that he’d be asked to leave,
and would have to lay low for a while before he could get back into the game. He never
worried about his throat.

Gone were the pretty waitresses. The closest prison analogue was Shirley (née Carl), a
poor substitute for the genuine item. Shirley was a young black convict of ambiguous
gender who survived prison by the most obvious expedient of trading the use of his ass
and mouth in exchange for protection. Carl/Shirley insisted on being called ‘she,’ and
her numerous sexual partners at Longacre wouldn’t think twice about shanking anyone
who accused them of homosexuality, in spite of the glaring evidence supporting the
accusation, hanging right there between Shirley’s legs.

Shirley was blessed with a combination of incomparable street smarts and high
cheekbones. Unlike many men in prison on the receiving end of sodomy, Shirley
enjoyed sex with men long before she ever got locked up, and she was smart enough to
know how to use her sexual power. She was an anomaly. No man owned her. She
appreciated the power of a pussy, even though she did not, in the strictest sense of the
term, actually have one. Men who were twice her size and buggering her on a regular
basis didn’t own her the way they owned those naive young suburban white kids, in for
peddling small quantities of pot and ecstasy to their friends. Those pitiable wretches
were now reduced to little more than mucus membranes with numbers attached to them.
Their asses were someone else’s property, but not Shirley’s. If some 250-pound guy got
on her bad side, there was a 300-pound guy somewhere else whom she could, through the careful exercise of her feminine charms, persuade to cut his throat.

Remy had to admit that if he didn’t know better, he’d think Shirley was a woman, and not the most unattractive one he’d ever seen, by any stretch. But he did know better. For guys locked up for a decade, sexual frustration can set up extraordinary psychological defense mechanisms, allowing suspension of disbelief that a man on the outside couldn’t imagine. But Remy hadn’t been down that long, hopefully would be out in a few years at the most, and he aggressively disbelieved.

The recreation area had a few plastic chairs set up around dilapidated tables, devoid of any traces of comforting green felt. Some drinks were available, but they weren’t free, and they weren’t very good. And unlike in the casinos, the distributors were clandestine in advertising their availability. No waitresses sauntered by, announcing “cocktails” in that inviting singsong voice that makes a gambler thirsty just hearing it. Pruno, a prison wine made by cons on the kitchen staff, throwing rotting fruit into old pots or trash bags with some yeast and sugar, was, for a wine connoisseur like Remy, an aesthetic blasphemy. They were, to the fine Bordeaux he favored, like rancid horsemeat jerky to Beef Wellington.

“S’up, dawg?” a sickly, skinny, chalky white entrepreneurial wine merchant asked discreetly, taking a seat next to Remy at the card table. “You want some hooch? Good stuff, man. Got some fucking strawberry in there. Made it last week. Primo pruno. It’s going fast, man.”

“I’m sure last week was a very good year, but I’ll pass,” Remy said, still shuffling a deck.
The merchant, called Zombie, and with good reason, for he looked as if he’d died some time back but lacked the sense to stop moving, might have taken offense, interpreted this as the unpardonable sin of disrespect, but he was all business, trying to unload his overstocked supply before it turned to vinegar or was confiscated by the guards. Zombie was a consummate junkie, and his position in the kitchen afforded him no opportunities to brew up smack. He had only his pruno, and he had to sell some if he was going to get a fix, so he immediately got up to try to press his wares upon a more receptive potential clientele.

No pretty waitresses serving decent red wines. No green felt. And nobody played blackjack. They mostly played spades.

“Hey white fish. I hear you a card player.”

This was Lucien, a big man and a lousy gambler, who took a seat opposite Remy. Calling Lucien “big” was a ridiculous understatement. He was a lumbering brown hulk of muscle, bulging out of his orange jumpsuit, size extra-gargantuan. A light directly overhead glared off the behemoth’s bald, oily scalp. His sleeves were rolled up to his elbows, revealing mighty forearms with tattoos designed for maximum intimidation. Guns, daggers, and skulls crying blue tears.

Remy had made an impressive showing the day before, winning several packs of smokes. But he gave a few cigarettes back each time, explaining the superstitious custom that he, a professional gambler, had cultivated for years, tipping the dealer when he was having a good night with the cards. Failing to do so, he averred, would offend the goddess of fortune, and the luck would be forever against him after that.
This explanation was only partially true. He always tipped the dealers when he was doing well, strictly as a matter of courtesy, as most professional gamblers do. He didn’t believe in the goddess of fortune any more than dentists believe in the tooth fairy. But pretending he did was a clever maneuver that allowed him to purchase goodwill without showing weakness. Otherwise the cons would smell fear, detect the desperate gesture of someone trying to buy his own safety, and they’d hit him up for more and more smokes, or food, or blowjobs.

Instead, he explained about lady luck—in whom he did not believe—with unwavering seriousness and sincerity. He mumbled a few words about ‘respect,’ an essential prison buzzword, always good to work into just about any conversation. “In my world,” he would say, “it’s disrespectful not to tip when you are winning. Disrespectful and bad luck.” So he gave a few smokes back. He ameliorated resentment, didn’t show weakness, and still walked away with some carcinogenic currency.

“Deal ‘em out, white fish. Let’s have some cut-throat. Let’s see whatchu got.”

Lucien’s reputation as a violent psychopath preceded him like an armed troop of guards before an emperor. From what Remy had heard, playing cards with him was a no-win situation. He’d sent so many guys to the infirmary with compound fractures and accusations of cheating that the other cons started letting him win. Until he caught one of them not-so-subtly throwing the game, and the insult to his intelligence made him even angrier. That poor bastard didn’t get out of the infirmary for three months, two months longer than Lucien was in the hole for beating him into a twitching sack of broken bones. Playing cards with Lucien was a lot like playing roulette when the table’s nice and balanced. No matter how you play, you’re going to lose.
“I was just—”

“There’s no way I’m just going to...” Lucien began.

“Deal the mofuckin’ cards, whitefish,” Lucien ordered.

“Oh, is you boys playing cards?” Shirley asked, slinking over to the table.

The eyes of nearby cons followed the sexy transvestite cynosure. Others in her position were despised as faggots, prags, and punks, but Shirley was well connected, charismatic, and gave astonishingly good head, thus managing to keep a dozen hardened cons wrapped around her little finger.

“Whuzzup, Shirley,” the giant said.

Shirley sat down next to him, flirtatiously running her hand along his shoulder.

“Is you gonna play cards, Lucien? I’s like to watch cards,” she asked as she batted her eyelashes.

“Gonna teach this peckerwood a thing or two is what I’m gonna do.”

Shirley’s presence made Remy’s unenviable situation even worse, as she inevitably drew attention, something he never welcomed on the outside, and had even less use for in here. He couldn’t leave now without advertising his weakness in front of a roomful of cons, and even if Lucien didn’t consider it an insult, throwing the game would be a blatant public admission of weakness. He was stuck between a rock, a hard place, and a bunch of shanks. If he won, he was screwed. If he lost, he was screwed. If he refused to play he was, yes, most decidedly screwed. He shuffled the deck, hoped for the best and prepared for the worse, expecting something very close to the latter.

He and Lucien took turns selecting cards, and Remy wound up with what in any other circumstances would have been deemed an excellent hand. His many years of respectful
deference to Dame Fortune seemed to be working against him. She thought she was
doing him a favor, but nobody told her about the meta-game.

The play the game of spades was just a component of this other game, the game of
Remy surviving prison without getting raped or shanked or beaten to death. His
challenge in this game was to lose the game of spades, without appearing to lose
intentionally. This is much more difficult than winning, which would have been a piece
of cake, but the cake would have a razor blade baked into it.

Lucien eyed him with attentive menace as he arranged his cards. Remy allowed a
smile to escape, careful to make it appear involuntary, then quickly grimaced, as if
realizing the unintended release of information and trying to cover it up.

“Well, I suppose I’ll bid, oh . . . six,” Remy mumbled, though his hand was easily an
eight-pointer, and might get him nine tricks if he weren’t careful.

Lucien smirked triumphantly. Remy could guess from his own hand that his
enormous opponent probably held a pretty lousy one.

“You trying to set me, motherfucker? I know you got better than that. I’m only taking
six.”

It wasn’t easy, but Remy managed to take only seven tricks, scoring sixty points and
one sandbag, while Lucien got a clean sixty. He used up his spades and ceded the
initiative toward the end, when both players had just a few cards left, low hearts, clubs,
and diamonds, so that Lucien could take a few tricks with his leftover garbage. He only
hoped it wasn’t obvious. That hope was quickly dashed, and Remy worried his brains
might soon follow.

“That was some dumb-ass playing there, Ace,” Lucien observed.
“Yeah, I shouldn’t have used up all my spades when I—”

“You holding back?”

“Holding . . . why would I do something like that?” Remy asked, sounding remarkably sincere considering how laughably obvious the answer was.

“Because you afraid I’m gonna bust your fucking head open if I lose. You think I can’t win on my own? You think I need some special favors from your cracker ass?”

“No. I’m just playing cards here. I’m sure you—”

“Just shuffle the mofucking cards and play like a real man.”

Remy shuffled and they took turns selecting cards. As they were arranging them, Shirley leaned over Lucien’s shoulder and pointed at his hand.

“Oooh look at all the pretty hearts.”

Lucien slammed his hand down on the table. “Get your faggot ass out of here, Shirley!” One of the biggest men at Longacre, and leader of one of its important gangs, Lucien could talk this way to Shirley without fear of reprisals from one of her many boyfriends. Few others would risk it. Her lip quivered for a minute before she burst into tears and ran away from the table.

“Aight, peckerwood. I’m bidding seven.”

Remy was almost certain that Lucien wasn’t holding a seven trick hand. His own was full of spades, and Shirley had revealed that Lucien’s was heart heavy. Either he was a remarkably bad spades player, or he was actively trying to lose because of some meta-game he was playing. Remy suspected that Lucien wanted an excuse to get angry. Not that anyone really needed one, but he was quickly learning about the strange and subtle code of convict behavior. This code frowned on completely unprovoked violence, but
bestowed its unreserved blessing upon the most heinous brutality, just as long as it was in response to some sort of insult or disrespect.

“Seven here, as well,” Remy said.

They traded tricks. Lucien won more at the beginning, his ace and royal hearts taking some of Remy’s low ones. But after he’d exhausted his hearts, Remy brought out his spades, and the battle turned. When all the cards were down, Remy had won his seven tricks, Lucien only six, getting set for seventy points.

“Close hand,” Remy noted, trying to be diplomatic. “Could have gone either—”

“You cheated, Motherfucker!” Lucien thundered, rising from the table.

“I didn’t. I just got lucky. Look—”

Lucien threw his cards down. “You jes’ better watch your ass,” he warned before storming off just as a siren rang out. It was not the shrill alarm reserved for emergencies, which found frequent enough employment. This one sounded every hour on the hour from six a.m. to ten p.m. It was now 8 p.m., which meant the 7 o’clock social hour had once again come to an end.

“Play time’s over kiddies,” CO Thompson barked through the PA system. “Back to your cells.”

The prisoners rose robotically, conditioned to the regular klaxon blare and heeding it without thought, like Pavlov’s dawgs. They began heading back to their cells for a count, there to remain until lights out.

Leaning up against Remy’s cell when he got there was a slender young black man. He looked up as Remy approached, revealing a scruffy 3-week beard, beneath which could be seen a nasty chin scar that looked like a second mouth.
“Um, hell—” Remy began, extending his knuckles for an introductory bump.

“Damn right it is,” the new guy interrupted. “All fulla schemin’ demons wit’ they minds on reamin.’ All’s not well, ‘cuz you fell, and now you sittin’ in the flames of hell. Who the fuck are you?”

**Chapter 12 Calculations**

“A bottle of . . . hmmm . . . that Louis Latour will do nicely,” Remy informed the little brown shopkeeper. “And what would you like, Mack?”

They were in a small liquor store a few blocks from the pool hall. The proprietor, a diminutive Sikh with copious bags under his eyes from endless 12-hour shifts, stood silently, awaiting their decisions with military attention. His hands were out of sight beneath the counter where a firearm was surely available for quick and convenient access should the need arise, a not infrequent occurrence.

“Bourbon,” Mack said. “Make it two bottles. Hell, let’s get a case, Rem . . . er . . . ‘Jake.’ ”

“No, I’m afraid we aren’t at liberty to spend that much. A hundred dollars is our maximum.”

“Aw c’mon, man. There’s gotta be more on that card.”

“We won $190 of which $80 was not available. I’m willing to add an extra twenty for our troubles and for behavior-modifying punitive reinforcement.”

“Damn straight. Let’s get punitive.”
Remy vetoed this with a shake of his head. “Overly punitive reprisals do not serve to create stable, cooperative equilibria. Quite the contrary, they promote spiraling retribution, erode trust, and destabilize emergent mutually beneficial strategic combinations,” Remy lectured. “That will be all,” he said to the clerk.

The shopkeeper put the bottles in the bag, conveniently ignoring the fact that this obviously was not the card’s owner, as he had found that asking for I.D. tended to hurt sales. Remy thanked him as they took their booze and left the store.

“Well my theory is ‘fuck that bastard,’ ” Mack noted as they stepped outside.

“If memory serves,” Remy began as they started walking, his voice even more irritatingly didactic than usual, “it was I who lifted the wallet. It is therefore my ethical system that governs what we are to do with it.”

Mack threw up his hands. “Fine man. I just don’t get your ethical system or why you even have it. I’ve gotten along just fine without one.”

“I don’t expect you to understand,” Remy said as he handed fifty-five dollars to his accomplice, put the same amount in his own pocket, then tossed the wallet and the remainder of its contents into a dumpster. “It’s complex and involves a good deal of higher mathematics.”

“Yeah, okay, fine.” Mack counted his money before sticking it in his pocket. “I’m just a crook, not a philosopher/mathematician/crook like you. I specialize. Who do you think you are, Robin fricking Hood?”

“No. While I occasionally make charitable efforts toward the poor, I remain the primary beneficiary. But as a general rule, I do focus my attention on the rich. This is
partially ethically motivated, but mostly simple pragmatism. I couldn’t help but notice that the rich have most of the money.”

“Yeah, but they have alarm systems, that’s the problem. And dogs. Big, mean, expensive dogs.”

“Yes, but have you calculated expected winnings, risk of capture, probable penalties? Have you developed a quantitative assessment of which capers are the best criminal investments?”

Mack scratched the back of his head. “Well . . . no. Not any calculations. That would involve, like, actual numbers and shit, right?”

“Ideally, yes.”

“No, I mean, I just sort of thought about it some.”

They rounded a corner, still wary of the armed asshole whose wallet they had clandestinely appropriated, who undoubtedly had punitive behavior modifying reprisals on his mind and, ignorant of game theory and unburdened with a complex ethical system, was probably not interested in establishing a cooperative equilibrium. The tall buildings in the brightly-lit casino district a few blocks away stood out in gaudy ostentation, rising above the smaller ones in this more shadowy section of town, attracting tourists with hypnotizing neon. Seeing no gun-waving maniacs, they cautiously proceeded.

“Not intending the slightest offense,” Remy said, “I think it’s safe to say that I have thought about it much, much more. Consider, my new friend, for purposes of example, a lottery, where there is a one in a thousand chance of winning, and the payoff is five hundred to one if you win.”

“Hey I know this game. Does it benefit senior citizens?”
“Yes, and altruistic benevolence is the only reason to play, because the odds are terrible. I will not be the first to observe that such a lottery is essentially a tithe on those who are not very good at math. To the senior citizens’ benefit, this represents an enormous tax base.”

A bedraggled homeless man beseeched them for spare coins, assuring them that he hadn’t eaten in days. Remy correctly conjectured that any money he gave him would feed nothing but a slot machine. He denied the mendicant’s petitions and continued his lecture.

“Your expected return on the aforementioned lottery is about – 50 cents every time. Do you know what mathematicians mean when they say “expected?”

“Um, I’m guessing ‘expected’ means what you expect will happen?”

“No. Not at all.”

“Well, big surprise there.”

“When mathematicians say ‘expected,’ they mean the average result over the course of many trials, if you were, theoretically, to repeat it many times. What you really expect is that you will lose a dollar. Or, there’s a small chance you’ll win 500 of them. You’ll never lose 50 cents. You’ll lose one dollar 999 times for every one time you win $500, in the long run.”

“Okay, well, that’s why I’ve pursued the exciting career of taking wallets from people who are smaller than me. It’s a social welfare program funded by a tax on the weak and unarmed. Also a big tax base.”

“But you must also consider the expected penalty in addition to the expected reward. Consider robbing a bank.”
“Which one?” Mack asked, instantly charged with excitement. “You got a plan?”

“I mean consider it for purposes of demonstration.”

Mack grumbled. “That’s so much less fun.”

“If you commit a crime, your expected penalty is calculated by multiplying the probability that you will get caught by the penalty if you do. Your expected reward is the chance of success multiplied by the reward if you succeed. If you rob a bank, you will most likely get away with less than $5,000. Let’s recklessly assume that you have a 75% chance of getting away clean with that much. Expected reward is $3,750. And let’s say you get five years in prison if you get caught. So that’s a 25% chance of five years in jail—i.e., an expected penalty of 15 months in jail—for an expected gain of $3,750. Would you agree to spend over a year in prison for less than $4,000?”

“Hell no.”

“Then you shouldn’t even consider bank robbery. Mathematically speaking, it offers worse odds than other criminal endeavors. It’s like playing roulette instead of blackjack.”

“But people do it all the time.”

“That’s because people are, with shockingly few exceptions, simply terrible at math, and as a result make irrational choices.”

“I’ve never brought a calculator with me before I mugged anyone. They used to be big enough to hit people over the head, but they’re so small now,” Mack complained. “They’re fucking useless.”

“Well, I’ve done the calculations for us, and the math says that robbing a bank is a foolish endeavor, with high expected penalty for low expected reward.”
“Fine, then. We won’t rob a bank,” Mack surrendered as they stepped carefully around a discarded condom. “How about cheating little old ladies out of their social security checks? I hear that’s the next big thing.”

“Calculating expected penalty and reward is unnecessary as my ethical calculus so clearly frowns upon that.”

“What the hell does that even mean?”

“An ethical calculus is an algorithm to decide the rightness or wrongness of actions. Given the specific axioms of my ethical system, cheating at cards is allowed, but robbing some little old lady is not.”

“Lucky for her.”

“Luck is an illusion. It doesn’t exist. The extraordinary prevalence of this illusion is the reason all those casinos thrive, but contrary to popular misconception, luck has absolutely nothing to do with gambling. Speaking of which, take this.” He handed Mack a card.

“Call me tomorrow, no later than 9:00 a.m. We have to discuss our strategy for winning at poker.”

“Cool. I hope lady luck is with us.”

“I told you, there is no lady luck. It’s just old man probability in drag.”

“Are we going to cheat? I mean, I assume we are, right? What would be the point, otherwise?”

“We’ll be playing with unmarked cards, fairly dealt, and we won’t keep aces up our sleeves, pass cards between us, or perform any sleight of hand.”

Mack frowned. “That doesn’t sound like cheating. I’m against it.”
Remy smiled. “Trust me, it is, and if we get caught we’ll be in big trouble.”

Mack brightened up when he heard this. “OK, I’m starting to like it.”

Chapter 13  
Rules of the Game

Darnel LeBlanc was 25 years old, about a decade younger than his Cajun cellmate. With good behavior, he’d be out before he passed the age of 30 and could still hope for a real life on the outside. Unfortunately, what the state defined as good behavior—backing down from every fight, resolving conflicts by reporting the situation to the authorities—was almost certain to commute his three years into a life sentence, not by lengthening the sentence, but by shortening his life.

Following the unwritten prisoner’s code, while it didn’t guarantee survival, offered the best chances. But that might turn the three years into life by the opposite process, by adding decades to his sentence. If someone has it in for you, there are three options. You can do nothing, in which case, you get shanked and probably killed. You can tell the guards, in which case you get labeled a snitch and might well get gang raped first, then killed as a coup de grace. Or you can shank the other guy first, which earns you respect from some cons, enmity from others, and possibly ten to life from the state. Choose wisely.

Though every sentence might be bounded on the high end by some number, that number is almost meaningless. Two to ten is two to life, or two to death. If you are lucky, you might get out in two on that two to ten, but you might not be out in twenty years, and you might not get out at all.
Darnel was in for grand theft auto. He never intended to make a career out of crime, hoping instead to become a professional baseball player, or poet. His guidance counselors, had they been honest with him, would probably have advised that crime was, statistically speaking, more likely to pay.

Unfortunately, his dabbling in crime earned him a full scholarship in an exclusive academy teaching career crooks the tricks of their trade, providing both the basic education and accreditation. In the criminal underworld, time in the penitentiary is just like a university degree. A year or two is an associates. Two to five is a bachelors. Ten is a masters. And if you are on the street after doing 15 or 20 years in the slammer, that is a Ph fucking D.

“I got no problem with you, aight?” Darnel explained to Remy after they exchanged brief introductions, now locked into their cell for the evening. “Just don’t be expecting me to sit with you in the chow hall just ‘cuz we cell mates. We got us a social order here. We got segregation across the nation, ain’t no diversity celebration, aight?”

“I won’t take offense.”

“Okay,” Darnel said. “ ’long as we got that straight. Longacre ain’t as bad as some places as far as race relations is concerned. That’s just what I heard, y’unnerstan. This my first bid. I never been to no other joint. But tha’s just what I hear.”

Remy nodded.

“Some joints, man. It’s all run by the gangs, and you don’t even associate with no peckerwoods. That’s white boys, you know,” Darnel explained. “And white ain’t right;
we don’t delight in their sight, ‘cuz they likes to fight. I’m just explaining the scene, Jimmy Dean. No offense.”

“None taken.”

“I only know what I heard, but I hear it’s a sight worse at a lot of joints. Mos’ all the joints in Texas is rough, man. And California. They the worst. Ain’t so bad here. But you know, it ain’t no fucking rainbow coalition an’ shit. In the chow hall and out in the yard, black hangs with black, and white wit’ white, an’ Mexican with Mexican, y’unnerstan? Just the way it is. I can see you ain’t no skinhead from that bushy mop you got up top. And I ain’t no mofucking gangsta and shit, man. I’m a car thief. I steal dem wheels to get my meals. I ain’t no crip, no blood, no Black Guerrilla Family. I’m jest a car thief, an that’s it. ‘Cept this bid is bullshit, man. I never even seen that fucking Chevy! Anyway, Warden Riems, man, he got hisself a mission. He wants to build better race relations in his prison, so he puts a few peckerwoods in wit’ some brothers. Like his own little social experiment. And he might be a cocksucking son of a skanky-ass bitch, but he ain’t no fool. He ain’t gonna put no Mexican Mafia or die-hard Nation of Islam Muslim brother in the same cell with the fucking AB and shit.”

“AB?”

“Aryan Brotherhood, man. Okay, so I know you really is a fish. This your first time down?”

“Yes. And last, if I have anything to say about it.”

“Let me guess, man. You some law-abiding citizen with a good job, ain’t gonna be no great job, the way you look, but you know, some kinda job, and you jes’ fell behind some kinda shit. I ain’t gonna ask what kinda shit, cuz that’s disrespectful. An’ doan you ax
nobody, neither, ‘cuz that kinda inquisition is just seen as dissin, and you’d jest be fishin’ for an ass kicking, aight? But you like 35 man, and never been down, so I figure you must a jes fell behind some DUI or knocked off your old lady or something."

“You figure wrong. I’m a career criminal, just a smart one. But the law of averages caught up to me. That and a partner who wasn’t as smart, so here I am.”

“Aight, man,” Darnel said, bumping knuckles with Remy in the traditional prison handshake. “All I’m saying is Longacre ain’t the worst joint. But, you know, you gotta watch your ass. Ain’t no picnic man. Ain’t no walk in the muthafuckin park.”

“That’s why I left my Frisbee back at county.”

Darnel just gave him a flat stare, then smiled slowly. “You a funny guy, Martin. But you best be careful with that shit. Some guys here got no sense of humor.”

“So I’m learning. I’ve already managed to offend a few of them. Some biker called Turbo and a terrible card player, name of Lucien.”

Darnel threw his head back and laughed, as if Remy had begun a favorite joke they both knew, eliminating the need for a buildup and cutting right to the familiar punch line.

“Lucien, man, that motherfucker is the kind of guy that gives convicted felons a bad name. He’s one mean ass bull dog, knowhahmsayin? You best stay away from him.”

“I tried. Didn’t work.”

Darnel shook his head. “Well, good luck,” he said, taking a seat on the bottom bunk.

“I got the bottom bunk, aight? I was here first. Just ‘cuz I was in the hole . . .”

“The bottom bunk is yours.”

“Glad we agree on that,” he said, stretching out into the bunk, staring up at the bottom of the top bunk. “So, what’s your bid?” he asked.
“It seems to be indeterminate at this point. From two to ten years, depending on a number of factors.”

“A deuce to a dime, eh? You mine me axing what you down for? No disrespect intended, aight? I’m just a curious son of a bitch.”

“Me?” he said, grinning slowly. “I shot a man in Reno. Just to watch him die.”

“No shit!”

“Actually that’s exactly what it is. It’s shit.”

“Okay, man. Forget I asked. That’s some disrespectful shit. A man’s gotta do his own time, knowamsayin? None of my business what you down for. Say man, you wanna split a TV, man? We can buy one for our cell, but its gotta be from the prison commissary, man. Can’t be getting your sister to bring that ole’ black and white you used to have on the outside and thought it was a piece of shit, an now it looks like gold. Gotta buy it from the man. They stick it to us any chance they get.”

“I’m not much of a TV watcher,” Remy admitted.

“Oh, I ain’t neither man. I just want it for the baseball games. I’m a big baseball fan. I’m hardcore, man. You like baseball, Martin?”

“I’m fascinated by the game.”

“Damn straight. Jackie Robinson, man, that’s my hero. Who’s your favorite ballplayer of all time?”

“I’m intrigued by the statistics of baseball, but I have no favorite player.”

“Yeah man, well, a man’s gotta have heroes. You know what I mean, man? Who’s your hero, Martin?”

“Gottfried Liebnitz.”
“He play for the Yankees?”

Remy laughed quietly, then climbed into his top bunk, to stare at the ceiling where he had roughly sketched a grid pattern to ponder before lights out, working out some thoughts about prime numbers, though there wasn’t a number, or at least a numeral, to be seen in the pattern, just rows and columns of squares.

“No,” Remy said, after a long pause. “He was a mathematician and a philosopher. He is most noted for development of the infinitesimal calculus, simultaneously and independent of Isaac Newton. But he also believed in a mathematical formalization of ethics, part of what he called the *calculus ratiocinator*.”

Darnel was quiet for the first time since he and Remy had begun conversing.

“And right now, I’m in a bit of an ethical quandary,” Remy said, now talking more to himself than to his cellie below him. “That partner I mentioned, well if I turn evidence against him, they’ll let me out sooner. I have no problem keeping quiet, serving out my time. Adopting a cooperative strategy whereby we each serve our four years and then are done, but the problem is my four-year sentence may well be a death sentence, because despite my best intentions, I’m making more enemies than friends.”

“Don’t be talking about turning evidence to nobody ‘round here. That doesn’t do good for a man’s rep, knowamsayin? You get a snitch jacket, man, and it’s all over, aight? You know what they say about that kinda shit.”

“What’s that?”

“Paybacks are a bitch, man.”
Chapter 14 Zero Sum vs. Non-Zero Sum Games

“Von Neuman’s minimax theorem proved that there is always a single rational course of action for games of two players, provided their interests are diametrically opposed.”

Remy explained this to an uninterested and uncomprehending Mack as they faced one another, bleary eyed, across a table at Boxcars, a 24-hour diner with decent food, better coffee, and more images of both trains and dice decorating its walls than the most compulsive gambler or diehard railroad enthusiast could ever desire. They were both still shaking off sleep through application of the café du jour, a tasty French roast. Their breakfasts of scrambled eggs with toast, and pancakes with sausage had not yet arrived. The place was packed with hungry, unreasonably loud patrons, and they held little hope of seeing their food any time soon.

Their waitress, Glenda, an energetic thirty-something working class goddess, arrived to fill their coffee cups. With her bright red hair contrasting against the felt green uniform she was squeezed into, she looked like the living embodiment of Christmas, though it was 90 degrees outside.

Distracted briefly by Glenda, Mack returned to processing the esoteric comments of his partner in crime. He gulped down a shot of coffee, but this only burned his tongue, failing to render Remy’s ramblings any more coherent. The mathematician took a more cautious approach, venturing a series of small sips.

“Is this going to be on the exam?” Mack asked before reaching for his water to cool off his scalded mouth.
Remy paused to consider this. “No. But this is important background to understand why we will be at an advantage in the poker game.”

“Oh, so that’s it,” Mack suggested, lighting a Basic cigarette to wait out the breakfast and complement the coffee. “The winning money part. That’s the part I’m really interested in.”

“There are two kinds of games,” Remy explained. “First, we have the zero-sum games. In a zero-sum game, everything one player wins, another loses.”

“Like what?”

“Like most of the games people play when they know they are playing games, but unlike the game-like situations they encounter in real life. That’s part of the problem with the world, of course.”

“What is?”

“That people treat situations where their interests partially conflict with someone else’s as if it were a zero-sum game, but in reality it usually isn’t.”

“I still don’t know what you mean by that. I just want to know, you know: when to hold ‘em, when to fold ‘em, when to walk away, when to hit someone with a broken beer bottle . . . stuff like that.”

“We can return to that. But right now, take, for example, odds and evens.”

Mack boggled at him. “What, you mean where each guy tosses out either one or two fingers at the same time—”

“Precisely. One of the participants wins when the total is even, the other when it’s odd. Each time one of the players loses, the other wins. It’s all or nothing. Their interests are diametrically opposed. It’s a zero-sum game.”
“Fine,” Mack said, setting down his coffee to take a long drag, exhaling out of the left side of his mouth. “It’s a zero-sum game. So what other kind of games are there?”

“Non-zero-sum games.

“Well yeah, no shit. But, like what?”

“Well, consider that odds and even game again. Let us say an eccentric millionaire has arranged a game of odds and evens between us. We play twenty times. The winner gets paid every time.”

“Cool. How much?”

“Doesn’t matter.”

“Of course it matters. How much?”

“A thousand dollars,” Remy said, pulling out a nice round figure.

“I like this game already.”

“It’s still a zero-sum game, because the eccentric millionaire is going to award the same amount of money each time, no matter what we do, so each of us wants to win it. Every time I win, that means you don’t win, so you don’t want me to win, ever.”

“Damn straight. No offense.”

Glenda came by to fill their empty coffee cups again. Mack turned to check out her utterly exquisite derriere, straining against the tight green fabric of her skirt as she placated the hungry masses with java, services that involved a healthy amount of leaning, stretching, and—all praise be to the benevolent gods—bending. Remy reached out and snapped his fingers in front of Mack’s face.

“I heard a rumor that women may actually be attracted to money. But it’s probably just—”
“I’m listening. I’m listening,” Mack insisted, turning back around. “Eccentric millionaire. Go on.”

“If we are playing odds and evens for money, the most effective strategy is to distribute plays of one or two fingers randomly. Then you can expect to win about half the time.”

“Okay.”

“But, let’s say that the eccentric millionaire has decided to award $1000 for each finger making an appearance at the showdown. The pay-off changes. It’s no longer a simple non-cooperative zero-sum game.”

“How so? What does that even mean?”

“The two players’ interests are no longer diametrically opposed. The amount awarded changes depending on how they play it. If they each adopt the same strategy as before, they will each win roughly half the time, $3,000 per victory, on average, or $30,000 each after 20 rounds.”

“Cool.”

“No, it isn’t cool.”

“$30,000 sounds pretty fucking cool to me.”

“But they could do better if they cooperated. If the even player made an agreement with his ‘opponent’ that he’d always show two fingers while the odd player would show eleven ones and nine twos, the odd player wins $3,000 eleven times, for a total of $33,000, while the even one wins $4,000 nine times and gets $36,000.”

“OK. That’s definitely even cooler than 30 grand each.”
“Of course if they know how long the game lasts, the backwards induction paradox will thwart global system optimization, but that’s something for the advanced class.”

“Good. Because that made even less sense than you usually do, which is none.”

“The point is that the players are interested in making the most money, not ensuring that the other makes the least money. In a zero sum game, these are one and the same. In a non-zero sum game they are not.”

Their breakfast finally arrived, briefly distracting both of them. Remy was only momentarily transfixed by Glenda’s beauty, while Mack openly and shamelessly ogled her. Remy stole a quick peek then politely turned his attention to the meal she had brought him. As he stared down at his steaming stack of flapjacks, Remy could not help but think about two different famous mathematical problems that concerned pancakes. He was not the only mathematician to formulate theories in greasy spoon diners.

Mack inhaled his eggs before speaking. “So, what does all that crap have to do with poker?”

A hint of a smile sat on Remy’s lips, underneath some syrup. “Ultimately, poker is a zero sum game, because all the money won by any player must be lost by the other players. Each player’s interests are diametrically opposed to the interests of the rest of the players. But, with respect to one another, our interests will be cooperative.”

“You lost me. That didn’t take long.”

“Let’s say we have N people playing poker.”

“Who or what are N-people? Sounds like a bad movie. ‘Attack of the N-People.’”

He extended his fingers and wiggled them to represent science-fiction weirdness.
“N is just a number. In poker games, N can take on integer values from two to 23. That’s for Texas Hold ‘em. Usually N is somewhat less.”

“Yeah. Okay.”

“What you have is an N-player zero sum game. Each player wishes to maximize his own winnings. The only way to do this is to minimize the winnings of everyone else.”

“Sure. Don’t need to know math to tell you that.”

“But you and I are going to be secretly cooperating. You and I are interested in the total won by the two of us, which we are going to split. For purposes of poker, it’s an N-player poker game, but as far as game theory is concerned, it’s N-1. You and I are strategically a single entity. You have a direct interest in my winning and I in yours. And as such, I have an interest in letting you know what cards I have, and you want me to know what cards you have, whereas nobody else has an interest in revealing their cards to anyone.”

“Ah.”

“So, you and I, considered as a pair, will be playing a competitive zero sum game with everyone else, but our interests with respect to one another will be cooperative. And as such, we will be at a competitive advantage.”

Mack nodded.

“Does that make sense?” Remy asked.

“We’re going to cheat,” Mack stated holding out his palms flat, matter-of-factly.

Remy shook his head. “Not the way you think of it. We’re not passing any cards back and forth between us, just information. Discreetly encrypted.”
“I don’t get it,” Mack said sipping at his coffee, more carefully now. “How are we going to guarantee that we win unless we cheat?”

“We will be colluding, sending signals to one another. I’ll know what is in your hand, and you’ll know what is in my hand. Only one of us needs to stay in to go after a big pot, and we’ll know which one of us has the best chance to take it. It gives us a pronounced advantage over the others at the table. And, done correctly, it’s hard to detect and impossible to prove.”

“Well okay, then. As long as we make money, I don’t really care if I understand the math. No offense.”

Remy handed him some papers. “Learn this up and down and back and forward and inside and out,” he instructed. “We’ll go through a practice run in a few days and then we’ll go for the money.”

Mack glanced at the documents illustrating the signaling techniques including choice of words when betting and raising, subtly scratching different parts of their bodies, touching the chips, and the manner in which they held their cards.

“Jeez. I have to learn all this?” he complained.

“Like the back of your hand. It will all be on the exam.”

“I never liked exams,” Mack said, folding the papers and putting them in his pocket. “When I was in school, I always cheated on them.”
Chapter 15  The Game of Shanks.

Banger, burner, blade, gat, navaja, figa, ox, shiv, shank. A makeshift knife by any other name would still cut as deep. Any rigid object that will hold an edge or a point, can, if it is ambitious and resourceful, grow up to be a shank. And from those sharpened toothbrushes, pens, bits of scrap metal carefully keester hoofed from the shop, emerges the riveting game of shanks. It’s worthy of extensive analysis by game theorists, though they have yet to pay it much attention. You won’t find shanks in Hoyle’s, the game enthusiast’s Bible, Koran, and Bhagavat Gita combined, so here’s how the game is played, in dramatically oversimplified game theory form:

To carry a shank or not to carry a shank? That is the question. Whether ‘tis nobler in the lower abdomen to suffer a shanking oneself, without so much as a sharpened piece of bed frame for protection, or to take arms against a sea of killers, rapists and psychopaths, but in so opposing, risk the inevitable shakedown, have the hacks find it on you and drag your sorry ass to the hole.

Like all good games, the players have options; they must make decisions and hope they are the best ones. Your choice is to fashion an ersatz weapon from whatever materials are available, or to do without one. Shank or no shank, that’s your choice.

If you have one, and your gracious hosts shake you down, which they are going to do a lot, they’ll find it, and you’ll be in big trouble. Time in the hole. Time added to your sentence. Denial of privileges. Denial of parole. Some COs might just beat you for good measure.
But if, on the other hand, you don’t have a shank and you find yourself in an uncomfortable position, such as, but in no way limited to someone intending to make unauthorized use of your rectum for recreational purposes, you’ll regret not having one.

So what’s the smart play on this one? That depends entirely on the relative values assigned to the outcomes by all players. Do you consider having the hacks catch you with a shiv to be less desirable than having a huge vicious bulldog catch you without one?

That big, mean, bulldog of a convict has two choices as well. He can assault a smaller prisoner, or he can refrain from doing so, not knowing whether the intended victim is armed. Maybe the would-be victim does, and maybe he’ll sever the attacker’s testicles, given half a chance. An involuntary neutering represents a minimum payoff for the attacker. On the other hand, if the victim is unarmed, the big guy scores some points and the victim loses. So in this isolated sub-game, every potential victim has a pure winning strategy in carrying a shank at all times.

But there is a simultaneous game with the guards. If you have a shank, they’d like to find it. That counts as points for them. If you don’t have one, they don’t want to waste their time searching your cell or looking up your ass.

Assuming rational play by all players, what is the optimal strategy? Each player has two choices. Carry a shank or don’t carry a shank. Assault or don’t assault. Shakedown or don’t shakedown. The optimal strategies of each player are determined by the relative valuation of the outcomes by all the players. The payoff tables look something like this:

Game One (Bulldog game)
If Joe Convict were not playing a game with the guards, then the sociopath would know that Joe, being rational, must be carrying a shank at all times. Not wanting sliced balls, the sociopath leaves this guy alone and goes after a new fish who hasn’t yet learned
the rules, mastered strategy, and acquired something sharp. This is a simple and tidy Nash equilibrium, which means that both players have selected the best move they could have, given the move the opponent made.

On the other hand, if such threats did not exist, Joe Convict would have a pure strategy—in the game he is playing with the guards—of not keeping a shank. Regardless of the guards’ choice, the prisoner scores the most points by not having a shank on his person or in his cell. So he wouldn’t have one and the guards, seeing that he has a clear dominant strategy of remaining unarmed, wouldn’t waste their time looking. Another equilibrium.

But the two games exist simultaneously. If the sociopath thought the victim was carrying a shank all the time, his best approach would be to refrain from attacking. But knowing that the victim is playing a simultaneous game with the guards whereby he scores points by not having a shank, he reasons that the victim is adopting a mixed strategy, and so his own optimal strategy is mixed. Likewise, the guards have an optimal mixed strategy of sometimes shaking down, sometimes not shaking down.

The ideal strategy of all three players is to alternate, using some randomizing agent like dice to select between the two choices available. The specific probability ratio for the optimal strategy depends on the values on the payoff tables, which are arbitrarily assigned in our simplified example. How does being sodomized compare to a couple of weeks in the hole, or an extra six months added to your sentence? How about being shanked? How much satisfaction does it give the guards to catch you with illegal contraband, and how does this compare to their disappointment at finding nothing after
having wasted their time searching and having stuck their gloved fingers up your poophole? To shank or not to shank? That is a complex question.

It’s a question virtually all prisoners face. Remy considered it with somewhat more rigorous mathematical formalism.

Chapter 16  

Poker

Remy arrived alone at the poker room of the Lucky Devil hotel and casino. A professionally affable young Asian woman, looking diabolical and damned sexy in her sharp red uniform, cheerfully explained a few house rules, and directed him to a $5 / $10 Texas Hold ‘em game with seven players gathered around, including Mack, who had joined a half hour earlier and was earnestly ignoring Remy’s instructions to play conservatively and not draw attention to himself.

“Are you pussies going to see my raise or not?” he bellowed. Remy almost drew blood, biting his tongue.

He’d timed his approach carefully to ensure he’d end up at the same table as Mack. It wasn’t that difficult. The management was well aware that colluding players could engineer what their more literal-minded clientele might consider an unfair advantage. But this advantage has essentially no effect on the casino’s take, because they get a percentage of the pot, regardless of who wins. Cheaters are cheating other players, not the house. This is in stark contrast to card counters and people switching out loaded dice
at the craps table or using magnets to confuse slot machines, so the management tended to turn a blind eye to it. In fact, it winked.

“If you are smart enough to count cards, you must have figured out that collusion is easier to do and much harder to detect,” the casino seemed to say. “Although it won’t affect our profits, we would never want you to cheat our other customers, no indeed. That would be wrong. Too bad it’s so easy to do. Sigh. Did we mention that we can totally tell when you are counting cards? Dude, it’s so obvious.”

Remy took a seat almost directly across from Mack, who had apparently just taken a small pot with a great hand and then proceeded to speculate on the relative dimensions of his opponents’ testes.

“Let’s hope this new guy has some balls,” he muttered, then dragged furiously on his cigarette.

As the newcomer to the table, Remy had to “post the blinds,” placing an initial bet before the cards are dealt. He lost this when he folded after the flop, though he was holding a decent hand, but had read a signal from Mack who held a much more promising one. Mack pumped some more money into the pot, folding after the river. In spite of this loss, the value of collusion was already becoming apparent. If they’d each been playing without surreptitious communication, Remy wouldn’t have folded as soon as he did and they’d be down even more.

As they played more hands, the value of their strategic edge became more pronounced. Probability always works this way. Slowly and steadily it inevitably wins the race, unless it’s a very short race. Dice and cards and roulette wheels can ignore it in the short run,
but in the long run, all of them obey. In a long enough run, even a tiny advantage is enormous.

Each of the clandestinely collaborating colluders caught as many bad hands as they did good ones, and neither took any more pots than anyone else. But only the best hand between the two of them had to ride out the raises and take the occasional losses chasing down pots. If one of their opponents appeared to be bluffing, only one of the partners stayed in to call that bluff. When one of them signaled that he held a very good hand, they could trap an unsuspecting opponent between them with raises and re-raises. It was like taking candy from a baby, but even more satisfying.

Their luck (this term used very loosely), which had only just begun to sweeten, turned sour soon after an obese sailor stumbled to the table, the scent of cheap whiskey radiating from him. The other players all smiled as they bid him welcome, though independent observers would agree that the smiles were those of wolves welcoming a lost chicken into their den.

He squeezed his 200 jiggling pounds into the seat and slammed a meaty forearm on the table. “Let’s play some poker!” he bellowed.

About 60 or so, nearly bald underneath a precariously perched cap, his bare hairy forearms featured faded tattoos with a nautical motif. An anchor. A mermaid. A schooner. One could make safe wagers on which way this guy bet on the army/navy game.

Their thin and gangly dealer, a pale, pimpled youth who looked like he was still wrestling with puberty and losing, shuffled the cards with unexpected grace and dexterity.
“Welcome sir. You’re just in time to post the blinds,” he squeaked as the sailor joined the game. The newcomer managed this, almost spilling his neighbor’s drink in the process.

The tipsy salt didn’t win that hand, instead dropping a bundle trying to bluff on nothing. But he won the next hand when everyone at the table thought he was bluffing and many of them stayed in, including Mack, who had a better two pair with the community cards than Remy did.

The seaman didn’t win every hand after that, but he won more than his fair share. And while Remy and Mack, as a whole, did better than anyone else but the sailor, they were now coming out a little behind overall. Remy finally had enough and politely excused himself from the game, claiming he’d been unfaithful to lady luck and now she refused to see him, having found a more reliable lover. Mack played a few more hands before he too excused himself from the game with less grace and more profanity. He found Remy at the nickel slots, donating his spare change to a Jackpot Party machine.

“They’re cheating,” Remy stated without looking up.

“What do you mean they’re cheating? We’re cheating.”

“No, we are creatively navigating the probabilistic landscape. They are cheating.”

“Your rationalizations are fricking astounding, you know that? At least I admit that I’m a crook.”

Remy ignored this. “Put some money into that machine,” he muttered out of the corner of his mouth. “Pretend you’re having fun. Don’t look at me when you talk.”

“Okay, fine,” Mack said, feeding a dollar into the slot of the Lap of Luxury game. So they’re cheating, unlike us. What are they doing? And who is ‘they’ anyway?”
“The sailor and the dealer.”

“Nah, they can’t be. I’ve been watching them.”

“No one has labeled you the sharpest tool in the shed, Mack.”

Mack glared at him briefly then turned back to the one armed bandit.

“The dealer’s a mechanic,” Remy elaborated. “He’s second dealing.”

“How’s that work?”

“When it suits him to do so, he leaves the top card where it is and deals the second card instead, sliding the top corner just a little off and pulling the second one out with the tip of his thumb.”

“That sneaky bastard!”

“I began to get suspicious because of the statistically anomalous propensity of good hands our chubby friend was getting, especially paired hole cards. That is exactly what a second dealing dealer would maneuver into his partner’s hand. Even a virtuoso mechanic would find it a challenge to foresee what’s going to end up in the widow, but it’s a rather simple matter to peek at the top card by turning up a corner, and then decide whether to deal it, or save it and deal the second card. When he gets to one that matches the first one he dealt to his partner, he second deals to everyone else until he gets to his buddy, then he deals the top card to him.”

He won a small jackpot on the slot he was playing, but, being all nickels, it came to a grand total of roughly five bucks, far less than what they had just dropped getting cheated at poker. He whistled in excitement though, to maintain appearances. Mack pressed the button to spin his electronic wheels a few times, but had no such luck.
“I kept my eye on the sailor to see if he was holding out and switching cards, but he wasn’t,” Remy said as he scooped his coins into a plastic cup. “So I turned my attention to the dealer. I watched carefully, but there was no visible tell whatsoever. When done properly, second dealing looks exactly like top dealing. The human eye cannot possibly tell the difference.”

“Ah, well, that explains it. You’re an android then, right? Like Data from Star Trek.”

“Very funny. You know they are always looking for some good stand-up comics around here. Perhaps you have found your calling, having failed so abysmally at both gambling and strong-arming.”

“Ouch.”

“I said the human eye cannot tell the difference. The human ear can.”

“You could hear them cheating?”

“Yes. When the mechanic deals the second card, it sounds slightly different from when he deals the top card. It takes a trained ear, but fortunately, I have a pair of those.”

Mack scratched his head. “Those low-down crooks! Let’s kick their asses!”

“While I admit there might be a certain visceral satisfaction in that, I would suggest we pursue a course of action that provides financial reward for us, rather than medical expenses for them.”

“Okay. Let’s kick their asses and then take their wallets.”
Chapter 17  Stable Mutually Cooperative Strategies; Chess

Remy was out on the yard, observing human behavior, which was the norm out there; everyone was watching everyone else, overtly or covertly. The guards were watching the inmates. The inmates were watching the guards. Inmates were watching other inmates. And the guards kept a pretty close eye on one another as well. The convicts were essentially a pack of tattooed, heavily muscled sociologists. Observation of human behavior was prison SOP. But Remy was attempting to mathematically formalize it, which was something of an anomaly.

Whites were, for the most part, hanging with Whites. Blacks with Blacks. Hispanics with Hispanics. There were a few Native American and Asian guys, but they lacked the numbers to claim any corner of the yard as their own. Most of them were just to the right of the basketball half-court, at a long table reserved for gaming, Longacre’s closest approach to a celebration of diversity. Men of all races were playing cards or chess and smoking fiendishly.

Though restricted, tobacco was not yet relegated to the status of contraband. As such, it still formed the cornerstone of the prison economy. The pack of smokes, known throughout the penal system as a “deck,” remained the basic unit of currency, while individual cigarettes, (“squares”) could be used for smaller purchases, cartons (“bricks”) for larger ones. There are 20 squares in a deck and ten decks in a brick. They are in constant motion in a healthy underground economy. In a few other other prisons, where tobacco was illegal, a single cigarette typically sold for five dollars, an astonishing illustration of absurdly skewed supply and demand curves in action.

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Still, politics and economics on the outside had already driven the price up hundreds of percent, and at the prison pay rate of fourteen cents per hour, a pack of smokes was about a week’s salary. Only relatively rich prisoners, with alternate (most often illicit) sources of income could afford to suck down the “tailor-mades,” pre-rolled cigarettes, let alone the “flavors,” like Marlboro and Camel. The poor ones were lingering around the gaming table, diving on discarded butts like pigeons onto crusts of bread, salvaging scraps of tobacco from cigarettes smoked down to tiny nubs, which they would collect and roll into recycled smokes with Bible paper. The Koran would also work. Some of the more fundamentalist prisoners would frown strongly on this, so it was wise to be discreet in appropriating scripture for ersatz EZ-Widers.

Except for the chess and card table, most of the yard was voluntarily racially segregated, and for now that translated to a relative peace. Game theory provides a ready explanation for the spontaneous formation of gangs along racial lines within a prison setting: In a strategic environment where mutual cooperation benefits both parties and mutual defections harms both but where unilateral defection hurts the cooperator even more, and benefits the defector, stable mutually cooperative strategies are not easily established. But isolated pockets of cooperation can prosper in a defecting environment. Skin color provides a natural, perhaps arbitrary, but visible distinction between sub-populations within a group.

Game theorists like to use esoteric jargon to make themselves feel important. Cooperate means to make strategic choices that are of modest benefit to both players, while defect means to seek greater personal gain by stabbing the other guy in the back (not necessarily literally, though that comes up often enough). The part about the
difficulty in establishing and maintaining stable mutually cooperative strategies is a fancy way of saying that people are mean.

Game theorists actually use the terms “nice” and “mean,” but they have rigid, mathematical interpretations in the context of iterated non-zero sum games. Prisons are dominated by meanness, and within that mean milieu, mutual defection is the norm. Players will sensibly be hesitant to deviate from this stable defecting equilibrium, afraid to place their trust in someone else, lest they get burned even worse. In this environment, following the golden rule will do nothing but hurt you. In game theoretical terms, an isolated nice strategy cannot successfully invade a population of mean strategies. But a small cadre of individuals, not a single idealistic loner, but a group, even a small one, the members of which will recognize and cooperate with one another, can thrive. Game theory says so, and empirical observations—especially in neatly isolated social science laboratories, such as prisons—support the theory.

As soon as a tendency toward this racial stratification begins, it becomes entrenched, or as game theorists describe it, stable. If all members of a population are either an A, a B, or a C, and everyone always cooperates with members of their group and always defects with everyone else, bucking that system, either defecting with members of your group, or cooperating with members of another, will never pay off. Traitors and martyrs both get burned.

Most of the A’s were cooperating with other A’s, spotting each other as they worked out on the weight piles. The B’s were playing basketball, cooperating for their mutual enjoyment, and the C’s were having a quick meeting to clandestinely discuss some of their drug smuggling operations. There aren’t too many laudatory things to say about
racism, but it does at least promote cooperation among sub-populations. That’s something.

Remy sidled cautiously over to the gaming table, where the unwritten social restrictions on interracial interaction were mysteriously suspended. The chess players, like their pieces, were black and white. Occasionally light brown, but mostly black and white.

Solomon, the grandmaster Remy had already seen back in the warden’s office, was Longacre’s undisputed champion. He was at the table, teaching chess and humility to a succession of players. Remy marveled at the regal aura that surrounded him. Caged like an animal for most of his life, he nevertheless inspired respect and admiration in those around him, even his captors. His spine was straight and true, defying the decades it had endured, stretching to an imperious 6’ 3” when he deigned to rise from the chess table, something he did only under duress. While he was and had been enclosed by walls on all sides for four decades, he found escape in an even smaller prison. A tiny two-man cell, eight little squares on a side. Within those walls, he could do anything. In that jail, he was omnipotent.

It paid to be a good chess player, squaring off against Solomon. It made the game last a little longer, though it rarely did anything else. He always won; the only question was how long it would take. He didn’t play for free. You had to wager something. Cigarettes. A package of ramen noodles. He didn’t care, as long as it was something he could use or easily barter, and wasn’t contraband. And it wasn’t a real wager; it was a fee for chess lessons.
His lessons were not limited to chess. Solomon was universally regarded as the wisest man in the prison. This had earned him his nickname, decades earlier, but now with his thin white hair and neat white beard, standing out against his dark, slightly wrinkled skin, framing a pair of eyes that pierced like a precision honed shank, he looked like the personification of wisdom itself. After forty years in the same prison, he had seen it all. His observations and advice were valued and respected by every con in the joint. He was Longacre’s Gary Kasparov and Ann Landers rolled together.

Remy was a very strong chess player, but he quickly learned that most of the opponents he faced at Longacre were tougher than the pushovers to which he’d become accustomed on the outside. He posited several explanations. Vast quantities of time to kill, and limited distractions were the most obvious contributing factors. That and Darwinian natural selection. Inmates lacking an aptitude for strategy and tactics tended to be discovered floating at the top of the gene pool.

Solomon had just taught a lesson, the final lecture delivered with a sacrificed bishop, forcing the opponent to move his king to a square where it could be checked once, and then again with a knight fork on the monarch and his queen. The opponent resigned and slunk off to play basketball.

“What do you have?” Solomon asked as the seat in front of him was vacated and Remy approached.

Remy tossed down a pouch of Bugler he’d won playing cards.

“That bale will do,” Solomon said, setting up the white pieces.

Remy began setting up the black pieces. “Do me a favor and let me know if I’m about to be attacked.”
“If I attack your position, you’ll—”

“Not my position, me. Losing a pouch of tobacco to a grandmaster I can accept. A shank in the back of the neck is something I’d rather avoid.”

Solomon nodded. “I’ll let you know. And you get up and take care of it away from this table, you understand? I don’t want to be involved. Is that a deal?” Solomon advanced his queen pawn, opting for a strategic, positional game.

“Deal,” Remy said replying with his own queen pawn.

They moved pieces in succession, the opening well studied by both; there was no need to think about it.

“So, you doing all right in here?” Solomon, asked as he moved, his tone suddenly paternal.

“I haven’t been stabbed yet. My cellmate turns out not to be a homicidal maniac. Those are the only positive points that come to mind,” Remy said as he developed his forces.

“Well, you’re doing better than a lot of guys, then. Hmm. The knight, eh? Interesting choice.”

Remy looked at the move he’d just made, trying to find the flaw, uncertain whether one existed or whether this was part of the psychological game his opponent was playing.

“Well, let me offer a piece of advice,” Solomon said, moving a piece after just a moment’s consideration. “A man might think that the only thing that counts in here is being big, and fast with a shank. But that ain’t the way it is. That helps. No doubt about that. But a man survives by a will to survive, a man survives by appreciating and
understanding the social environment in which he finds himself. A man survives by using whatever talents he possesses, adapting them to the needs of the situation.”

“Check,” Remy said as he moved a bishop.

“I’m not in check,” Solomon said, looking at the board with some confusion.

“Sorry. I meant it as in ‘Understood. Good point.’ That sort of check.”

“There’s a lesson for you right there. You got to choose your words carefully around here. Mark Twain, he was the one that said the difference between the right word and the almost right word is the difference between the lightning and the lighting bug. Inside prison walls, it might be the difference between making an ally and getting a screwdriver shoved into your eye.”

“Understood. Good point.”

They moved pieces while they conversed, Remy taking longer to study the board, Solomon moving almost instantly, without any apparent thought. He seemed to effortlessly see the best move right there in front of him, just waiting for him to make it.

“One time, about twelve years ago . . . ” Solomon stopped to scratch his chin and look up to the clouds, as though there were a calendar up there. “Maybe fifteen, now, come to think about it. There was a guy, down for forgery. This guy, he could just look at a signature once and reproduce it perfectly. You wouldn’t know it from your own. The man had talent.”

“Not exactly the sort of talent that serves one well here in the seventh circle of hell,” Remy interjected as he mulled over his position, finally making a strong but uninteresting move.
Solomon moved a bishop instantaneously, giving the unsettling impression that he’d known exactly what Remy would move long before Remy knew it. “So you would think,” he said. “Other cons, they treat murder and assault with some respect, but who gives a damn about a forger? What’s to fear?”

“Not much,” Remy said as he stared intently at the position, drawn into Solomon’s 64-square world. The other game he was playing, the prisoner’s dilemma, was temporarily forgotten as he attempted to salvage what he could of the declined queen’s gambit in front of him.

He finally elected for an unspectacular and obvious move, withdrawing a knight from an advanced position where it had hoped to lead a charge, recalled to the humiliating role of pawn defender.

“The forger was a little Jewish guy,” Solomon explained. “Looked like Woody Allen. In fact, everyone called him Woody the day he came into the fish tier and the name stuck. His cellmate was a huge Polish wrestler, down for manslaughter. Broke some guy’s neck in a bar. They called him “the boulder.” And he just figures he owns the little guy. Took his desserts in the chow hall. Made him his punk, too. Woody was on pipe right away. Didn’t have much choice.” He moved a bishop. “Check.”

“So it is.” Remy interposed a pawn. He wasn’t down any material yet, but he could already feel that he was at a slight disadvantage.

“Woody gets a package one day,” the older man continued. “With a photograph of his 15-year-old daughter. The boulder confiscated the picture and jerked off on it. Two days later, when they’re doing the count, he doesn’t stand up, on account of his throat being cut.”
“Game over,” Remy said, castling in anticipation of a siege by the white pieces. “His, I mean. I’m not throwing the towel in on this one just yet.”

“The hacks haul Woody down to the hole.” He moved a rook to seize an open file. “They do an investigation, but it doesn’t last very long. Right there on the bottom bunk, next to the corpse, there’s a suicide note. The boulder’s prints are all over it. No sign of Woody’s. They check the handwriting, and every loop, every whirl, the way he dots his ‘i’s and crosses his ‘t’s, it’s all perfect. Not just his penmanship either. Every misspelling is exactly the same as in every piece of correspondence the son of a bitch ever wrote while he was incarcerated.”

Remy’s and Solomon’s pieces danced around as they conversed, in a subtle struggle for central control, Solomon slowly gaining more space.

“They talk to the guys in the cell opposite Woody’s, and they swear they saw the boulder cut his own throat. ‘Course neither of them seemed to have any shortage of cigarettes in the days that followed. I figure their testimony cost about four decks apiece, give or take. That last move is gonna cost you.” He moved a piece, setting it down with dramatic emphasis. “My bishop has your knight corralled.”

“I see that now,” Remy admitted.

“A few days later, the boulder’s wife gets a letter sent the day before he died. He’s talking about how he’s losing his mind here in the joint. Doesn’t think he can take it much longer, you know . . . .” Remy moved a pawn after long consideration and Solomon moved his knight instantly in reply, with hardly a pause in his narrative. “And the wife, she swears, she knows that letter is from her husband. Everything about it is
right on the money. The words, his bad grammar, the bitter tone that self-centered son of a bitch had, like he was the victim of unfair persecution. Everything’s perfect.”

“So the little guy forged that one too?”

Solomon nodded. “The boulder had his prag running all his errands, including dropping off his mail. Woody had plenty of time to do his homework. He learned all about his enemy, so he could make his excuse airtight. So the hacks have nothing on him. Coroner reports an apparent suicide. Woody’s out of the hole in a week.”

“Good for him.”

“Anyone can cut his cellmate’s throat when he’s fast asleep. But most cons know that there’s no way to get away with it, and as bad as it is, unless you’re already in for life, that murder rap’s gonna be worse. Might even catch you the big jab, and if that’s no worse than prison, your enemies better watch out, because then you have nothing at all to lose, and a man with nothing to lose is the most dangerous man in the world.”

“That makes sense, game theoretically . . . ”

“Your kingside is weak. You should have kept the position closed until you developed more.” He moved his queen to a completely unexpected square, its value there immediately apparent.

“Ah. Yes,” Remy said, flustered. Solomon still hadn’t won any material, but Remy was now playing a defensive game, his position becoming more and more cramped.

“A little guy can either sit there, taking shit from a bulldog, or he can cut the bastard’s throat. He can’t fight back. It’s one extreme or the other. But they both know that Johnny Law cares if cons cut each other’s throats, even if he don’t care about rapists and thieves and slavers in here. Plenty of that, an’ they turn a blind eye to all of it, but
someone gets killed, and they got a lot of paperwork to do. The boulder was counting on that to protect him. He never stopped to think that without the threat of the establishment he hated so much, his position was a lot more vulnerable than he imagined. He never thought that forgery was a deadly skill, worthy of respect. He didn’t give it that respect, and now he’s buried out in that potter’s field.”

Solomon captured a pawn, now enjoying a slight material advantage to go with his positional one. The game was all but over, but Remy was determined to make it last as long as possible. He withdrew his queen to a defensive position and probed the grandmaster for more pearls of wisdom.

“I have my work cut out for me just staying alive and intact,” Remy said as he let go of the piece. “But I also have a vexing ethical dilemma.”

Solomon nodded as he moved a rook. “You see a lot of those in here.”

“I’m serving a four year sentence for theft, as is my business associate. If I testify against him and he stays quiet, I’ll get out in just two, but he’ll go down for ten. The reverse applies if I stay quiet and he squeals. But if we both testify, we’ll both do eight.”

They continued to move as they conversed, but now that Remy was down in material, space, and momentum, it was a lost cause, and his position just got worse and worse.

“So, no matter what you do,” Solomon noted, “he is better off if he testifies, and no matter what he does, you are better off if you testify. Looks like you might both testify, and you both go up the river for eight years, but you’d each be out in four if you’d just kept your snitching mouths shut.”

“That seems to be the size of it,” Remy said. “It’s interesting from the perspective of—”
“T’ain’t all that interesting. I see the same thing a dozen times a day.”

Remy was taken aback. “Really. I never . . .”

“Oh, not exactly the same. I never heard it go down exactly like that. The details are different, but just the details. People are put in the same situations all the time, every day, but they just don’t see it. Might not have anything to do with state’s evidence, or prison terms, but it’s exactly the same. You just open your eyes. You’ll see it. It’s happening all the time. It never ends. Never, and that’s the heart of the issue right there.” He moved his queen to a deadly position.

“Wait, now. I’m not sure I—”

“Mate in two.”

“So it is,” Remy said, looking down at the board. He’d fought a good fight, but nowhere near good enough.

“Now, turn around and walk several feet away from this table. I kept my promise, now you keep yours.”

“Do you . . .” Remy turned to see Lucien lumbering toward him, snarling viciously and cracking his enormous knuckles.

“Yes. Good game,” Solomon said with a friendly nod. “And good luck.”
“Threats are an important component of game theory, in fact the most significant medium of information exchange between opponents, particularly in iterated non-zero sum games. The threat of violence is a useful tool by which one may gain a strategic advantage in many real world games,” Remy explained, pausing to sip at a tasty Napa Valley Cabernet Sauvignon. “This is not to suggest that my ethical calculus necessarily condones it. I’m merely speaking of its strategic merits.”

“Got it,” Mack said before gulping at his beer. “Effective but naughty.”

They were seated at a table in the small bar just outside the main concentration of slot machines. The bells and whistles of a thousand one armed bandits chimed away in the background, all in the key of C, blending with scattered whoops and shouts and the metallic staccato rattle of coins spit machinegun style from greedy machines, finally giving back some of what they took in, as ostentatiously as possible. The aural collage formed a strangely pleasant and festive cacophony.

Off to their left was the main crossroads of the ground floor of the Lucky Devil. Beyond it and around the corner was their award-winning restaurant, which boasted the best buffet in town, so they claimed. The auditorium in the other direction featured Vick Weston’s outrageously irreverent comedy extravaganza, and straight ahead were the table games and the poker room.

“The threat of violence is effective,” Remy continued. “Violence itself often serves no direct benefit other than to reinforce the credibility of the threat, so that such threats will modify opponents’ behavior in future games. The specific acts of violence may
accomplish little or nothing for those who perform them, and may earn the initiator thereof considerable retribution from the state if not from others.”

“Are we going to kick those guys’ asses or what? I’m getting bored here.”

“They are still cheating at poker. When the sailor leaves, he’ll have to come down that hallway, of which I have a clear, unobstructed view. At that time, we can do whatever it is we are going to do. We may as well use our time to give the matter some detailed analysis.”

“Fine.”

“So, let us discuss violence. And more importantly, the threat thereof. From a game theoretic viewpoint, pointing a gun at someone and demanding a wallet under threat of death is very different from threatening a bank manager with the same fate if she doesn’t open a combination safe.”

“How so?”

“Unless he is caught and prosecuted, the robber has nothing to lose by killing the wallet’s owner and taking the wallet. He gets what he wants either way. The victim chooses whether to hand it over or whether the mugger picks it off his steaming corpse a moment later. Knowing this, the muggee is highly motivated to hand it over.

“The bank robber is in a different situation entirely. If the manager refuses to open the safe, the robber gains nothing at all by shooting her. Indeed, assuming she is the only one who knows the combination, it seals the fate of the safe, guaranteeing that the robber will get nothing, whereas until that happens, he still has a chance. Very different from the situation with a mugger and a wallet.”
Mack took long angry drags on his Basic while Remy sipped his wine before continuing.

“Considered outside the context of a community of bank-robbers, there is no logical reason for the robber to shoot the manager. A logical manager will—if she assumes she’s dealing with a rational, self-interested robber—refuse to open the safe. The robber, therefore, is highly motivated to convince the manager that he is not logical. He has absolutely nothing to gain by shooting her if she refuses to open the safe, but he wishes her to believe that he will do it anyway.

“You have a point?”

“Yes, I always have a point. Have a little patience and it will become clear. The point is that in the many non-zero sum games people play in life, people often threaten to do something that hurts themselves as well as an opponent. In the short run, this makes no sense. In the long run, it does, because you can modify the behavior of your opponent, provided you make a credible threat. A threat to do something that harms yourself as well as your opponent may not be credible, so you need your opponent to think that you are either completely irrational, or quite the opposite, very rational and in the game for a long time, willing to take short term losses in exchange for benefits in the long run.”

“OK. I bet it’s easier just to make them believe you are crazy.”

“Usually, yes. The tragic thing is that people wind up getting shot so that future threats are made credible. Theoretically, if people just considered the game of armed robbery deeply enough, then nobody would have to get shot and there wouldn’t need to be any guns involved at all.”

“This is going to be good,” Mack opined, smoke escaping through his yellow grin.
“Indeed. You see: robbers don’t want to shoot people. They want money. If bank managers and shopkeepers could be convinced not to resist when an unarmed robber demands money, on the understanding that the robber could just as easily be pointing a loaded gun at them, it would work out much better for all parties concerned. Robbers wouldn’t need to use guns. Shopkeepers and bank managers wouldn’t get shot by accident. Everybody wins. But of course, the robbery victims won’t give up the money unless a loaded gun is pointed at them, so the robbers are forced to point them. And they are forced to occasionally shoot people to reinforce the credibility of their threat. The mutually cooperative strategy of robbers leaving the guns at home, and victims handing the money over quickly destabilizes and degenerates to the mutually uncooperative strategies of robbers with guns and recalcitrant shopkeepers.”

“You think the shopkeepers should just hand over the money to anyone who says he’s a robber, even if he doesn’t have a gun? That’s ridiculous.”

“Why? They are every bit as robbed if they hand over the money to someone with a gun as to someone without. Any robber could have a gun. Why make it necessary?”

“Okay, well in your idealized mathematical logic world, that might make a lot of sense, but here in the real world, nobody’s gonna give us any money unless they think we’ll shoot them or at least beat them up if they don’t.”

“One of many tragic examples of sub-optimization, but this conversation fades quickly into the realm of the academic. There goes one of the cheats now.”

Mack spun around to see the tubby sailor, moving along with far more poise than he’d demonstrated earlier. “Let’s kick his ass!”
“Let’s not,” Remy calmly rebutted. “I would suggest that slow, well thought out, stealthy motions are our best strategy, as opposed to going off half-cocked and drawing a great deal of attention to ourselves.”

“Yeah fine. Good thing we have such a clever strategist on the team.”

They rose from the bar, split up and shadowed the sailor as he made his way to the cash-out window to exchange his chips for bills. They kept far out of sight, hiding nonchalantly behind slots and video-poker machines, dropping a quarter or a nickel in occasionally, keeping their heads down. They fell in behind him as he walked out the door, trotting quickly up right behind him. Still unaware he was being followed, the sailor shuffled somewhat nervously toward his car. Mack stopped him just before he opened the door.

“Hey buddy,” Mack said.

“Yeah,” he said, looking up. Recognition kicked in a moment later. “Oh it’s you. My luck was better than yours today, eh?” He made a move to open the door, but Mack stepped in the way.

“Your cheating was good today. Your luck doesn’t seem to be running so hot, I gotta say.”

“I don’t know what the hell you’re talking about.”

“I really think you do. Think hard. It’ll all come back to you. Now let’s pretend I have a loaded gun in my pocket and it’s pointed right at you.”

He looked down and saw something was in Mack’s right jacket pocket, something barrel shaped, so this was either a gun or a creative tool to enhance his imagination.
“He doesn’t,” Remy clarified as he approached from the other side, the direction toward which the cheat was considering running.

“No, I don’t have a gun,” Mack admitted. “But let’s just pretend I do, okay? I mean, I could have one, no problem. I have a gun, in fact. I left it at home, but let’s just pretend I have it inside this jacket right here, right now, and that it’s pointed right at you.”

“O-o-okay,” the cheat said, trembling, looking around in vain for some figure of authority.

“Now if I had it here, and I told you I’d shoot you if you didn’t give me your wallet, what would you do?”

“I’d g-give you the wallet.”

“Of course you would. You’re no dummy. I’ve seen you play cards. Even if you weren’t cheating you would probably have done fairly well. Wouldn’t you say so?” he looked over at Remy.

“Certainly. Quite good,” Remy said, then turned to address the sailor. “But the cheating really gave you a nice edge. I expect you and your partner generate a healthy income. You have a goose laying golden eggs. But every now and then you have to give up an egg or two to save the goose.”

“Okay,” Mack said, “The point is, he isn’t a fool. So he’d probably give up the wallet. Otherwise, I’d just shoot him and take it.”

“Although the possibility exists that you would not shoot him for fear of reprisals from the state,” Remy pointed out.

“Well maybe,” Mack conceded. The chubby cheater was growing pale and looked to be losing his balance. “Then again, I’m kind of a hot-headed nut. You know that.”
“True indeed. And if our victim here is analyzing logically,” Remy reasoned aloud, “he’d have to conclude that you are not logical, because the anticipated reward of a few hundred dollars is small considering the expected penalty for armed robbery.”

“Okay, I see what you are saying,” Mack said, nodding and scratching his chin with his left hand, the right never moving from the pocket. “The fact that I’m sticking him up in the first place . . .”

“. . . indicates that you aren’t calculating expected penalties and rewards very well, so he can’t count on rationality to restrain you. Irrationality renders an otherwise non-credible threat credible. You are clearly irrational; the only question is how irrational. So there’s a good chance you’ll shoot him. And that chance, though perhaps small, still far outweighs the loss of the amount of money in his wallet, so he’d be an irrational fool not to just give it to you.”

“Yeah, a fool. So buddy, what would you do?”

“Hypothetically,” Remy added.

“I . . . I would give you the money,” he squeaked.

“Right. Okay,” Mack said moving around the guy, lifting his chin up to look him in the eyes. “So again, let’s pretend I have a gun.”

“Which he does not,” Remy reiterated.

“Yeah. But if I did, you’d go home without your wallet, but with your life. That’s not so bad, right?”

“N-no.”

“So the situation would be exactly the same as if you went home right now without your wallet but with your life, right.”
“Sure.”

“So, if everyone just pretended everyone had a gun, then you’d still get mugged once in a while, but nobody would get shot. So why don’t you give me your wallet?”

He pulled his wallet out and threw it at Mack. It bounced off his chest, vomiting credit cards and money all over the place. The sailor was already racing through the lot to the street.

“Well whataya know,” Mack said, stooping down to collect the scattered bills, now threatening to become lost in a gust of wind. “You were right. It worked.”

Chapter 19 The Killing Game, A Positive Feedback Loop

“You cheating little punk-ass peckerwood motherfucker.”

Lucien’s accusation thundered throughout the entire yard just as the alleged motherfucker was turning around. Remy was surprised that his foe had announced himself, opening the door for at least a hopeless attempt at diplomacy. Most prisoners opted to forego any exchange of words when resolving conflicts, communicating only with shanks.
“I didn’t cheat, Lucien,” Remy said, as he zigged in long shuffling steps away from the table, once again struggling for a positional advantage. Lucien’s enormous shadow fell across his prey as he advanced. His right-hand man was just behind him and (appropriately) to his right. This was Lionel, whose moniker reflected his strong resemblance to a locomotive. Lionel weighed at least as much as Lucien, but with Lionel, there was a lot more fat than muscle. Still, there was enough muscle to move all that fat, which was no small feat.

Two slightly less massive members of Lucien’s crew were just behind their leaders, fanning out to either side, cutting off any escape Remy might have considered, were he interested in delaying the inevitable. But while perhaps tactically expedient, escape would make for a poor overall strategy, and he knew it. As bad as his current situation was, running away was one sure-fire way he could make things worse.

“Don’t lie to me, you punk-ass little peckerwood beey-atch,” Lucien yelled into Remy’s unflinching face. “You tried to cheat me!”

“No. I didn’t,” Remy said, looking his accuser directly in the eyes, without blinking, stammering, or trembling in the slightest.

Lucien ignored the protestation of innocence. “Listen up, whitefish. You still pretty new here, so let me tell you the rules. You cheat and you pay, or you die, you understand? You gotta give me something for me to let that slide. A man gets nothing for nothing.”

“Lucien, let’s cut the crap,” Remy said, tensed for an immediate pummeling or shanking which, to his slight relief, didn’t come, though Lucien’s eyes grew colder and more menacing. “I didn’t cheat you. You and I both know that I didn’t cheat you. And
we both know that you are bigger than I am, and you have more friends and colleagues. This puts you in a position of power. You could kill me easily if you want to. We both know that.”

“Damn straight, bitch.”

“Maybe you sense that I know the rules of this game. You know that I know that if I just let you blatantly victimize me, then I’m setting myself up a rep as a weak punk, and if I get that rep, I may as well roll over and die. So you know that I know I’ll have to fight back, and then you’ll just have to kill me. Then you won’t have anything to show for your efforts. So you’re giving me an out. A way to pay you off without losing all my respectability. Because you’re a better strategist than you look, and you don’t particularly want to kill me, you’d rather exploit me. How is my analysis so far?”

Lucien’s nostrils flared, his lip snarling uncontrollably, his enormous fists tightening into lethal bludgeons.

“That gun tower over there has an excellent shot at your back,” Remy noted, briefly pointing with his eyes directly behind Lucien. “Fortunately, I am shielded completely by your bulk. Now would probably be a very bad time to teach me a lesson.”

“It’s gonna get taught sooner or later,” Lucien said through clenched, poorly kept teeth.

“I gathered as much. But let’s both just acknowledge that this isn’t about my disrespecting you, and your acceptance of payment to overlook that disrespect. You’re a businessman, not a psycho. I can tell the difference. Your business is extortion. This is about a threat to beat, rape, or kill me if I don’t pay you off. That’s what it really is, and you and I both know it.”
“Maybe it is. But you play along wit’ it my way, you might just get out of this prison alive.”

“Good. An almost direct threat. Now we’re making some progress. So, now that we’re speaking frankly, just for the record, if you do decide to enforce your threat, you better kill me. If you don’t, I’m going to kill you. I just thought you should know that.”

Lucien laughed, his rage temporarily eclipsed by contemplation of the absurd. “You gonna kill me, huh?” he said, glaring down at the much smaller man.

“Yes. You know as well as I that any man in here can kill any other man if he is motivated strongly enough and is willing to suffer the consequences.” Remy detected what he thought was a tiny flinch at this clear statement of an unwelcome, rarely spoken reality. He repeated it with emphasis. “*Any* man in here can kill *any* other man *if* he is willing to suffer the consequence. And there are always consequences. I know that. I just want you to be fully aware, before you make *your* choice, that I am prepared to suffer those consequences.”

“Yeah, man, there’ll be some consequences,” he spat the words out, a sharp accent on the first syllable of the last word. “Ma boyz’d slice you up.”

“Maybe. Does that give you a lot of satisfaction? Knowing that I’m as good as dead if I kill you? Knowing that it’ll serve as a deterrent to others who might take a stand against your boys after we’re both gone? Because the threat is not going to deter me. So that satisfaction better be worth your life.”

“I should kill you right now.”

“No you shouldn’t. You should kill me discreetly, somewhere with no guards or cameras, and I know you are resourceful and patient enough to manage that. Which I
assure you in no uncertain terms you will have to, if you don’t want me to hire some very professional Hispanic gentlemen to take you out. They come highly recommended. I’ve already done some comparison shopping and their prices are surprisingly reasonable. I think they’re having a sale. Lucky me.”

“I don’t believe you, egghead. You know you as good as dead, you do that.”

“Ah, so you think I’m bluffing. Well you can go ahead and call my bluff and then we’ll all lay our cards down.”

The killing game is a two person, non-zero sum game. If A kills B, that hurts A almost as much as B. Although he might get away with it, there’s a very good chance that he won’t, so the expected penalty will remain high. Another ten years, maybe more, in an increasingly crowded and inhospitable hellhole. It’s only slightly preferable to death. And reprisals from B’s ally’s might take A down shortly afterwards anyway.

The same applies to B, of course. Killing A will prevent A from killing B, but B must accept an extra decade of lost freedom, or at least a very good chance of it. Still, A will be out of the game completely, and B will have one fewer thing to worry about, at least for a while. Possibly only a very short while.

The game ends when one of the players kills the other, scoring negative points for himself, and an even larger number of negative points for his opponent. Therefore, each player is ahead before the game ends, and would, ideally, prefer that the game didn’t end, because nobody wins. One loses and the other loses bigger.

If conflict between A and B is relatively mild, then A would not have a good reason to kill B. But, as tension escalates and A judges that B might be thinking about killing him,
A immediately has a good rational reason to consider killing B. And, recognizing this, B’s own case for killing A, something perhaps only given small consideration, is considered more seriously. And with that, A’s case for killing B becomes that much stronger.

It’s a positive feedback loop, though it’s important to note that “positive,” in this context, refers to nothing good. It’s just that the perturbation of the stable equilibrium between A and B—suspicion, hostility, and mistrust between them, initially perhaps very small—tends to produce more and more of the same. This self-perpetuating logical spiral ends only when one of them has his carotid artery neatly slashed open by a blade from a safety razor melted to the end of a toothbrush.

“You have the power to prevent me from killing you, Lucien,” Remy conceded. “You could easily kill me first, but that’s the only way, unless you stop this game now. Otherwise, one of us is going to die. You’re not getting money and you’re not getting sexual favors, or anything else. The only thing you’re going to get from me is a murder rap, if you want it. Your choice.”

Lucien thought this over, finding the situation too complex for any final conclusions, at least right there, right then.

“You just better watch yourself, Motherfucker,” he said, loud enough for half the yard to hear, then turned and stormed away.

Remy was deep in thought as he made his way back toward his cell. He was still uncertain about this game, wondering if he’d made the right move. Advising his antagonist to kill him. How smart could that be?
In his experience, most people weren’t very good at life’s various games, which is all well and good if you are playing zero-sum games with them. You can exploit their imperfect play to your advantage. But a poor player of a non-zero sum game can ruin your whole day. Sometimes, you need to help them play better for the sake of both of you. When you’re playing a non zero-sum game, you might want your opponent to know what cards you are holding. You want him to know exactly what your strategy is.

Remy felt that he’d made a good move. In game theoretical terms he’d made a credible threat, and illustrated, he thought clearly, that he and Lucien were playing a non-zero sum game with a nice stable dominant Nash equilibrium, namely, both of them leaving one another alone. Departure from the equilibrium strategies by either would inevitably yield a lower payoff for both. He hadn’t put it in those terms, but he thought the point had been made, on some level, and that Lucien had at least considered, if not completely acknowledged, it. Remy had some time to analyze and strategize. Plan his next move. Recruit allies, if possible. Lost in thought, he never saw the prison flail, a couple of D batteries in a sock that smacked him on the side of the head as he entered his cell, sending him reeling to the floor, eyes filled with stars.
“Now watch carefully, Mack.”

“I’m watching.”

Remy dealt three cards down, first crimping each so that they were slightly convex with respect to him and Mack, concave with respect to the table in their favorite booth at Boxcars. The cards were facing down but he flipped them over to reveal their identities. Two black cards, a five and seven of clubs, with the queen of hearts standing out in scarlet contrast in the center.

B Q B

“Now when I collect the queen and the black card on the left like so,” Remy said, scooping them up, “and then I flip them down again,” he tossed a card face down in the center and the other to its left, “you are going to be somewhat uncertain about which one went where.”

“Unless you’re no good at this. The queen is right there,” Mack said, pointing at the center card.

“How confident are you?”

“Pretty damn confident.”

“A number, Mack. I need a number. I can’t perform arithmetic operations on adverbs.”

“I’d say I’m 90% sure that the center one is still the queen.”
Remy flipped over the card. As predicted, it was her majesty.

“Ha!” Mack shouted. “See what I mean? No offense, but you totally suck at this. Let’s stick with our strengths, like threatening violence. We’ve got a good track record there. Threatening violence is good. We don’t have to actually commit any. Just like you said. We’ll be all strategic and shit.”

“No. Stay with me here.”

“Fine,” Mack said, sulking and pouting. He glanced around the diner. “Glenda’s not here,” he complained.

“It’s amazing. When she is here, and I’m trying to explain something, you are distracted by her presence. And when she’s not, you are distracted by her absence.”

“I’m not distracted; I’m just observant. Go on with your card trick.”

“It’s not a card trick.”

“Whatever.”

“As you so diligently observed, I am not an expert and need to practice this specific application of slight of hand. But let us say, when I pick up two cards and attempt to misdirect a player, that he, like you, is 90% confident of which card went where. This is assuming I don’t improve any.”

“Pessimist.”

“Now consider the arrangement after one flip,” Remy said, picking the left and center card again, then sending them back down. “Where is the queen?”

“Still in the center.”

Remy positioned napkins underneath the three cards and scratched down some figures.
“You are 90% certain the queen is in the center, and 100% certain the one on the right is a black card because I haven’t touched it yet. So the figures on the napkins represent your confidence of the identity of the cards.”

“Got it.”

“Now when I pick up the center card and the one on the right,” he did this as he explained, “You try to determine where they each go when I set them down again.” He tossed them down. “Again, I’m not very good, so you are 90% sure you know which went where. Where do you think the queen is?

“Still in the center.”

“Very likely. But you were only 90% certain that the center card was the queen before the latest manipulation.” He scratched down some new figures on the napkin.

B 90 / Q 10       Q 81 / B 19       B 91 / Q 09

“We pick up the center card and the card on the left and again we flip them down,” Remy said, demonstrating. Let’s say you think the one you were 81% sure was the queen ended up in the center again. So now . . .”

B 83.6/Q16.4       Q74.6/B25.4       B91/Q09
“Your confidence in the queen’s whereabouts is waning fast. What is interesting is that it will never reach a mere 33 1/3, that is, a dead guess. It will get closer and closer to it, but never reach it. It approaches it asymptotically.”

“I hate to break this to you, but even if I knew what that meant, it wouldn’t be interesting.”

“Well, more to the point, confidence will quickly dip below 50% after just a few more flips, and that is all we need to have a long term advantage.”

“OK, now that is interesting. So what you’re saying is, we can’t lose?”

“No. What I am saying is that the probability that we will lose in the long run is very low and declines steadily, approaching zero as the trials are iterated.”

“Whatever. That’s basically the same thing, right?”

“It should be close enough.”

“Great! What’s my job?”

“You will have multiple tasks, including security. You ensure that nobody is a poor sport about losing, and the implicit threat of violence will be your primary tool.”

“Cool. I’m good at that.”

“And you’ll need to keep an eye out for the cops. But your first job is to pretend to be player, and to prime the pump by winning. We’ll make it look like you get it right about half the time. Any more than that and it will be too obvious. We create the illusion that this is a game of skill, not of chance. You must make the dupes believe that other people lose at this because their eyes and mind aren’t sharp enough, but that they, the suckers we are aiming for, will be too smart, that they will be different. Like the man said: there’s one born every minute.”
“Step right up. Step right up. Find the queen and win some green,” Remy chanted, his inviting palaver drawing one big balding white guy in a cheap suit, minus the tie.

“Find the queen. Five bucks to play. Ten back if you win,” Remy said, waiting for the mark to reach into his pocket.

“Nah, I don’t think so.”

“Okay. Suit yourself, my friend,” Remy said, smiling insincerely. “Find the queen and win some green. Step right up. Find the . . . can I help you with something?”

The big guy was still looming over the table. With his hands on his waist and his elbows extended, he effectively blocked access to the game by any potentially interested parties. Mack, sensing trouble, casually sauntered a little closer, pulled out a bus schedule and pretended to peruse it. He slipped a roll of quarters from his pocket into his palm, just in case he might need to make change, or something like that.

Remy shot the big guy his iciest stare. “If you don’t want to play, kindly move along, friend,” he pronounced, his intonation clearly unfriendly.

“Do you know that what you are doing is illegal?” the big guy asked.

*Shit,* thought Remy. *Busted at last. Probably a stiff fine for this. Play dumb. Maybe get off with a warning. Stall for time and run when you get a chance. Whatever.*

“Illegal? I had no idea. Listen officer—”

“I am not a cop!” the big guy said, his face going red with rage at the suggestion.

“Ah,” Remy said, poring this over. “I should be relieved to hear this information, yet strangely, I am not. Why don’t you tell me why?”
“Because you are breaking the law on someone else’s turf, that’s why. We got rules around here. Anyone sets up any little criminal enterprise, I don’t care if it’s drugs or whores or whatever, my boss gets a cut. You got it?”

“Oh, you must work for Cal Zupko.”

“So you’ve heard of him?”

“I’ve been breaking the law for some time. It pays to know who’s who in the local underworld.”

“Yeah well guess what, Mr. Martin,” the big guy pronounced with disparaging, disgusted emphasis. Remy’s poker face almost concealed the mild alarm at hearing his name. Almost.

The big guy smiled. “Yeah, that’s right,” he said. “We know who’s who too. We especially know who is setting up scams without paying for the use of the turf. And Mr. Zupko finds it insulting. He’s not a man you want to insult.”

“Please convey my apologies. I never intended to insult him. I was only interested in keeping my money.”

“Ten percent of whatever you take, in an envelope every Friday. And don’t hold out and pretend you made less than you did, because that can be real insulting too. Drop it off with the bartender down at the 7th Street Bistro. You know where that is?”

“7th street?”

“Yeah, smart guy. Drop the money off there every week, and we won’t have a problem. Understand?”

“Perfectly.”

The big guy turned and lumbered off. Mack sidled casually up to the table.
“What did that gorilla want?”

“Some of our hard-scammed money.”

“He can’t have it.”

“That was my instinct too, but we’re playing a very dangerous game now.”

It didn’t pay, in the short run, to bother with two bit operators like Mack and Remy. They weren’t withholding very much money. Zupko could never survive financially if he had to put this much effort into collecting such a small amount of money on a regular basis. Killing people, or even having them beaten into bloody, repentant pulps could be expensive and was almost always inconvenient. But it was a successful strategy, precisely because he only had to exert those resources on the few who actually got out of line, taking the small losses these reprisals inevitably entailed, in order to demonstrate to everyone else that he meant business, and that they should all keep their noses clean.

Player B (Big shot gangster)

<table>
<thead>
<tr>
<th>Leave ‘em be</th>
<th>Kill the bastard</th>
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<tbody>
<tr>
<td>1</td>
<td>-1</td>
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<tr>
<td>3</td>
<td>-5</td>
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Player A

(Small time crook)

<table>
<thead>
<tr>
<th>Give in</th>
<th></th>
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<tr>
<td>1</td>
<td>-5</td>
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<tr>
<td>3</td>
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</table>
It’s a two-player game, but it is non-simultaneous. The petty crook, player A there on the left, getting the first payoff figure in the matrix, chooses first. Then the big crook, the racketeer, player B on the top there, who receives the second payoff figure chooses next. The game is iterated, repeated, indefinitely, with different player A’s stepping in for a shot.

In the short term, the petty crook may reason: “no matter what decision I make, the opponent is better off playing ‘leave ‘em be.’ It’s a non-zero sum game, so my loss isn’t the same as his gain. Therefore, being rational, he’ll choose that strategy, because that scores the most for him. It scores either 1 or 3 for him, whereas the other strategy always scores –1. And since he’s bound logically to choose the ‘leave ‘em be’ strategy no matter what I do, I’ll choose the one that scores the most for me, which is ‘hold out.’ ”

So, after they finish picking up the smoldering pieces of player A and extinguishing his blazing car, a new player A has an opportunity to play the game. He decides there must have been a flaw in the earlier player’s reasoning. The original player A was no game theorist, and neglected to consider crucial differences between iterated and non-iterated games.

Although the ‘kill the bastard’ strategy entailed a short-term loss for player B, he still chose it, which minimized player A’s payoff, i.e.: blew him to smithereens. So the new player A tries a different strategy and chooses the ‘pay up’ option. In response, B then chooses ‘let ‘em be.’ Player B makes it clear that he will choose to minimize player A’s payoff—instead of maximizing his own—if and only if Player A minimizes B’s return. This dissuades A from choosing that strategy. Player A goes on playing. B continues to
turn a steady profit. As soon as any A players decide to test his patience, player B takes a short term loss, while A loses considerably more. Other A players are encouraged to think in terms of long term strategy for the iterated game, which, in zero-sum games, is remarkably different from optimal approaches to non-iterated games. Just ask the street cleaners who had to clean up after player A got his payoff from the table.

“Jeez, Remy. Do you think those guys might be bluffing? I mean we’re pretty small potatoes. Is it even worth their effort to try to collect from us?”

They were at Boxcars again, waiting on their burgers. Though it was late afternoon, much of the crowd had only recently dragged itself here out of bed, and the entire diner seemed to share a collective hangover, exacerbated horribly by one baby wailing in a corner booth, elegantly expressing what they all felt.

“In the short run, no.” Remy spoke loudly to drown out the wailing infant. “It will cost more to have us killed than they would expect to make from us. But such an expense is an investment. It shows that they are playing for long-term advantages, that they are willing to incur such losses so that future players of the game will not misjudge the situation and make the same mistake. It’s an iterated game and reputation matters.”

Glenda came by with their burgers and a big smile. Mack, who had a mortal weakness for redheads, felt the universe would come unglued if he failed to initiate some flirtatious banter that might have even an infinitesimal chance of getting him down her pants.

“You sure are looking pretty today, Glenda,” he said, the words bubbling to the surface through accumulated drool.
“Oh, aren’t you sweet. You know my youngest said the same thing, right before I left for work. ‘You’re pretty mommy’ he said. Oh it was just the cutest thing. You want some more water there, fellas? Sure you do.” She filled the glasses and was gone in a flash.

“May I continue, Casanova?” Remy asked.

“Be my guest,” Mack said, his id satisfied that it had done its level best. He chomped into his burger, ketchup gushing out in hemorrhagic spurts.

“Zupko definitely has the deep pockets advantage.”

“Mrrpf,” Mack ventured, then swallowed insufficiently masticated burger. “Come again?”

“There is always a strategic advantage to having more money. Consider games of chance. As I have stated before, success at these has nothing to do with luck; it’s simply a matter of understanding probability. Luck comes randomly in the short run, but predictably in the long run, so a brief spell of bad luck can wipe out the less affluent player before he sees his fair share of good luck. Having deep pockets makes you a player for longer, and the longer you are playing any game of chance, the less it becomes chance. Probabilistic law ensures that the average outcome of individually random events are predictable. But only those with deep pockets and long attention spans can take advantage of this.”

Mack belched and nodded.

“This is a purely strategic game we are playing now, not a game of chance” Remy explained after pensively chewing his own sandwich. “But the deep pockets are still a great asset. Without them, taking care of a few small time operators wouldn’t be worth
Zupko’s trouble and expense. He’d be sending ten dollars to collect five, which, I’m sure
even your limited mathematical proficiency is sufficient to deduce, eventually leads to
bankruptcy. But he can take the losses until the message is clear that he’s got plenty
more to spend where that came from. That he’s always going to call your bluff.

“So,” Mack said, as he wiped large globs of ketchup out of his beard. “You think
maybe we should bite the bullet and pay up?”

“Perhaps. On the other hand, we may be such small operators that it doesn’t pay to
bother with us, even for long term strategic purposes, because our success in holding out
our small change will have little or no influence on whether other, more significant
rackets tow the line and pay their dues. And wiping us out will likewise go almost
unnoticed. We are too small to be strategically significant even as a message to others.”

“Are you sure?”

“Of course not. I’m never sure about anything. I assign probabilities and confidence
intervals. But my best guess is that he is bluffing, and we are going to call that bluff.”

Chapter 21 Hide and Seek

“Press the bunk, punk!”

The abrasive command came from Deakins, the Nazi skinhead from the shower
incident a month or so back. Remy thought the minor altercation forgotten, water under
the bridge. Exactly where a lot of neophyte prisoners end up getting drowned. Deakins
was holding Remy’s shoulders, pressing his chest down onto the corner of his cot where
they had dragged him during the brief unconsciousness that preceded this rudest of
awakenings. The rest of his body was off the cot, knees on the floor, his ass raised in a most uncompromising position. Turbo was behind him, and Remy heard the faint but horribly distinctive sound of a zipper unzipping.

"Fuck you, you Nazi bastard," Remy said to Deakins. Though his diction had taken an uncharacteristically vulgar turn, his voice still emerged level and composed through his clenched teeth.

Deakin’s mother could have narrowed down his father only to about 20 different candidates, and he had posters of Herman Göring, Joseph Goebbels, and Adolf Hitler hanging on his cell wall, as well as 11 swastikas on his body. So he was as quintessential a representative of a Nazi bastard as anyone could hope for, or, far more likely, hope to avoid at all costs. Nonetheless, Remy paid for his comment with a black eye, almost losing a tooth as a bonus, a backhand slamming into the side of his head.

“Hold this little shit down, Deke,” Turbo said as he dropped his pants. Deakins held the struggling victim as still as he could.

“You’re going to regret this—” Remy began, but got no further, Deakins having shoved a sock nearly down his throat. It smelled and tasted like foot. He gagged but could not speak.

“Shut up, you little bitch,” Turbo ordered as he shoved his gorged penis into the unwelcoming anus. The biker’s disgusting parody of a smile transformed instantly into a gape, the briefest pause of shock and surprise followed by a piercing shriek as he learned to his immense regret where it was that Remy was currently stashing his shank.

Turbo pushed off Remy and grabbed his crotch, now a fountain of red. Deakins, stunned and confused by the blood-curdling scream from his colleague—followed
immediately by the sight of said curdled blood spouting from his penis—involuntarily relaxed his grip.

“What th—” he began, but got no further. Remy head butted him, the full force of his legs behind him. Deakins picked a bad time to begin that hackneyed rhetorical question, because Remy slammed into his chin so hard he almost gave himself a concussion, precisely at the moment that Deakins was forming the critical ‘th’ sound, and the Nazi bastard bit the end of his tongue clean off. Remy jumped up, leaving the would-be rapists bleeding from mouth and genitalia. He barreled down the hall, pulling his right leg out of his pants completely, the garment flopping along around his left foot, biker blood trickling out of his asshole and down his leg.

He didn’t head toward the infirmary, running instead in the opposite direction, where Darnel was cleaning the floors.

“What the fuck?” Darnel inquired, though given time he could probably manage to reconstruct most of the story. Sadly, men with black eyes, lumps on their heads, and blood dripping from their anuses were far from unprecedented at Longacre.

“Ammonia,” Remy demanded.

Darnel grabbed a bottle and handed it to his cellie. Remy ripped the cap off and poured the contents over his ass, gritting his teeth against the chemical burn, as he douched his rectum, unable to completely hold in a primal scream of pain, but transforming to a low groan, as restrained as possible, an animal conditioned to mask injury, pain, and weakness, pushed to the limit, producing a rare, hideous bestial noise in spite of its efforts to remain quiet. Finally relaxing, he managed a triumphant smile, still gritting with the pain of the powerful detergents.
“Those Nazi bastards probably have AIDS.”

Darnel just stood there, mouth agape. He dropped his mop, the clatter magnified, bouncing around on the concrete.

“We have some uninvited guests back at our house,” Remy said through gritted teeth.

“Fucking Turbo and Deakins, right?”

“How’d you know,” Remy asked, eying his cellmate curiously, the natural prison-inspired distrust and suspicion rising.

“I saw them walk by a couple times, and you know, you can smell when them Nazi crackers is up to sumpin, knowahmsayin? They don’t got to mention their bad intentions.” He accompanied himself with hand gestures, middle and index finger extended and moving with a sweeping arc in time with his rhymes. “They got disgrace written on their face, an shit, you know?”

Remy relaxed, realizing there was no complicity by Darnel. Warden Riems had a keen sense of poetic justice, or, viewed another way, was a devious sadist. After Darnel’s most recent trip to the hole for fighting over a ballgame, the warden decreed that Longacre’s most dedicated baseball fan would be stuck pushing a mop around when the weekend games were on. Even Deakins and Turbo, by no means the sharpest shanks on the tier, knew this was the best time to hit Remy.

“Well right now they have a lot of pain written on their faces,” Remy said, handing the bottle of ammonia back to Darnel. “I have to wash up. Need a rinse. Alkaline enema burns a bit.”

“Aight,” Darnel said. He held out a fist and Remy bumped his knuckles. Remy pulled his pants back on and walked, a little bowlegged and unsteady, toward the showers.
His head was filled with a tossed salad of emotions, still tossing. Sure, there was disgust and a profound sense of violation. But this was in the background, pushed off center stage by a strange intoxication, a twisted euphoria that he couldn’t deny. He’d committed violence before, but never, ever, had he enjoyed it so much. The brief, unwelcome intrusion of Turbo’s shlong lasted just a second and it was all sweet retribution after that. Boy did it serve that bastard right.

He thought of the Norse myths that sustained the Vikings, gave them strength and confidence before they went into battle, thinking of the rewards of the hereafter, should they not make it out alive. Their afterlife would not be a place of peace and contentment, peeled grapes and lilting harps accompanying choirs of angels, all with divinely perfect pitch. Instead, when the deserving warriors went to Valhalla, they could look forward to hacking one another into pieces, every day for all eternity. It had always sounded more like hell than heaven, but he was beginning to appreciate the attraction. At that moment he almost wanted someone to start something with him, wanted an excuse to lash out, but he pushed away the unsettling introspection, allowing himself to savor the elation of victory, undiluted. Moments of genuine pleasure are few and far between in the slammer and there would be plenty of time for self-examination.

There was a long line waiting to use the showers, mostly a bunch of Hispanic guys, exchanging rapid-fire fusillades of Spanish. The one at the very end turned as Remy approached and gave the new arrival the third degree with his eyes. Remy just stared back at him, a tough, taciturn convict with a menacing scar just below his left eye. He had enormous shoulders, a wide chest, a little meat in the waist, skinny thighs, and scrawny calves. Except for his head, he was shaped like an isosceles triangle, with the
vertex pointing down. His name was Torres and Remy had worked near him in the laundry. They’d never bumped knuckles or anything so intimate, only exchanging manly eye contact, establishing a mutual respect for the fact that either of them could kill the other. They’d played cards a few times, Remy winning more often than not, kicking some of his profits back in accordance with his alleged superstitions.

After a few moments of analysis, Torres deciding that the wired, twitching mess of a mathematician wasn’t a threat, though he pivoted to keep his eye on him. He was thoroughly disheveled, freshly injured, had blood on his clothes and face, and was still shaking with adrenaline, and squirming with the pain in his burning anus. He wished he had a punching bag. Nobody tried to cut in front of him, and he wasn’t sure whether he was glad about it or not.

He tried to distract himself by learning Spanish, surreptitiously listening in on the conversation in front of him. This was hopeless, as he couldn’t speak any Spanish at all, and the Spanish prison slang was as esoteric a thieves’ cant as the English, rendering much of what they said incomprehensible to the majority of respectable Spanish speakers, and impenetrably abstruse to virtually all gringos.

“Aguas,” Torres whispered, not looking him or anyone else in the eye. Remy wasn’t sure whether it was to him or to his own friends. As near as he could tell, this translated to something about water.

“Uh, que?” Remy queried, or was at least pretty sure that he had.

“Hot water, amigo,” Torres said, switching to English slang. “7-up.”

Remy was about to try to seek clarification, but suddenly he could neither speak nor breathe.
“Here comes trouble,” Mack said, looking up casually. He’d been in it often enough that he could detect a few parts per billion in the air, and this just reeked of it.

A pair of Zupko’s strong-arm boys had just entered Pete’s Tavern, a clean and not-so-well lighted—in fact pleasingly dim—place where Remy and Mack spent some of their ill-gotten gains on fine wine and cheap bourbon, respectively.

The hired muscle lumbered up to the table where Mack and Remy were drinking and playing cards while planning scams. The toughs were squeezed into well-made but ill-fitting blue suits, neither of which had seen the inside of a dry cleaner as often as it was meant to. They had dark, greasy hair, and ugly, pocked faces that looked incapable of forming smiles without some serious work with a wrench.

“One of you named Martin?” the slightly more gargantuan thug asked. The other stood back with an air of unobtrusive menace, behind and to the left, his hand inside his jacket. This hand was tightly gripped around a gun, Remy would have wagered, were he a betting man, which, of course, he was. That’s exactly what had gotten him into trouble.

“One of us is,” Mack said with a wicked grin “Can you guess which one? Remember, one of us always lies and the other always tells the truth. You only get one question . . .”

Remy kicked his partner’s shin under the table and Mack grimaced slightly. The big goon miraculously managed to look even meaner than he had before.

“Shaddup,” he said, angry lines forming on his forehead, as if in preparation for miniature trench warfare. “I ain’t got time for games. I’m here to deliver a message and to escort you to a business meeting.”
“We don’t have any business meeting scheduled,” Remy noted.

“Ya got one now. Why don’t you guys get up from that table nice and slow? It makes me nervous talking to people whose hands I can’t see.”

They looked at one another, then rose. “We’re all ears, my friend,” Remy said. “What’s on your mind?”

The speaking thug looked at him, silent for a moment, then cleared his throat and began a wooden speech. “You been running a little gambling racket here, and you haven’t been kicking down anything to the man who runs this turf. He’s got an offer to make you. His protection in exchange for a piece of the action. He thinks it’ll be a profitable partnership, and he’s looking forward to doing business with you. He’s absolutely certain that you will agree that this will be a lucrative arrangement.”

He said it as if he had memorized the speech by droning it out five hundred times in a row just before his arrival, his delivery dry and lifeless. The other remained taciturn and inscrutable, his eyes fixed on Mack, following him with a malevolent gaze but not saying a word.

The business proposal was suitable for spreading over several acres of crops, for it was an enormous load of pure, high-grade bullshit. Neither Remy nor Mack bought it for a second, and each hoped the other saw through the lie.

“Hey, we’re making a profit now,” Mack said. “So your plan, I gotta say: not too appealing. Lucrative, huh? What could be more lucrative than for us to give away some of what we were keeping? There’s a great business offer.”

“Shut up, Mack,” Remy suggested, temporarily misplacing his rarely absent cool.
“Hey, I’m just discussing this generous offer. We’re all businessmen here, right?” Mack asked, loudly. “And if there’s one thing they taught me in the old Harvard school of filthy rich SOBs, it’s what profound business sense it makes to give up some of your money to someone else who did nothing at all to earn it. Right big guy?” Mack said to the thug who had thus far served as sole mouthpiece. Said mouthpiece ignored Mack’s query entirely.

It was then Remy noticed that the speaker had remained focused on him, not glancing away, while the quieter partner had been unwaveringly watching Mack. Someone had coached the gorillas, told them he and Mack might present problems, and each was assigned to keep his eyes on one of them, as a basketball coach might instruct his players to play man-to-man, in preference to a zone defense. Their only chance out of this mess was to draw the attention of both their adversaries to one of them, to give the other a critical split second to act.

The quiet one finally spoke. “Shut up, asshole,” he said to Mack.

“Hey Remy, this one can talk!” Mack announced, “and I thought the ugly one did all the talking!”

At that, the original speaker, who would be considered ugly in almost anyone’s book, unless that book was *The Compleat Warthog, Illustrated*, turned angrily toward Mack, pulling out his gun to pistol-whip the cocky bastard. Remy was tensed, waiting for the moment, and he moved instantly as soon as the eyes left him for Mack, swinging his chair in a wide arc, crashing mightily into 225 pounds of ugly thug.

The formerly quiet one turned toward the sudden violence. Mack seized the opportunity for which he’d been primed and ready, kicking deftly at the crotch of his foe.
The blow landed solidly and the hulking tough doubled over, only to receive a clubbing on the back of the head from Mack’s two enmeshed fists. Remy smashed the shattered remnants of the chair on his own thug, just for good measure, then dropped the fragments and ran to the door, with Mack just a step behind.

Chapter 23  An Ace in the Hole

“Don’t resist, Martin! You’re coming with us!”

CO Jones was behind Remy with his baton gripped tightly on either end, pulling the sturdy weapon against his throat, wrenching him up and back. Remy had barely gotten a few fingers underneath the baton, and was pushing against it with all his might. His legs flailed, instinctively but to no avail. The new fish was out of water.

“Just come along quietly, you violent son of a bitch.”

The other CO, a young, small but athletic black guy Remy hadn’t seen before, gave the prisoner something to distract him from the increasing pressure on his windpipe, a solid slug in the gut with his baton. The kick went right out of him and the bigger guard dropped him to the floor like a sack of subdued potatoes. Remy collapsed, heaving. Bits of the morning’s waffle breakfast came back up, confirming that it was Saturday. One could easily determine the day of the week at Longacre by examining inmate puke.

“On your feet,” Jones demanded. Remy didn’t move. Didn’t try. Wouldn’t have succeeded if he had. The smaller one, who had slugged him and nearly ruptured his stomach, reached down and magnanimously extended his hand.
“Let’s go, you. Warden wants to have a little talk.”

The nearby inmates had watched dispassionately as Remy was battered and manhandled. Torres gave the smaller guard a dirty look. A fairly bold gesture, which, depending on the mood of the CO, could well have landed him in the hole. A look was all it took, but the guards just wanted to seize their target and get out of there.

They flanked him, pulled him to his feet, and dragged him to the Warden’s office to speak with Father Time.

“Penis slit open and the tip of another one’s tongue bitten off?” Remy said, his voice reflecting aghast amazement. “Well, sir, it’s not for me to judge what sort of comforts other men turn to in prison, nor their unusual kinks and fetishes, but I certainly would hope that Deakins and Turbo might have the decency to keep their recreations out of my cell.”

Father Time sat back in his big red chair and stared with palpable disgust and disapproval up at the prisoner in front of him. Remy had reacted with incredulous awe as the Warden described the mangled humanity Captain Bigger discovered in his cell just a minute after he had torn out of there like a nearly sodomized bat to a different corner of hell.

“Are you saying you don’t know what happened to them?” Riems asked.

“I was just trying to get a shower.”

“Where did you get those bruises?”

“Your correction officers were overly enthusiastic in apprehending me. But of course I wouldn’t dream of filing any lawsuits. Misunderstandings happen.”
Riems effortlessly called this bluff, and Remy immediately regretted even trying it. The warden made it his business to know who the jailhouse lawyers were, and Martin hadn’t become especially friendly with any of them, so his threat lacked intimidating credibility.

“And how do you explain the fact that Captain Bigger found these men in your cell?”

“I have no explanation whatsoever, sir. I’m baffled by the entire affair.”

“I see,” Riems said, pulling his gold watch from his pocket, admiring it for a moment and then returning it. “Well let me offer a possible scenario. You had some beef with these men, and so you lured them to your cell on some sort of diplomatic premise. Judging from the nature of the injuries, the details of the proposed settlement of grievances involved services forbidden here at Longacre. When they fell for the bait, you and some accomplices ambushed them. What do you think of that hypothesis?”

“With all due respect, sir, you ought to be a novelist. You have a fertile imagination and a gift for fiction.”

“You know, 547298, here you are in a penitentiary, but you know what?” He twirled the long white whiskers of his mustache. “You just don’t strike me as very penitent.”

“I am innocent of all charges leveled against me, sir. One cannot beg absolution for what one has not done.”

The warden stared Remy in the eye but didn’t say a word. Ticks from his numerous clocks were the only sound awkwardly filling the silence that seemed to last much longer than the five or six seconds that ticked by.

“Take this man to administrative segregation,” Riems finally said to the two guards, waving the prisoner away like a spoiled sybarite might dismiss a disagreeable plate of
food. He spun around on his oversize luxury seat, disappearing completely, the tip of his head well beneath the top of the chair.

The guards put their hands on Remy’s upper arms, now cuffed behind his back. They rotated him 180 degrees and pulled him toward the door.

“Well,” Remy said, looking back and forth between his two escorts, “I suppose this is where I’m supposed to fall to my knees and yell, ‘not the hole!’ ”

Chapter 24  The Dollar Auction

Remy and Mack split town the next day, heading out with the dawn along the desert highway in Mack’s ’79 Ford Mustang, a brown rusting hulk with something over 100,000 miles on it. Possibly a lot more. The odometer had broken and lost count long ago. They left behind two seriously injured thugs, one angry local gang lord hell bent on vengeance, and a lot of bad memories. They also left a muffler on the road just outside of town. It hadn’t worked very well for the last 40,000 miles or so anyway.

They drove for hours, Mack piloting while Remy navigated, stopping finally at a little town off the highway called Carter’s Mill, a comfortable distance from most of their past indiscretions, though these were steadily accumulating. There were two taverns in Carter’s Mill, and they selected the one that was ever-so-slightly more unsavory, a dimly lit little dive called the Seven Sails Saloon, a strange nautically themed anomaly here, hundreds of miles from the ocean. They weren’t looking for any trouble, but it had a way
of finding them. Remy tried to avoid it, but Mack left it detailed directions and occasionally a trail of breadcrumbs.

The air in the Seven Sails was a dense and noxious cloud of carcinogens. Generic carcinogens, too, from low-budget cigarettes. Second-hand smoke from the good stuff, like Camel or Marlboro, would produce a more flavorful, satisfying lung cancer than this economy death fog. The walls had not been cleaned in decades, and they glistened with a distinctive nicotine yellow.

The Braves were playing the Pirates in Atlanta, and several patrons were rapt in the game, their eyes glued to the TV above the bar as Mack and Remy sauntered in and took a couple of empty stools. The air conditioner in the Mustang did not “condition” the air in the traditional sense, but just blew it around, still hot as blazes, so they were parched with thirst. Mack ordered a domestic lager without a glass. Remy considered his libation options as he surveyed the bar, finally opting for a glass of water and a whiskey. His nerves were frayed and he was unwilling to explore, even for curiosity’s sake, what passed for wine in this place, never having developed much tolerance for cruelty to grapes.

As he sipped the Wild Turkey on ice, he paid scant attention to the ballgame but kept his ears alert for occasional statistical citations the commentators might insert. They reserved such gems for moments when there was no distracting action, such as a runner rounding third and heading home while the fielders were trying desperately to move the ball to the catcher to stop the winning run. Remy found such moments intolerably boring, as they inevitably cut into the statistics.
The game really came alive when there was no one on base, and perhaps some interruption, such as a drunken, naked fan running across the field, holding up the proceedings, or the coach having an impromptu conference with the pitcher. Then the announcers would fill the dead air with tid-bits of statistical wisdom such as “he’s been batting .307 against left handed pitchers this season, .338 against righties, but interestingly, 68.4% of Johnson’s career strikeouts have been delivered in the first four innings, so . . .”

Mack had a more visceral appreciation of the game. “The Pirates are a bunch of pussies,” he opined to everyone in earshot, this being the entire bar, given his chosen decibel level.

He’d never evidenced a particular distaste for Pittsburgh before, nor any great love of the Braves. As they were slightly closer to Pittsburgh than Atlanta, Remy suspected Mack had carefully calculated that a slight against the Pirates would offend more people. No champion of the underdog, Mack just loved to take the overdog down a peg or two.

“Hey watch it, buddy, I’m from Pittsburgh,” the man to Mack’s left commented. He was of average height, though ripped with muscles. His tone was only slightly irritated, not angry. Yet. Mack was resolved to change that.

“Hey, I’m sorry pal,” Mack said, turning to the left. Remy picked up his whiskey, judiciously moving from the bar.

“In that case I’ll speak more slowly,” Mack finished.

There were no empty tables so Remy approached an older couple who sat at a booth, just out of what he suspected would soon be the line of fire.
“May I join you?” he asked, his slight hint of Cajun accent as always refined and dignified.

“Sure thing!” the old man said eagerly. His wife spoke up after a moment, “Please be our guest.”

They turned to watch the unfolding drama at the bar.

“Look, man, it’s not my fault that the Pirates and Pittsburgh, and everything about that place sucks,” Mack explained. “That’s just the way it is.” This was his version of diplomacy.

“You suck,” his adversary quipped.

“Oh I suck, do I?” Mack said rising from his stool.

The old man giggled, then turned to Remy, “Them fellars ain’t gonna stop ‘til they gets to scrappin and they won’t stop then neither!”

“It’s a dollar auction,” Remy asserted without turning to the hosts of the booth, instead keeping a close eye on developments.

“Beg pardon?” the woman asked.

Remy turned toward them, away from the incipient brawl. “It’s a mathematical demonstration that makes an excellent analogy for uncontrollable conflict escalation. A dollar auction works as follows: a dollar . . .” He removed one from his pocket and held it out. “. . .is auctioned off to the highest bidder, but the second highest bidder must pay what he or she bid, and gets nothing.”

“Can’t say I follow you,” the old man admitted.
The fight was growing steadily louder, property values immediately surrounding the bar declining rapidly. Savvy customers retreated to a position a little ways back where they could watch the inevitable row without involuntarily participating in it.

Remy continued, “Let us say you have bid fifty cents for this dollar. Certainly that is a bargain.”

“Sure thing. I’ll give you fifty cents fer it,” the old man enthused with a hearty cackle.

“Now,” Remy said to the woman, “are you going to let him have that dollar for fifty cents when you could have it for a mere 51?”

“The hell I’m not.”

“51 cents the bid is,” Remy said, relishing the role of auctioneer. He turned back to the man. “Now remember sir, that if she walks off with this dollar for 51 cents, you will still owe 50, and you get nothing, but you need only bid higher to walk away with a dollar for just over half its value.”

“Sixty cents!” the old man shouted gleefully.

“Well now madam, I’m afraid you are going to owe 51 cents unless this gentleman’s impressive bid of 60 cents is not . . .”

She slammed the table with a balled fist.

“Seventy!”

Remy rescued his drink, seeing where it was all leading.

“75!” the old man said, banging the table himself.

“80!” the woman shouted, this time hitting the table hard enough to topple her Long Island iced tea. Remy sat back and sipped his whiskey, grateful he’d had the foresight to remove it from the center of the fracas.
“90 cents,” the husband coughed out, his fist landing in the puddle, sending splashes on all three of them.

His wife barely missed a beat, but she did refrain from hitting the table. She spoke slowly, enunciating far more than necessary for the sake of clarity.

“One dollar,” she said, smiling slowly with a hint of malice.

The old man paused briefly, so Remy helpfully reminded him of the rules of the dollar auction.

“Remember sir, your last bid was 90 cents. You are on your honor to pay that if you are the second highest . . .”

“One dollar and one cent,” he yelled triumphantly, grinning broadly and retrieving his beer.

His wife shot him a disapproving look. “You old fool, you’ve just bid a dollar one for one measly dollar.”

“Don’t try to trick me, woman,” the codger said pointing at her with a crooked finger that wriggled like a suffocating fish. “Out a dollar one for a dollar is better than out 90 cents for nothing.”

“Well two can play at that game, sport,” she retorted. “A dollar two.”

“A dollar ten!”

“One twenty!”

“A buck fifty!” the old man cackled.

Remy finally sold the dollar to the old man for two dollars and fifty cents, collecting two and a quarter from his wife, who finally put an end to the madness by refusing to bid
any higher. Remy thanked them and turned back toward Mack’s mêlée in progress, hoping nothing would compel him to get involved, or even consider it. That would require him to make extensive ethical calculus computations before he acted, and he wasn’t in the mood. Patrons and staff had broken up the fight, each combatant landing a few blows before being subdued. Mack was dripping with sweat and his lower lip swelled impressively, looking like an obese purple night crawler. The other’s nose spouted a thin trickle of blood, just starting to dry and blacken into a hideous little Hitler mustache. A knife lay on the floor between them, but no blood could be seen on the blade. It had apparently not tasted flesh before it was knocked out of its wielder’s hand.

“Chicken shit little pussy!” Mack observed. “You too chicken to take me on without a knife?”

“I’m not afraid of you,” the other spat out, along with something that might once have been an incisor.

The recently deputized bouncers were escorting both rowdies to the door while the bartender vomited an apoplectic stream of admonishments for their belligerence and assured them in no uncertain terms that this tavern would never again welcome their patronage. Remy waited a few moments, finishing his drink, then casually followed to avoid any guilt by association.

Outside, he found Mack standing alone, smoking a cigarette. His adversary was nowhere to be seen.

“What happened to your playmate?” Remy inquired casually.

“He went home to tend his wounds.”

“Ah.”
“But we’ll be playing another game tomorrow.”

“What’s that?”

“Chicken.”

Chapter 25  Space, Dimensions

The hole is prison within prison. For men who have had most of their freedoms taken away, those that remain are precious, their removal agonizing. Prisoners invariably begin to lose their minds after extended solitary confinement. But before they go mad, denizens of the hole soon discover solitary’s best friends, sleep and dream.

It’s not unusual for prisoners in the hole to sleep 16 hours a day, to enter a state of incarcerated hibernation. One day flows into the next in a dreamy collage. A psychological defense mechanism, to save sanity just a little longer. When madness comes, the transition from the dream world is less jarring.

Remy was strolling along railroad tracks, a recreation he’d enjoyed since he was a boy, and even then it provoked deep reflection on the nature of parallel lines. It was as beautiful a day as any he’d ever seen. The sun’s rays on the back of his neck were warm and soothing. A gentle, comforting breeze carried dandelion spores on haphazard, chaotic journeys through the air. Best of all, there wasn’t a wall, fence, or artificial boundary of any kind. Just grass and trees to either side, blue sky overhead. And miles of track stretching straight and true into the distance ahead of him.
He looked back quickly, making sure there was no train bearing down on him, knowing how bad news had a way of intruding on those rare moments of sublime tranquility, but nothing was coming as far as the eye could see. Birds twittered from scattered trees along the side of the track, but nothing of flesh or metal produced any other sound at all.

He looked ahead, down along the track, the parallel lines running out ahead of him, appearing to come closer and closer together until they met at the horizon far ahead. He remembered his fascination with this effect when he’d first observed and contemplated it as a small, mathematically obsessed boy.

He breathed in the air, devoured the sunshine, drank in the singing birds as he ambled along, blissfully intoxicated on his freedom. He capered along in this whimsical haze until he was yanked abruptly out of his reverie, stumbling as his foot caught on something.

Looking down at the railroad tracks, he saw that the rails had indeed come together and met, just as they appeared to, as seen from far away. He pulled his foot out of the metallic “v” formed where the tracks finally converged. Off to the side he saw an old, decrepit rail station. A large sign displayed the name of the stop:

*Vanishing Point*

He walked over to the old building and found a wizened ticket vendor napping in his booth. He tried clearing his throat politely, but this was drowned out by the old man’s snores.

“Excuse me? Hello? Hello! Helllooo!”
The old man stirred and looked at Remy, his face a mask of perplexity. Spider webs were torn asunder as the stationmaster finally moved, the now homeless arachnids scurrying to unseen crannies of the room.

“What can I do ya fer?” he asked brightly, displaying a timeworn grin.

“Yes. Um, to begin with,” Remy said, “Can you tell me where it is that I am, exactly?”

“Well, that’s an easy one,” the old man replied, leaning back in his chair, “You’re at Vanishing Point.”

“I see. And when might one expect a train to arrive here at the Vanishing Point station?”

“Well, it’s funny you should ask,” the old man observed, squinting his left eye and scratching his right ear, then digging around inside for wax, conveying pensive introspection more than genuine attendance to matters of hygiene. “A lot of trains leave, heading in our direction, but they never seem to get here. Damndest thing. I’ve been thinking of putting in a call, but—”

Remy nodded politely, wishing he hadn’t gotten the old man started. He tried to break into the monologue to excuse himself, but, having started after a long period of idleness, the old man was loath to stop.

“—they always give me the runaround. ‘Take it up with Euclid’ they say, but Euclid—”

Remy waved politely as he turned and exited the station to explore the rest of the tiny town. The nearest structure was a tavern, just behind the station. Thirst drew him toward
the bar, which improvised a fine performance as flame to Remy’s practiced role of moth. A sign hung over the entrance, swinging with a rhythmic creek in the light breeze.

_The Fifth Postulate_

He walked inside to a warm and welcoming décor. Flames crackled and danced within a fireplace, the logs popping and hissing. Four sturdy wooden tables were distributed around the room, all perfect squares with a chair at every side. Sixteen seats, all unoccupied. On each table was a precisely centered circular tablecloth, coming just to the edge of the table at the points facing the chairs. This drew to the mathematical mind thoughts of circles inscribed in squares, and the ratio of their respective areas ($\pi/4$).

Three patrons were seated at the bar. A pair of chubby, middle-aged men, one black, one white, both wearing cowboy hats, debated speculative baseball, using statistical analysis to examine a hypothetical game featuring Ty Cobb, Pete Rose, Reggie Jackson, Willy Mays, Hank Aaron, Nolan Ryan, Babe Ruth, Mickey Mantle, and Satchel Page, among others. The black disputant wore a white cowboy hat, his opponent, a black one. A few stools away, a wrinkly, balding old drunk rested his head comfortably in a bowl of pretzels, though the salty snacks were tied not into their traditional shapes, but into many different, unfamiliar configurations for the amusement of knot-theory topologists. The bartender was a stocky woman of about forty, with an uncombed nest of dirty blonde hair. She caught Remy with an aggressive smile as he stepped through the door.

“Well lookie here. Some fresh blood around this place. What can I get you?”

“A glass of red wine would be delightful,” Remy said as he took a seat between the drunk and the pair of cowboys, who continued their baseball argument.
“Coming right up,” she said. She put the glass in front of him, but when she brought the bottle out, Remy did a double take.

“Is that—”

“It’s a Klein bottle.”

“I’ve . . . I’ve never seen one before.”

“Well, that’s no wonder. They’re impossible in three dimensions,” she explained.

“You normally hang out in 3-dimensional Euclidean space, I take it?”

“Well it certainly seems like it, most of the time. But as far as I understand some of the latest developments in physics—“

“Nifty little things,” the bartender mused, turning the Klein bottle in her hand. “One surface. No boundary.”

“Well yes,” Remy mumbled. “It’s just—”

“Take your Mobius strip. Two-dimensional surface embedded in three-dimensional space. Your Klein bottle is a 3D object, the surface of which is a 2D manifold, embedded in 4D space. I suppose you could have higher dimensional Klein bottle constructions in higher dimensional space. But could you even imagine a four-dimensional bottle embedded in five dimensional space? Just thinking about it’ll drive you to drink. So I guess you’re in the right place. Three bucks for the vino, pal.”

Remy paid and took a sip at his drink, trying to ignore the fact that the bottle technically had zero volume. Its impossibility notwithstanding, the wine was delicious.
“Good stuff, innit?” the barmaid asked rhetorically as Remy blissfully downed the wine, trembling with pleasure. “Now what’s interesting about non-Euclidian geometry, is that it’s just Euclidean geometry in a different dimension, see? The surface of a sphere, like the Earth, say, well that’s a 2D Riemannian surface, which is obvious if you get far enough away and look at it from 3D Euclidean space, right?”

“Well, sure.”

“People got all hot and bothered over the fifth postulate, but really: it’s just a matter of what geometry is most convenient. Let me top you off there.” She refilled the wineglass.

“Something doesn’t make sense here,” Remy complained. “Are we currently in the projective plane or perhaps elliptic space in four dimensions, or—”

“You’re in a bar in a dream. Just drink your wine, sugar, and don’t worry too much about it.”

The drunk beside him unsteadily hoisted himself up from the pretzels, raising his head about a foot above the bar before collapsing in an explosion of salt and crumbs.

“Rose is batting .325 against lefties with a man on third in the 6th inning during away games on Tuesdays, so—” the white cowboy asserted. The other one just shook his head, finally bonking his opponent on the head with an abacus. A penguin appeared briefly, but then left without comment. He was smoking a cigar, but it was just a cigar.

The drunk made another attempt to rise, this time succeeding, albeit ungracefully, to push himself into a precarious, vaguely upright position. He seemed to be stirred out of his slumber by the baseball argument.

“Ya wanna (hic) you wanna know what I think,” the drunk managed to slur and sputter, remnants of pretzels shaking free of his graying whiskers.
“What?” one of the men wearing baseball hats (they were no longer wearing cowboy hats. Dreams are like that) replied.

“Platonism is dead! Long live post-Euclidean formalism! Leibniz was a fundamentalist hack!”

He collapsed back into his pretzels.

The bartender shook her head in disapproval.

“That’s it,” she said, removing his almost empty glass. “You’re flagged, Charlie.”

Chapter 26  Chicken

The morning after the altercation at the Seven Sails, participants and spectators pummeled hangovers with aspirin and tails of last night’s ornery dog as they gathered for the modern descendant of the medieval joust. The headstrong knights prepared themselves to career madly toward possible death, settling arguments on the field of honor, about a mile from the saloon on a rarely traveled dirt road going nowhere but an old mining town that ceased to exist when the silver ran out 70 years ago.

Mack was waiting in his beat-up Mustang. He sat back low and cocky in the driver’s seat, speaking to Remy through the rolled down window.

“This is not exactly a wise investment, Mack,” Remy noted calmly. “Your expected return on this venture is nothing, and your risk is quite substantial.”

Mack dismissed his concerns. “Ah, that chickenshit will turn before we close in on a quarter mile.”
“That’s certainly possible. On the other hand, he may just be as obstinate a fool as you.”

“Well,” Mack snorted, “I wouldn’t bet on that.”

“It’s hard to say where the smart money is on this one. I’m not sure how I should bet.”

Mack drew hard on his cigarette, throwing the butt past Remy into the dusty desert dirt. “The guy’s a coward. I’ve got nothing to lose.”

“Nothing to gain, either.”

“Dude, there’s, like, honor and shit at stake.”

“Ah. Honor. ‘Who hath it? He that died a Wednesday.’”

“What the hell does that mean?”

Remy sighed. “Nothing you need worry about. I think you might be right. But just in case . . .”

“Yeah, yeah,” Mack said, “don’t get all sentimental on me, man.”

“I wasn’t about to.” Remy paused. He brought his finger to his chin and looked up pensively. “I was just thinking about some side bets. If I take wagers on each side and set the odds right, I’ll make a profit regardless of the outcome.”

“Hey, go to it, man. I’ve got time. Glad to help.”

Remy walked down the road to where a few spectators, mostly friends of the other obstinate fool, were beginning to gather. Though it was just after 9:00 a.m., most of them were already (or still) drunk. Fool #2, whose name was Rick, arrived in a ’92 Camaro, resplendent in a new cherry red paint job.

The crowd swelled to a few dozen people. In addition to Rick’s immediate circle of dimwit drunkard cronies, there were other patrons of the Seven Sails who’d witnessed the
previous evening’s scuffle and caught wind of the exciting idiocy it had instigated. Opportunities to see head-on collisions and gruesome, graphic, bloody deaths are few and far between. There might even be an explosion. None of them wanted to miss it.

The two cars were facing one another, their engines revving taunts, separated by a half-mile stretch of flat road. Remy approached the boisterous mob gathered on the side of the road between the snarling iron steeds. Mack watched him circulating through the crowd. Rick’s comrades, while they were none too friendly with Remy, were willing to take his wagers. Others, acquainted with neither contestant, also placed bets, the entire asinine spectacle immeasurably more entertaining with money on the line.

A few small fights broke out among the rowdy, drunken crowd, potential fodder for future inane contests of moronic machismo, but these soon petered out. The assembled spectators started looking with increasing frequency at their watches. It was almost chicken time.

A designated referee stood in the center of the road, holding up a large red flag, actually nothing more than a tattered towel on a stick, briefly promoted to vexillary glory. He held it high for a few moments, and the sports fans fell silent, ready to witness the testosterone-fueled automotive entertainment. The ref was just about to drop the flag when a short bald guy ran out of the crowd and signaled for him to put it on hold, then ran up to Rick’s window, leaning in for a hasty conference. The referee paused, allowing a few moments for the last minute strategy session, finally raising his arms in the air, as if to say, “what the fuck?” Rick’s crony waved him down, putting his hand up, fingers splayed out, petitioning for just a few more seconds. He exchanged some more words with Rick, then ran back to the crowd on the side of the road. The ref again raised the
flag, held it for a few seconds to ratchet the tension up to the appropriate fever pitch, then dropped it and scurried out of the way.

Mack pressed the gas pedal to the floor, accelerating as fast as the old Mustang could take him. Rick did the same, his car having considerably better acceleration, though the technical superiority of his equipment gave him no advantage in this contest, as it might in a race or even a demolition derby. Reckless stupidity was the greatest asset in the game of chicken. Whoever had the least amount of it would be the first to turn.

In a few seconds the half-mile separating them had shrunk to a quarter and neither side showed any sign of wavering.

“Go Rick!” one of the onlookers shouted, though some of his other supporters began to look concerned. Remy stood calmly watching, stolid and unmoved.

The cars sped headlong on their collision course, Mack letting out a mad cackling shriek, his words lost, though almost certainly profane. The maniacal epithets continued to pour from his mouth as he sailed on at 70 MPH past Rick and his Camero, which swerved out of his path with about a second to spare, avoiding a deadly crash by mere inches.

“Chickenshit motherfuckermmmmmmm!!!!!!”

* * *

Remy pocketed his winnings as quickly as he could, knowing the elated relief Rick’s near-death experience had evoked would soon give way to bitter resentment. As soon as Mack swung the Mustang back around, Remy hopped in to forestall his partner’s inevitable gloating, which he postulated might well get both of them killed.

“Aw come on! What’s the fun if I can’t rub his nose in it?”

“Nobody is dead, your adversary has been humiliated, his friends are poorer, and I am richer. It’s fun all around. Drive.”

Mack reluctantly depressed the pedal and sped away, glancing back to see an array of spontaneously upraised middle fingers undulating through the crowd like a rude version of “the wave.”

They drove mostly in silence. Mack gibbered under his breath, vibrating with adrenaline.

“So you won some money, eh?” he said after a while.

“Yes, I did turn a profit after all.”

“You bet on both sides, but gave odds so you’d win either way? Like a bookie?”

“No. I concede that I bet exclusively on you. Had you lost, I’d have suffered heavy losses.”

“Well, thanks for the vote of confidence. You gonna buy me a drink with the profits?”

“I suppose you’ve earned it.”

“Great. I’m banned at the Seven Sails though. We can hit that other place.”

Mack turned off the old dirt road onto the main street of Carter’s Mill, called, to make things easy for locals and transients alike to keep straight, Carter’s Mill Road. A few more turns and they arrived at the other bar, the Oasis. Slightly better lit than the Seven Sails and about half the size, the Oasis tended to draw an older, less bellicose crowd. In addition to the bar, patrons could choose from four round tables, suitable for gatherings of knights, provided you didn’t have many of them, for each had but four chairs, spread
evenly around them, drawing to the mathematical mind thoughts of squares inscribed in
circles, and the ratio of their respective areas \((2/B)\).

Some old timers sat at the bar, looking as if they were trying to remember what they
were drinking to forget. A middle-aged woman fed nickels into the video poker machine
between short drags off her Virginia Slim and long sips of her scotch and water. A
younger woman was slowly getting drunk on the vodka and cranberries a hopeful older
man was buying in the hopes that this might lubricate her libido.

They stepped up to order and were greeted by Ned, a big bald, barrel-chested bartender
who looked a lot like Mr. Clean, with the notable incongruity of the filth conspicuously
clinging to him, his baggy white T-shirt dotted with splotches, stains, and sweat marks.
Remy requested a glass of Bordeaux, Mack a bottle of Michelob. He too was offered a
glass, but demurred. They brought the drinks to a table in the corner and took their seats.

“So, you bet on me the whole way, huh?” Mack said as he pulled out and lit a
cigarette. “Were you convinced that I was definitely the bigger idiot and that
whatshisfuckface would have enough sense to turn, or what? You seemed to have some
doubts before.”

“Well, I insured my investment, of course.”

“Yeah?”

“Yes, I adjusted the perceived payoff table.”

“There you go with that math shit again,” he said, exhaling a thin stream of smoke.

“What does that mean?”
“Chicken is a non-zero-sum game. Moreover, it has no equilibrium point. It is based on the assumption that either player would rather live than die, but would rather look brave than be a chicken.”

“Okay,” Mack said, “I’ve got that. So far, so good.”

“In the normal payoff table, a player deciding not to turn will receive either the most desired result—looking brave, or the least—dying a horrible flaming death. It depends on what the other player does. A player deciding to turn will receive a payoff in the middle—looking like a chicken, less so if the other turns too, but he definitely won’t emerge covered in either glory or his own viscera and gasoline. The question each must ask is whether the other will go for a strategy guaranteeing the middle result, or one that will return either the best or the worst. It’s like this . . . ”

He got a napkin and drew the following table.

<table>
<thead>
<tr>
<th></th>
<th>Turns</th>
<th>Goes straight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rick</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turns</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goes straight</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

“You get the first payoff in each combination,” Remy explained. “He gets the second. If you go straight, you get either the highest score, three points, or the lowest score, zero,
depending on what your opponent does. Three or zero. Glorious victory or bone-crunching blaze of stupidity. If you decide to turn, you take the middle road. No glory. No violent death.”

“I’m with you so far.”

“It’s an unstable game, because there’s no way either player can be sure he made the best move. They have to guess, and might well choose differently if they’d known what the other were doing.”

“Ok.”

“But if one player were absolutely convinced that the other wouldn’t turn, then he knows he’s getting either zero or one point, and if he has any sense, he’ll take one. The only way to ensure that one player knows the other will not turn is to adjust the payoff table. Or to make it appear that the payoff table has changed.”

“Say what? Better yet, uh, say different.”

“In order to ensure that Rick would adjust his strategy, I had to make it clear that dying in a horrible collision did not, in fact represent the least desirable outcome for you, so that from your perspective, you had a pure winning strategy in not turning. That no matter what he did, going straight ahead was your best move. Therefore, since his payoff table remained unchanged, he would also have a pure winning strategy, guaranteed to score him the most number of points that he could hope for. And that strategy is turning. You going straight and Rick chickening out is the only possible outcome for two rational players. Like this.”

Rick
“You lost me in there somewhere.”

“When I was taking bets amongst the bloodthirsty masses, I wagered that either Rick would turn, but not you, or that the two of you would collide in a messy showdown. I took bets against those who said you alone, or both of you would turn. I even gave steep odds, though never concerning what Rick would do. I only bet that you wouldn’t turn. After the bets were taken, I allowed myself to be overheard by Rick’s friends while discussing with someone who was not involved in the wagering why I was so confident. Because you have terminal bone cancer and are expected to die, slowly and painfully, within three months.”

“You didn’t!”

“I most certainly did.”

Mack shook his head. Laughed. Took a pull of his beer. Laughed again.

“You might have saved my life, I guess.”

“I earned $665 is what I did. And as promised, I think you deserve at least one drink. This round’s on me. Have another if you’d like.”

“You’re too good to me.”
They drank quietly and reflectively for a few minutes. Remy finally broke the silence.

“I should tell you, our arrival here in Carter’s Mill is not entirely coincidental. We have some business here with the potential to net us a sizable reward.”

“Business?” Mack asked, cocking his head with curiosity. “Does it involve crime?”

“It does.”

“And the pay is good, so we aren’t talking about some petty shit?”

“We are not.”

“Good. Enough of this small time crap,” Mack yelled, slamming his beer down on the table. “I wanna live the life of the outlaw. Let’s rob a bank.”

“No.”

“Liquor store?”

“Even more enthusiastic no.”

“Well what are we talking about then?”

“Kidnapping,” Remy barely enunciated.

Mack was surprised into silence for a moment.

“Works for me,” he finally said, then finished off his beer.
Chapter 27  Non-Euclidean Geometry

The scene had changed without anyone noticing anything amiss, dream logic accepting discontinuous perceptual shifts. Remy and Charlie were no longer drinking in the Fifth Postulate, but were instead strolling along what seemed an infinite Cartesian plane. Charlie still had pretzels in his beard, but had miraculously sobered up enough to flawlessly walk a straight line. No line segment, this was a line in the classic Euclidean sense, stretching out infinitely ahead of him. Gottfried Leibniz had joined them, walking just behind Remy and Charlie as they strolled along the boundless plane. Lines parallel to the x and y axis, intersected at right angles, dividing the plane into squares diminishing in apparent size out to the horizon all around them like an endless sheet of graph paper. Descartes was nowhere to be found, which was a shame.

“There are fundamental maxims which constitute the very law itself,” Leibniz asserted, quoting himself, “which, when they are taught by pure reason and do not come from the arbitrary power of the state, constitute natural law.”

“You think so, eh?” Charlie goaded, turning his head around to mock the famous deceased mathematician to his face.

“Indubitably. I am in the process of devising a method of setting up a reasonable philosophy with the same unanswerable clarity as arithmetic. No longer shall philosophers argue points of moral vice and virtue. ‘Let us calculate, Sir,’ I say. By taking pen and ink, we should soon settle the question.”

“Just wait until non-Euclidean geometry comes along,” Charlie challenged. “You’ll be singing a different song then, Gottfried.”
“Non-Euclidean geometry?” Leibniz repeated, as if the very combination of syllables was itself a logical paradox. “Euclid is synonymous with geometry.”

Charlie shook his head.

“The emergence of non-Euclidean geometry in the 19th century precipitated a pervasive philosophical crisis reflected throughout the inchoate modern zeitgeist. The foundations of epistemology came tumbling down, and with it came its sister, ethics. What happened to the bartender?”

“She’s back at the Fifth Postulate,” Remy speculated.

“You can never get good drinks on the Cartesian plane. Maybe I should look for a flight attendant,” Charlie quipped, then fell down, laughing.

“This man speaks in riddles,” Leibniz stated with some irritation.

Charlie crawled up off the endless graph after bending some of the parallel lines for his amusement, then carried on ranting.

“The absolute, unquestioned, unquestionable authority of Euclid, what seemed a priori, self-evident aspects of mathematical reality were revealed as a mere human construction, or at least mutable tools. Absolutes collapsed in favor of a view of mathematics and indeed all of human knowledge as modes of thought in impermanent contexts. Axioms, geometrical or ethical, are assumptions, not presumptions, not a priori, self-evident truths. They are established as the basis of formal systems. Alternative axioms could be used to produce equally valid, internally consistent formal systems.”

The great philosopher was undaunted. “The efficient cause of natural law in us is the light of eternal reason, kindled in our minds by the divinity,” he stated, his voice
unsteady, still a little shaken from hearing the shocking allegations concerning Euclid. “God is an excellent geometrician who knows how to find the best construction of a problem.”

“Well that was always the problem with Leibniz,” Remy interjected, speaking to Charlie as if Gottfried weren’t there, which was reasonable seeing how long he’d been dead. “His efforts to create a Lingua Philosophica and a Calculus Ratiocinator were admirable, pioneering philosophical efforts, but his moral philosophy was hamstrung by his obsessive need to believe in a simultaneously omnipotent and benevolent deity who created and rules the universe, specifically one in perfect accordance with often wildly absurd Christian scripture.”

“Since all possible things have a claim to existence in God’s understanding in proportion to their perfection, the result of all these claims must be the most perfect actual world which is possible,” Leibniz pronounced.

“You see what I mean?” Remy said to a sympathetic Charlie.

“‘If this is the best of all possible worlds, what are the others like?’” Charlie returned.

“Ah. Voltaire.”

Charlie nodded.

“Arrogant French jackanapes,” Leibniz opined.

“Still,” Remy continued pensively as they strolled along, “Acknowledgement of the ultimate flexibility of the fundamental axioms of an ethical calculus does not detract from the merit of formulating such a system and striving for internal consistency, if not universal recognition of infallibility and unique perfection. And in his Meditations, Leibniz unwittingly prefigures a game theoretic system of ethics, hundreds of years
before Von Neuman, and even lays the foundations for social contract theory half a century before Rousseau. He argues that the greatest good will arise from rationally thinking but purely selfish egoists operating according to their own desires, citing a variant of the Golden Rule—”

“Quod tibi non vis fieri aut quod tibi vis fieri, neque aliis facito aut negato,” Leibniz intoned importantly.

“Exactly,” Remy said. “He recognized what later game theorists would come to call *tit for tat*, stating that, as far as reasons we should not, even if we are self-serving egoists—*defect*—to use modern game theoretic terms, ‘the most pressing will be the fear that someone will do the same to us.’ ”

“I did indeed say that,” Leibniz agreed.

“It makes a much bigger splash later, Dr. Leibniz,” Remy said, pivoting around and addressing his hero directly, then turning to Charlie again. “But alas, Leibniz’s fine reasoning that self-interest naturally implies cooperative group interest is finally tainted by his obsessive return to ‘God.’ He seemed to fear the conclusions achieved by his own speculations, much as Gauss—documents uncovered after his death revealed—recognized but feared to publish his realization of the perfect coherence and internal consistency of non-Euclidean geometry denying the fifth postulate. Leibniz was unwilling to embrace an ethic that, without denying the existence of God per se, did not *require* the existence of such a being for a rigorous system of ethics and morals. A devout Christian, his own speculation led inexorably to a godless metaphysics where rightness and virtue are merely labels for mathematical states.”

Leibniz had heard enough. He grabbed Remy by the shoulders and spun him around.
“Devil!” he shouted, catching Remy across the jaw with a furious right cross.

“Wake the fuck up, Martin!” Shaggy yelled, giving him another slap to get his attention.

He was back in the hole, the infinite space of the Cartesian plane collapsing again to a cramped, damp five by eight feet.

“Good morning, sunshine,” the scruffy guard said. “Jeez, you guys practically go into comas when they send you in here. You’re heading back to gen pop. Back to your cell.”

Remy rubbed his cheek, stinging from the blow, but the stimulus was almost welcome. He couldn’t even say how long he’d been in the hole, fading in and out of dreams through day and night, the single bare low-wattage bulb dimly illuminating the grimy cell 24 hours a day, with nothing to gauge the passage of time but the appearance of small trays of unappetizing, almost inedible food.

“How long have I been in here?”

“A few weeks. Maybe a month. Oh, by the way, the disciplinary review board dismissed charges against you for that assault on those guys. Lack of evidence.”

“I don’t suppose I can therefore file a grievance for being unjustly stuck in the hole.”

“Sure you can. You can also pray that you sprout wings so you can fly away from here. Nothing in the rules against that. Good luck with both of those projects.”

Remy exited the dismal, barren cell, coaxing his atrophied muscles to work with him as Shaggy, occasionally serving as a hirsute crutch, brought him back to cellblock A. This was one of those good news/bad news situations. The good news was that prisoners in the general population had a much lower incidence of going stark raving mad than those kept in solitary confinement. The bad news was that they had a much higher rate of
being murdered. C’est la vie. You get nothing for nothing. No such thing as a free lunch. And if someone offers one of those in prison, it’s probably full of ground-up glass. Bon appetit.

Chapter 28 Kidnapping – Game Theory Considerations

“Kidnapping is problematic, ethically speaking,” Remy said as he brought his wineglass to his lips. “Definitely problematic.”

“Sure, Remy. It’s up there with euthanasia and abortion and whether or not you’d kill Hitler as a child if you could go back in time,” Mack observed. “Look, I’m really a lot less concerned about ethics than you are. I’m a criminal.” He touched the tips of his fingers to his chest. “I take things that aren’t mine. Sometimes I beat people up. If I ever paid taxes, I would definitely cheat on them. Fortunately, that’s never come up. The point is: I’m a crook. So are you. What kind of guidance counselor did you have in school?” He affected a stiff, professional manner. “Well Mr. Martin, you are extremely good at math and obsessed with ethics. I think you should definitely consider something in the criminologic arts and sciences.’ ”

“Problematic,” Remy repeated, staring off into space while tapping his finger against his glass. After a moment he stopped tapping, then raised the glass and drained the last
blood-red drop. “But it holds potential for a good deal of interesting mathematical analysis.”

Mack paused, casually checking the bottle in his hand to make sure he was drinking what he thought he was drinking. Remy continued to stare blankly in front of him. Mack looked up to face his preoccupied partner.

“Mathematical analysis,” he repeated slowly and evenly.

“Yes.”

“Kidnapping.”

“Yes, kidnapping.”

He paused again. Lit a cigarette. Smoked the entire thing before saying another word. He turned again to Remy as he was extinguishing the smoldering butt.

“You grab someone. You call their family. They pay you to let the hostage go. Where the hell is the mathematical analysis?”

“Ah,” Remy said. Finally pulled out of contemplation, he swiveled in the seat to address his accomplice. “It’s rather an interesting game.”

“It’s not a game, Remy. Blackjack is a game. Kidnapping is—”

Remy fluttered his palm to draw Mack’s attention to his volume, encouraging him to consider reducing it, given the sensitive subject matter.

“It’s not a game, Remy,” Mack said, almost whispering now. “It’s a crime.”

Remy smiled slowly. “It’s all games, Mack. Whenever two people have different, mutually incompatible objectives, they’re playing some kind of game. Doesn’t matter whether either one is having any fun.”
“If you’re going to get all cryptic on me, I need another drink,” Mack said, rising from the table to embark on this quest. Bartender Ned obliged. Trying to avoid a repeat of the previous day’s quarrel, Mack refrained from bringing up the controversial subject of sports, inquiring instead what religion Ned was, intending to helpfully offer his opinion of said faith. Fortunately, Mack didn’t know what a Presbyterian was, and just smiled and made a mental note to look it up later so he could see what irritated them. Remy picked up where he left off when Mack returned with a shot and a beer.

“The abductor threatens to kill the victim if not paid. The family of the victim can choose to pay or not.”

“Ok.”

“Whether or not the family pays has no effect on the kidnappers’ best move. They have a strong incentive to kill the hostage to avoid incriminating testimony.

“Ruthless,” Mack commented before gulping his beer too fast and getting it all foamy.

“On the other hand, they may have been careful not to let the hostage see anything, and other evidence might lead back to them. Authorities will be far more tenacious in pursuing them if they kill the hostage, and they’ll face a lethal injection if caught, so this provides a strong incentive not to kill the hostage.”

“Sure.”

“Which is their best move depends on these factors, but the payment of the ransom is strategically irrelevant.”

“Heavy.”
“Therefore, a family, making the rational assumption that they are dealing with a logical, self-interested kidnapper, would refuse to pay the ransom, as there is no reason to expect that it would make any difference if they did pay.”

“But—”

“And since the abductor knows that the family knows this, he has no reason to attempt the kidnapping in the first place. If he is smart, our contemplative criminal will then choose to pursue securities fraud and insider trading.”

“But people commit kidnappings. It happens all the time. Didn’t anyone tell them?”

“Ah,” Remy intoned superciliously. “That is because kidnapping is an iterated game. It’s repeated. This changes everything. In a non-iterated game, the players’ choices have no effect on one another. If the game is repeated, then player 1’s choice now affects the choice that player 2 makes. Because player 1 will make another choice, basing the decision on what player 2 did the last time, and vice versa.”

Mack shot some Bourbon back. Sent some beer down to keep it company. Pondered.

“Now answer me this,” Remy interjected after giving Mack a few moments to digest the chewy morsels of game theory, “would you rather be kidnapped by a high-profile terrorist organization which does it all the time, or by a couple of yokels?”

“Neither.”

“Wrong answer. If you are kidnapped, you want someone who has done it before, and plans to do it many times again. You want career kidnappers to abduct you.”

“I do?”

“Yes. The yokels have virtually nothing to lose by taking the ransom money and killing you. And people with nothing to lose are always dangerous. The professional
 kidnappers have reputation to lose, and if future interactions are anticipated, reputation is very important. Everyone knows, from past experience with these pros, that if the family pays up, the captives go free, and if not . . .” He moved his index finger across his throat.

“Ok,” Mack said, “But let’s say the yokels aren’t complete idiots and they don’t let me see anything. So they know I’m not going to get them busted, and since they’re just amateurs, they don’t have to worry about their own reputation. So they don’t really have any reason to kill me if my family wouldn’t pay up—which, by the way, they wouldn’t.”

“They should kill you anyway, as a matter of professional courtesy.”

“Speaking of courtesy, you really should share whatever it is that you are high on.”

“In the interests of honesty and accountability, kidnappers must kill their victims when their demands are not met. It may not help the individual kidnapper, but it does help the community of kidnappers, by creating the fear of consequence if kidnappers’ demands are not met. It reinforces the credibility of their threats, collectively.”

“Hmmmm.”

“Consider also the perspective of the hostage’s family. Familiar now with the concept of an iterated game, and recognizing that a cooperative equilibrium has been established, they have a strong incentive to pay the ransom. But they are actually defecting in the game they are playing with other kidnapping victims as a community. They will be demonstrating that kidnapping is profitable. If nobody ever gave in to kidnapper’s demands, kidnappers would have little incentive to kidnap in the first place, correct?”

“Sure.”

“A few hostages would die before kidnappers as a group realized there wasn’t anything to gain, and then it would stop happening. But all it takes is for a few people to
give in and pay up, then they get their loved one back, and some other poor sap gets nabbed. Families of hostages are acting selfishly when they pay off ransoms, jeopardizing the group for the benefit of the individual. Kidnappers are acting altruistically when they kill hostages in response to unpaid ransoms, benefiting the group—that is the community of kidnappers as a whole—at the possible expense of the individual. Honor among thieves. And kidnappers.”

“Okay, fine, Remy. This has all been very enlightening, but if I wanted education, I would steal a book. Do you have a plan? Do you know some rich person who has a kid we could nab or something?”

“No. We won’t be kidnapping anyone.”

Mack pounded his fist on the table, drawing a harsh glare from bartender Ned.

“Then why the hell did you tell me all that crap?”

“Because I know some people, business associates, who are, among other things, professional kidnappers. They are interested in locating a certain individual who has jeopardized their enterprise by destabilizing the most profitable equilibrium of their iterated game.”

“Say what?”

“He used to work with them. Then he killed a hostage after the family paid the ransom, and he took off with the loot. This gave his partners a very bad reputation and put an uncomfortable amount of heat on them, so they have a bone to pick with him. And I think I know where he is.”
“Little word to the wise,” Zombie whispered as he slapped a lumpy, poorly reconstituted blob of mashed potatoes onto Remy’s plate. “I been yanking Lucien’s jacket, man, and I think he’s gonna try something,”

“You do?” Remy raised an eyebrow while pointing at grayish peas.

“Yeah,” the emaciated server affirmed, his sunken, but still beady eyes darting around for anyone who might take an interest in this exchange of information. “I saw him passing something to that hairy badge, Shaggy. That hack’s supposed to be on shift in the laundry room this afternoon, but I have a feeling he’s gonna be distracted for one reason or another. Conveniently absent, y’unnerstan?” He dumped some peas on Remy’s plate. They bore a striking resemblance to the potatoes, though the latter had more of a greenish cast to them.

“Thanks.”

“How about a little tip?”

Remy slipped him half a pack of Camels. They were nothing but units of currency to him, like paper money, while to most of the other prisoners, including Zombie, they were the equivalent of precious metal coinage, their value based upon genuine utility. This stands in sharp contrast to the surrounding macroeconomic system, a gargantuan machine full of haphazardly moving parts, all held together with duct tape, or, more precisely, faith in the innate value of green pieces of paper. For now, that faith held, but the green pieces of paper were considered contraband behind the walls. With few exceptions, the prisoners’ currency was edible, smokable, or felatio.
It remained to be seen whether or not Zombie would succumb to his nicotine addiction and exploit the real value of his cigarettes, or instead have the discipline to save them as currency to satisfy his other addiction, heroin. Smokes in hand are a difficult temptation for any nicotine addict to resist, even for the promise of smack, beautiful smack. Because it’s tomorrow’s heroin, but today’s nicotine. This is another important principle of game theory. Any payoff tomorrow is worth less than the same payoff today. Game theorists quantify this concept, using the term *discount parameter* and the letter $w$.

Mathematicians are notorious for making relatively commonsense statements that are impenetrably abstruse, but that’s basically all the discount parameter is about: A bird in hand is worth two in the bush. Game theorists have simply jumped on that familiar concept and done what they do best: made it harder to understand. That and define more precisely quantified mathematical relationships. Given a bush function, $b$, and a hand function, $h$, there exist bird numbers, $x$ and $y$, such that $h(x)=b(y)$.

Values of 1 and 2 have been proposed for $x$ and $y$, respectively, but the conjecture remains unproven and warrants further study.

Like the yard, the cafeteria dramatically illustrated the spontaneous racial segregation that naturally and inevitably becomes dominant and stable in the prison environment. Skin color was the obvious common link shared by all the members of each table, religious beliefs and other ideological and social factors also serving to bring together some of the men and drive others apart. Remy took a seat at a section claimed by assorted white guys who weren’t Nazis or bikers. A few of them were Italian and Jewish mobsters, a dying breed, though as anyone experienced with wild animals could attest,
dying creatures can be the most dangerous. A few seconds after he took his seat, Remy felt a tap on his shoulder. He jerked his head around, ready for trouble. Not quite ready for what he saw. It wasn’t a finger tapping him. It was a toe.

When Markus “Toes” Barelli was a younger gangster, fresh off the boat from Sicily, he was assigned to plant a bomb in the car of a witness whose testimony his employer felt might unfairly bias a jury. As a patriotic new immigrant, Barelli was eager to participate in the American judicial process.

Another mobster, John Garibaldi, (called “Johnny Boom Boom” up until then, but known posthumously as “Johnny the klutz”) had assembled the explosive device, failing to exercise the attention to detail so essential for the long-term success of an aspiring gangster. The bomb went off while Barelli was planting it. Fortunately for him, Johnny the klutz had, in addition to rigging far too sensitive a detonator, also used an inadequate amount of explosive. Had he used enough, pieces of Markus would have been distributed over a three county area. As it turned out, the small blast took off or permanently maimed all the fingers of his right hand, leaving the rest of him and most of the car virtually unscathed.

The mob had a plan B, of course. Someone else shot the witness, which was every bit as effective, though it lacked panache. Markus, after he got out of the hospital, shot Johnny. Quality control, mafia style.

Through the miracle of microsurgery and an obscene amount of money, Markus had three of his toes attached in place of his thumb, middle, and index fingers. They served
him remarkably well. Rumor had it that during his distinguished career on the outside, he’d pulled the trigger on at least a dozen guys, all with his index toe.

“So you’re real good with the numbers, ain’t that right Ace? You know math, eh?” Toes asked.

“I’ve been known to differentiate a few functions in my time, Mr. Barelli.”

“Heh heh,” Toes chuckled. He was surprisingly affable for a ruthless gangster, as Remy had already surmised from playing cards with him a few times. It was easy to forget that the charming old Sicilian gentleman had enough blood on his hands to drown a dozen litters of puppies in, and wouldn’t hesitate to do it if he had a good reason, or even a bad reason.

Toes dismissed the inmate sitting to Remy’s left with the briefest of glances. The con got up without a word and Toes took a seat. The others at the table aggressively ignored both of them. Minded their own business. Did their own time.

Toes stuck a forkful of salad in his mouth. Remy waited patiently while the mobster chewed and swallowed before speaking. “The way you play gin, you gotta have a good memory. And the word is you have a good head for figures. I’m one of the big sharks around here, and I get the lowdown on every new fish that comes swimming in my pond.”

“Yes, sir. I’m well aware of your position in the local food chain, Mr. Barelli, sir.”

“That’s good. So listen up, Ace. I need a man of your talents to help with some enterprises I got going on here,” he said, laying his hand of toes avuncularly on Remy’s shoulder. Remy resisted the willies threatening to overtake him.
“Mr. Barelli, I’d be happy to work with you in any capacity you see fit. Your reputation as a firm but fair employer precedes you.”

“Oh it does, does it?” Toes said laughing. “How about my reputation for killing snitches and traitors extra-dead, with interest, huh?”

“Like I said. Firm but fair. Very fair. But very, very firm.”

“That’s me, all right. So anyhow, Ace, are you familiar with Meyer Lansky?”

“The name rings a bell. A finance management specialist, as I recall.”

“Yeah, that’s a good way to put it. Lansky was one of the greatest gangsters of all time. And sure, he was a tough guy. Tough as nails. He’d busted a few heads, you know, but a lot of tough guys, they end up in . . .” He drummed his toes on the table as he searched for the words to express himself.

“Adverse circumstances?” Remy suggested.


“Ah.”

“Lansky was more than just a tough guy. He was a smart guy.” He tapped a toe to his forehead. “And he was very good with math. That was the secret of his success. He had a head for the figures and a memory like a steel trap. ‘Always keep everything in your head,’ he used to say. And he did. Him and Luciano had money coming in, money going out. They had the loan-sharking, protection, narcotics, prostitution, gambling, you name it, and Lansky kept all the books, all in his head. That way, there’s no paper trail. There’s no way the cops can get their hands on the books, ‘cuz they’re all in Lansky’s head.

“ Seems like the safest place.”
“So anyhow Ace, I wanna use your head.”

“I assume this would involve filling it with the details of the black market economy here at Longacre?”

“Yeah, that’s right. We got customer accounts, purchase routing, supply, demand, the whole nine yards. And competition. Let’s not forget competition. You come to my house tomorrow during rec. We’ll talk.”

“Yes, Sir,” Remy said, realizing that Toes’ offer of employment was of the classic variety that could not be refused.

Toes turned his full attention to the food, pretty good today, or at least edible. Salisbury steak, closer to brown than gray, tasted a tiny bit more like meat than it did like cardboard. A four star meal, grading on the Longacre curve. The old gangster demonstrated unexpected agility manipulating knife and fork with his three toes and soon polished off the steak.

“Hey Ace, since you gonna be working for me, how about a little hiring bonus? That’s a good, you know, business gesture, huh? You want an extra jello?”

“That would be most generous and greatly appreciated, Mr. Barelli, but—”

Toes reached over to the tray of the con across from him, a pudgy blonde burglar, and scooped up his dessert. The burglar frowned, but didn’t say a word as Toes placed it on Remy’s plate.

“Welcome aboard!”

“Good to be a part of the team, sir.”

Toes inhaled his own jello and left the chow hall. Remy finished a few minutes later and made his way back to his cell, casting his eyes discreetly around for the approach of
any guards. He saw none and crossed cautiously to his sink. He reached with his
fingernail into the drain, catching the single human hair tied around the metal of the drain
guard. He lifted the hair carefully, maneuvering the shank tied to the end of it up and
through the narrow hole.

Chapter 30  Encryption

“So who the hell is this guy we’re after, anyway?” Mack asked. He took a long drag
at his cigarette. “What’s he all about?” The question emerged from his mouth framed in
smoke.

“His name is Carlos. He’s a very dangerous character."

“Dangerous,” Mack repeated, rolling his eyes. He further emphasized his reckless
insouciance by blowing air through closed lips, making a sputtering noise. “Pffhhpt! A
little old lady with a car is dangerous. I eat danger for breakfast. I have grave peril for
brunch. Wash it down with impending doom. We’ve already dealt with some plenty
dangerous people, and we’ve done okay. What’s so special about this guy?”

“He’s highly intelligent.”

“Big deal. So are we. Well, you are, anyway. I’ve just got the danger eating trick
going for me.”

“He’s unpredictable. He can, in fact, be quite irrational, though there is a deeper,
highly strategic rationality underlying it.”

“You realize that this makes no sense to me?” Mack asked while knocking off a long
ash. “None at all. I mean not even a little.”
Mack waited for elucidation, but Remy provided no follow-up, only doodled some sort of matrix on his napkin and looked forbiddingly pensive. Mack finally ventured a clarifying question.

“So this guy is a nut, is that what you’re saying?”

“I wouldn’t go that far. Let’s call him a ‘wild card.’ ”

“So how do you know your wild card is in this tiny hole in the wall in the middle of fucking nowh—” he caught the disapproving eyes of several locals looking up from their drinks, “this quaint, un tarnished little corner of paradise?”

“He sent a message to me.”

“What kind of message?”

“An encrypted one, of course. Best kind.” He pulled out a copy of the July 1st edition of the New York Times, and opened it to page 7. The story at the top of the page concerned trade deficits and discussed fiscal policy decisions by the Federal Reserve. Mack attempted to read it, but pulled away quickly, as if stung.

“Ouch! Ouch! That’s so boring! Tell me I don’t have to read that.”

“Correct. The article itself has nothing to do with us.”

“Thank Fucking God. So are you saying this Carlos guy somehow sent a message to you in that article?”

“No. The text of the article was used to encrypt the message. Neither of us has any direct contact with the other, so he had to publicly post the message where it was accessible to anyone, but encrypt it so only I could read it. Mathematicians have developed and are continuing to explore some ingenious methods of doing just that, public key encryption with large prime numbers and elliptic curves. But these
approaches would not have been convenient in this circumstance, so he relied primarily on steganography and a private key substitution cipher.

“Oh sure.” Mack nodded in approval. “That’s what I’d have done.”

“I regularly peruse an online mathematical discussion forum, which recently featured an article by Carlos submitted under a pseudonym with which I am familiar. The article is ostensibly about random numbers. He made some interesting observations, but the example he used here conceals a message.”

He showed Mack a printout of the article, which concerned the flipping of coins. A large block of text consisted only of dozens of h’s and t’s.

“These allegedly refer to heads and tails from iterated coin flipping trials.”

“Dude, you keep using that word. What does it mean?”

“Iterated? It just means ‘repeated’ ”

“Why not just say ‘repeated?’ ”

Remy shrugged. “Mathematicians always say ‘iterated.’ Don’t ask me why.”

“Fine. Go on.”

“The results appear random but they aren’t. If we replace the h’s with 1 and the t’s with 0, we get a very large binary number. I’ve already gone through the tedious process of converting this to decimal notation.”

He wrote the following number on a napkin.

1785052003080508850006020000149487069409100704011415810406

“Wow. That’s a big number, all right. Yup. So what?”

“Carlos and I once had a hypothetical discussion concerning encryption. We agreed that the *New York Times* would be an ideal tool for this purpose because of its wide
availability. July 1st is Leibnitz’s birthday, so that’s easy to remember. And seven is my favorite number.”

“Why?”

“Because it’s considered lucky. It’s something of an ironic joke.”

“If you had a day job, I would tell you not to quit it.”

“We take the words from the article and convert them to alphanumeric code. So 01 represents A, 02 represents B and so on. The first 28 letters of the *Times* article gives us . . .”

20080506050405180112180519051822051805120501190504200805

“We add that to the number we got from the ad and get . . . ”

1805132509130914030118200519201309121214221205201920011211

“We convert this back into alphabetic code and voila.”

He wrote the message out on a napkin.

REMYIMINCARTERSMILLNVLETSTALK

“Well I’ll be damned,” Mack said.

“A large body of eschatological speculation suggests you will.”

“Blow me. What’s his angle? Why would he send a message to you?”

“Ah, well several theories are currently contesting. He knows there is a price on his head, and he knows his former associates are likely to have enlisted me to locate him. One might posit that he’s going to offer a bribe to send the others barking up the wrong tree.”

“So who are these others? What’s your connection to them?”

“We all used to do some . . . work together.”
“You all . . . you mean you had a gang?” Mack chortled. “Ha!”

“We cooperated to more effectively accomplish our criminal objectives.”

“I guess you were the brains of that outfit, too.”

“No. It was all brains, wherein lay the source of most of our internecine squabbling.”

“You’re kidding.”

“I’ve been known to kid on rare occasions, but this isn’t one of them.”

“Imagine that,” Mack said, rubbing his beard. “A gang of eggheads.”

“We called ourselves ‘the black sheep of Mensa.’ Mostly as a joke, at first, but the name stuck. We pulled off some brilliant jobs. We had a physicist, a psychologist, a chemist—”

“Nostalgia later. So this Carlos character? He’s . . .”

“Yes,” Remy finished. “He’s an outlaw mathematician, much like myself.”

“Is he any more fun than you?”

Remy shook his head and sighed wearily. “Mack, he’s like me but completely devoid of any sense of ethics. He kills people with no remorse whatsoever.”

“You didn’t answer my question.”

Chapter 31  Mixed Strategies

Remy’s shank was made from a toothbrush, melted and re-solidified to hold the blade from a so-called “safety” razor, transforming two inoffensive toiletry items into an effective and deadly weapon. This type of shank is standard issue. The prison administration may as well provide one to each new inmate upon arrival, along with the pillow, soap, and blanket, because he’s just going to make one anyway.
Between his cell and his workstation, Remy had to pass through a metal detector, and the shank was never going to make it. He cupped it into his right hand as he approached, dismayed to see an atypical demonstration of vigilance in the corrections officer manning the station. The guard wasn’t reading the newspaper or discussing sports with one of his colleagues, as was the usual routine, but was actively monitoring the prisoners as they passed through the detector. The prison administration liked to present such challenges to encourage creative thought. Anyone wishing to shank anyone else in the laundry room would need an innovative plan.

“Excuse me, CO,” Remy entreated obsequiously as he approached the station. “I need a form 78-J because my appeal—”

“Not my problem,” replied the guard, a mustachioed white guy, about forty years old and, coincidentally, about forty pounds overweight.

“But—”

“Not my problem. Step through the detector.”

“But that guard, excuse me, um, corrections officer down there told me to talk to you.”

“Who the fuck is passing the buck on to me?”

“It’s a new guy, sir. I don’t know his name. He’s right over there.” Remy swiveled around behind him and pointed with his left hand. When the guard turned, Remy sent the shank flying through the detector with an underarm backhand.

“Well I’ll be damned,” he muttered with exaggerated emphasis, just as the detector sounded a bell, both noises covering up the faint clatter of the shank on the tile floor some twenty feet away. “He was just there.”
“Well when you see him, tell him I don’t appreciate him sending you shits to me with your little fucking problems. That’s not my job. I’m not a social worker and I’m not your lawyer. Now what the fuck is wrong with this thing?” He twiddled a knob on the detector, then pounded the side of the machine a few times, exhausting his entire arsenal of ammunition for confronting technical difficulties.

“Step through,” he ordered.

Remy stepped through, eliciting no further disapproval from the detector. He waited on the other side for instruction.

“Well what the fuck are you waiting for? Get to your station. If you’re late you’re going to get a fucking ticket.”

“Yes sir,” Remy said. He continued down the hall, stopping to tie the shoe he’d strategically left untied. He scooped the shank up off the floor, slipped it into his left sleeve and shuffled double time to the laundry room.

He could just as easily have slipped the shank into his right sleeve. Like most people, he was right handed. A shank in his right hand was more useful to him than a shank in his left. But Lucien would try to neutralize Remy’s right hand in preference to his left, were diplomacy to fail, which, the smart money had it, was almost inevitable. Diplomacy was going to get its ass kicked.

Having the shank in his left hand might give him an advantage. But Lucien might well consider this possibility and go after his left hand. But he knows that Remy knows he might do that . . . The endless loop of second-guessing might seem beyond the scope of any meaningful tactical analysis, but this is exactly the sort of thing game theory was
made for, though its founders most often applied it to economics, and not shanking people.

It’s a zero sum game. When this game begins, avoiding conflict is no longer an option. That’s another game entirely, a non-zero-sum game, but once the conflict starts, the players’ interests are diametrically opposed. This is the payoff table. Because it’s zero sum, there’s only one number for each choice combination. Remy seeks to maximize the result, while Lucien wishes to minimize it.

<table>
<thead>
<tr>
<th>Lucien</th>
<th>Grabs left</th>
<th>Grabs right</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shank in right hand</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remy</th>
<th>Shank in left hand</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shank in left hand</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

The numbers represent rough estimations of relative utility. If Remy has a shank in his right hand and Lucien focuses his attention on grabbing and neutralizing his left, Remy now has a deadly weapon in his good hand. He considers this peachy state of affairs to be worth three utility units. If Lucien grabs his right, though, Remy now has only his bad hand, unarmed, to try to get a good shot in before it’s all over. This is worth zero points. If he has the shank in his left and Lucien grabs his right, well he has only his bad hand free, but it does have a weapon, so he considers that to be worth two utility points. If Lucien grabs that left hand, he only has his unarmed right to try for a lucky punch. At least it’s his good hand, so that’s worth one utility point.
Neither player has a dominant strategy. Neither can choose his move with the assurance that it’s the best move he could make, because each player’s best move is dependent on what the other player chooses. They have to use mixed strategies, calling upon probability to determine which one to select. Lucien’s optimal strategy is to assign an equal probability to either of his available strategies and choose one randomly. He could simply flip a coin. Remy can achieve optimal play only by giving the left-handed strategy three times as much weight as the right, as counter-intuitive as that may seem. He should assign a probability of 75% to the southpaw plan, and 25% to the right-handed approach. And he did. Back in his cell, flipping a quarter twice to generate the proper odds. The quarter told him to go with his left hand and he made it a point to listen to coinage when it spoke.

Shaggy nodded to him as he entered the laundry room.

“Cutting it close there, Martin,” he said, glancing up at the clock, which showed it to be about fifteen seconds before the hour of one, when he was due for his afternoon shift.

“Yes, sir,” Remy said. “I like to cut it close. It’s more exciting that way.”

“Uh huh,” Shaggy grunted, marking his clipboard. “Well excitement is over. Get to work.”

Remy took up his position, folding the linens Torres dumped in front of him as they came out of the dryer. He looked up to see Shaggy slipping out of the room just before Lucien entered, advancing on him angrily.


This was a non-zero sum game, the diplomacy that determines whether or not they play the next game where they actually fight to the death, or at least fight to the totally
fucked-up-and-bleeding-and-shit. He considered revealing his weapon in the hopes that this would dissuade the assailant, convince him that the payoff table of the next game wasn’t very promising and that they’d both be better off not playing that game at all. That seemed absurdly optimistic, and Remy assigned it a very low probability. That was the trouble with playing non-zero-sum games with non-game theorists. They made the wrong moves.

“You sure you want to take a chance, Lucien?” he said as the snarling bruiser was almost on him. “I might be armed. I’m very good with a knife, you know.”

Lucien paused for a moment, evaluating the situation.

“Could be up this sleeve,” Remy continued, holding up his right hand. “Could be up this one.” He held up his left. “You don’t know and I won’t tell.”

“Could be you’re bluffing, muthafucka”

“Are you going to call the buff then? Hurry up and decide. It’s your move.”

Lucien began to laugh, but it was cut short, an attempt to catch his foe off guard. The behemoth lunged, swinging his beefy right fist in a roundhouse. Remy barely managed to duck, but Lucien followed with a left, landing a glancing blow to the chin. The mathematician fell to the ground and Lucien tried to jump on him where he could use his far greater weight to maximum advantage.

Remy rolled out of the way and was trying to rise from the floor when Lucien caught his right wrist, squeezing viciously and bending the arm behind him.

Remy, on his knees with right arm bent behind him, fell to the floor as Lucien bore down on him.
“Whatcha got to say for yourself now, egghead, huh?” Lucien’s breath was hot and wet on the back of Remy’s neck. “Huh, Mr. card player?”

Remy shook the shank, sitting just beneath the cuff of his sleeve, into his left hand, twisting it so that the blade protruded from the bottom of his balled fist, and swinging it around in a wide arc where it ripped through Lucien’s belly. Another quick stab and a twist almost perforated his bladder. Stunned, the big man released his not-so-helpless victim’s wrist. Remy rolled away, quickly shifting the shank to his right hand.

“I’ll fucking kill you, bitch!” Lucien roared, just as Remy got another shot in, a long, ugly gash along his assailant’s left forearm that gushed blood. The shank dug deep in Lucien’s flesh, got stuck on a bone and was pulled from Remy’s hand, but he didn’t miss a beat, pressing his initiative with a solid knee to the groin. Lucien’s face twisted in pain. Not quite enough pain for Remy’s peace of mind, so he gave him another for good measure. Lucien collapsed as his opponent stepped away from the bleeding, moaning mass.

Remy stopped to catch his breath, getting enough wind back in him to address his attacker.

“You picked the wrong hand, Lucien.”

Lucien just bled and groaned.

* * *

Lucien’s injuries earned him a trip to the infirmary. No major organs suffered more than minor nicks, but he lost a bucket of blood and wouldn’t be shaking down, beating up, or otherwise exploiting any of his fellow Longacrians for at least a few weeks.

Warden Riems demanded a full investigation, as he did whenever anyone got shanked,
but, as was expected, every last con in the room had been so intently focused on his important laundering duties that he hadn’t noticed a thing.

On the one hand, successfully fending off Lucien, nearly maiming him, certainly didn’t hurt Remy’s rep. Other cons had more respect for him. He was no pushover. On the other hand, Lucien really wanted to kill him now, and, excepting a brief period of convalescence and recuperation, wouldn’t rest until he did.

Chapter 32 Strategic decision-making

Mack took a long pull at his beer, then belched reflectively before continuing his inquisition.

“So are you going to take this guy up on the bribe or are you going to go for the bounty on his head? And as far as I’m concerned, ‘both’ is a perfectly valid option.”

“I have serious doubts that there will actually be any offer of a bribe,” Remy noted.

“Though I believe that this is what he wants me to think is the reason he contacted me.”

“Okay. Then what’s the real reason?”

“I don’t feel the need to burden you with any speculative theories at this time.”

“Aw, give me a hint.”

“No.”

“Fine,” Mack muttered before draining his beer, then slammed the empty bottle down with authority. “So what’s the plan? This guy is in town. How do we get in touch with him? What’s he look like?”
“Mid forties. Latino. Can speak Spanish, but seldom does. He was born in the states, but went to school in England, and still has a trace of an accent he acquired there and magnifies for pompous effect. A few inches shorter than myself. Probably weighs in at about 150 pounds. Hair is blondish and thin. He’s usually clean-shaven, though he grows a mustache and/or beard on occasion, usually after he’s committed some sort of crime without one. His teeth aren’t bad, but this one right here,” he pointed to an incisor on his upper plate, just to the right of center, “is gold. A memento of an altercation resulting from a dearth of diplomatic acumen almost as impressive as your own.”

“Okay. Maybe we should split up to track him down. I’ll look for the gold tooth. What should I do if I spot him? I could follow him and hit him over the head, if you think it would help.”

“Let’s hold that in reserve as a back-up plan. We’ll resort to violence if necessary, but we will attempt to de-escalate conflict, if possible.”

“Conflict de-escalates pretty damn quickly if you hit someone hard enough.”

“We’ll try diplomacy first, followed by a wide array of violent tactics, if—and only if—necessary. To that end, take this.” He clandestinely slipped him an automatic pistol.

Mack’s eyes lit up. “Cool, man! I didn’t know you were packing heat. Hey what is this, a Glock?” He held it up and admired it. Ned ducked instinctively at the sight of the gun being waved around his bar, then realized that Mack was making no move to rob the place, that he was merely a careless idiot. The regulars continued to focus on drinking.

“Put that thing away!” Ned ordered.

“Hey it’s okay. We’re police officers. I mean FBI, we’re FBI,” Mack explained, tucking the pistol into his waistband, budget concerns at the bureau apparently having
rendered holsters a luxury reserved for senior officers. “We’re out here investigating illegal trafficking in psychedelic toads. A blight on the youth of America.” He shook his head sadly. “Toad licking is up 248% in the last three years. It’s fucking tragic.”

“Uh huh,” Ned said dubiously. “Look, I’m a card-carrying member of the NRA and all that. Second Amendment. Right to bear arms. They can take my gun when they pry it from my cold dead hands and all that jazz. Just keep it away in here, okay? We don’t want any accidents.” He paused then added an afterthought for clarification. “We don’t want any on purposes either.”

“Sure thing. Sorry about that. Hey, you ever seen a guy with a gold tooth come in here?”

“Ah,” Remy said under his breath. “Plan B: Alert Carlos’s potential confederates to our presence.”

“Yeah, I’ve seen the guy,” Ned said as he wiped down the bar. “Been in town a month or so. He comes in here from time to time. Drinks Margaritas. Usually for free, ‘cuz he’s always winning bar bets with drunks. Stuff with matchsticks. Things like that.”

“Ah. That’s our man,” Remy said. “Any idea where we can find him?”

“As a matter of fact, I know exactly where you can find him.” He took a napkin and scratched down an address. “He rents a house from my brother. He owe you money or something? Or is he a major toad dealer?” he added with a smirk.

“The biggest,” Mack said seriously. Ned gave him a half smile with the implication that he’d temporarily misplaced the other half. He mumbled something about changing a keg and disappearing to the back room.
“Did we not agree at some point that I should do the talking?” Remy asked Mack as soon as Ned left.

“When did we ever agree to that?”

“An egregious oversight,” Remy said with a heavy sigh. “Think about it, Mack: does it not stand to reason that Carlos—who fits the classic archetype of ‘evil genius’ quite well—would have enough sense to offer financial incentives to individuals in the service sector of this small community to alert him to any suspicious inquiries, especially about men with gold teeth?”

“I’ve shown our hand,” Mack admitted sheepishly.

“You set the cards on the table, face up, and walked away to get a sandwich.”

“Sorry.”

“Did our faithful barkeep go to change a keg, or is he placing a call to our opponent as we speak?” Remy asked, perfectly mimicking the manner of a scolding, rhetorical schoolmarm.

“I said I was sorry.”

“Oh right. Well that changes everything!”

Mack grumbled.

“Reality shudders in the face of contrition. Apology ontology.”

“Rub it in, why don’t you? No, really. Go for it.”

“Regardless, there’s nothing we can do about it now. If Ned isn’t working with Carlos, we might have a distinct advantage in catching him unawares. If he is working for him, we could be walking into a trap.”

“What’s our move?”
Remy pulled a coin from his pocket, a shiny silver dollar, flipped it into the air, caught it and slapped it onto his left forearm. He removed his hand, showing the heads face of the coin.

“Into the trap,” he said.

Chapter 33 Oligopolies

“Hey there, Ace,” Toes said as Remy stepped past the boss’s bodyguard and entered the cell. “Thanks for coming by.”

“My pleasure, Mr. Barelli.”

“Make yourself comfortable, kid. Pull up a chair.”

Toes’ cell was the same size as the one Remy shared with Darnel, but Toes had the place all to himself. This was one of the many perks the don enjoyed, and the warden was happy to extend it to him, because it made his job a lot easier. Father Time knew that his authority was most efficiently applied in coordination with existing structures of power within the prison population, not against them.

This principle has been a cornerstone of penological science for years. Well into the twentieth century, some prisons routinely issued selected inmates guns with which to shoot their fellows should they flee, offering generous incentives for them to bag escapees.

They no longer give guns to inmates, but they do give perks and special treatment, reinforcing the power and authority enjoyed by some prisoners, provided they keep the
rest of them in line. Wardens aren’t interested in democracy, but they don’t want anarchy, either. They settle for a curious species of feudalism, overseeing assorted criminal fiefdoms, hoping the peasants won’t revolt, local lords won’t start border skirmishes or, worse, band together against the authority of the king.

Most prisoners sleep on a metal slab sticking out from the wall, overlain with a thin, vaguely cushion-like thing that could be described as a mattress only in the context of a cruel, sick joke. Toes had a bed, a proper bed. Not a king size bed, barely enough for a prince, but it was a bed, and in here, that was something fit for an emperor.

His walls were covered with neatly framed paintings. Landscapes, portraits, still-lifes, all of them of exceptional quality. Art was, to Toes, like wine to Remy. One of the finer things in life, to be savored and enjoyed. The numerous talented artists at the prison usually had to let their masterpieces go for a song, or at best a pack of smokes, some ramen noodles, or maybe a few cupcakes. Toes was Longacre’s Lorenzo Medici, a great patron of the arts. If he liked a piece, the Mafiosi paid top dollar, or at least top cupcake, not because he had to, but just because he could.

One painting caught Remy’s eye as he settled into a white plastic chair. It depicted cellblock A, their own little neighborhood, but the prisoners and guards had been replaced with large eyes and ears. Eyes sitting on bunks, ears strolling down the tier. Playing cards. Discreetly exchanging contraband. Sweeping the floors. Just anthropomorphic eyes and ears all over the place.

“You like that one, eh?” Toes said, “Yeah, me too. Got that a few months ago. One of my favorites. That spic, Torres, he painted that. He’s okay, for a spic. And he can paint.”

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“Yes, sir. Impressive work.”

“Yeah, this baby is right on the money. Except maybe there should be a few mouths walking around too. There’s so many guys gabbing all the time, bouncing off all these concrete fucking walls, I can hardly hear myself think. It’s like a goddamned zoo.”

“Yes sir, I must agree. Wild animals. Cages. Constant bestial noises. Almost indistinguishable except for a regrettable absence of balloons and cotton candy.”

Toes chuckled. “So anyhow, kid, I want your help keeping my books. You’ll be like, my accountant, because you’re good with the numbers, okay?”

“I can do that.”

“Good. Good. And hey, listen, I want to ask your opinion about something. I know you’re a real smart guy.”

“I’ll do my best, Mr. Barelli.”

“See the thing is, well you know, we got ourselves a complicated economy here. Lots of different, you know, products and services. And I’m starting to develop some . . . problems with some of the other suppliers in this here market, knowatahmsayin?”

“Yes sir.”

“You see, everything was fine when everyone knew their place, but lately . . . It’s them fucking wetbacks. They sell speed, right? They’ve been selling speed forever, as far as I know. The spics and the bikers can fight over who gets to sell the speed. They can cut each other’s throats over it. No skin off my fucking nose, right? And the spooks, they got that crack cocaine shit and we don’t deal in that, neither.”

“No conflict of interest so far.”
“Right. But the fricking beaners started moving some dope. Now that’s something we deal in, my people, and we’ve been moving it forever. That’s our turf! I don’t know who the fuck them wetbacks think they are!” His face was wrinkling up and reddening, his fist and teeth clenching, his whole body shaking.

“Don’t get excited, Mr. Barelli. I understand you have a heart condition.”

“Yeah, right,” he said, relaxing a little. “My heart.” He took a deep breath. “They ain’t worth getting worked up over.”

“A good philosophy.”

“Okay, so these wetbacks are selling smack, and they’re selling it for less than we were selling it, so’s to steal our business. They been trying to keep it quiet because they know we wouldn’t like it, and we got ourselves a reputation for, you know, making life unpleasant for people we don’t like. Unpleasant, like with the guys they find in the stairwells with their testicles shoved down their throats. You know: shit like that. But like I said, I find out about everything that goes on in this here pond. And I hate to admit it, but these Mexican Mafiosi, they ain’t no pushovers. If we hit them, they’re gonna hit back.”

“And you’ll hit them back, and so on, with endless reprisals to the detriment of all parties concerned. A continual bloodbath.”

Toes shrugged. “Pretty much. What else can I do?”

“What you have here is a dramatic shift from a monopoly to an oligopoly. Under the monopoly system, you had the best situation for the suppliers and the worst situation for the consumers. Supply and demand determine the optimal price, and with no competition, the intersection of those curves is going to be high and you’ll make a lot of
money. Suddenly, though, you have an oligopoly. The mathematics describing the situation becomes much more interesting. We have a game now.”

“This ain’t a game, Ace. Did I mention the part about the testicles?”

Remy smiled at his new boss. “Not a game in the way you might think of it, Mr. Barelli. But mathematically, it’s a game. Different players making moves, trying to gauge and guess what moves their opponents will make. There is a mathematical architecture describing different economic structures. The most interesting is oligopolistic competition. A small number of suppliers selling essentially identical products to the same market.”

“Yeah, well that’s what we got here.”

“Exactly. And in this economic setting, each could choose to charge the same high price they would if they had a monopoly, in which case, each will do very well. But if one gang gets greedy, it could undercut the other. They would reduce their profit margin, but they’d seize the entire market, and the others would be unable to unload their supply. But the other gang might have the same idea, especially if they already got burned, and they’d charge less as well. So then both gangs are forced to charge a lot less for their product than they could in the absence of competition. But they both could have made out like bandits—or at least like drug dealers, who often do much better—by sticking to the higher monopoly price. It’s like this.”

He got a piece of paper and a pen and drew the following payoff table.
Expensive heroin | Cheap heroin
---|---
3 | 4
Expensive heroin | Expensive heroin
3 | 0
Mexican | Mafia
0 | 1
Cheap heroin | Cheap heroin
4 | 1

After he had drawn it, Remy was momentarily transfixed by the matrix.

“What’s going on, Ace?” Toes prodded, “You ain’t going J-cat on me, are ya?”

“Sorry,” Remy said. “There’s something oddly familiar about this table, but it needn’t concern you, Mr. Barelli. Let me explain what this means for you and your enterprises.

“Fire away, kid.”

“The first number in the lower left of each box is the payoff to the Hispanic fellows. The number in the other corner is for the Neapolitan and Sicilian gentlemen. Everyone wants to get the highest payoff they can. No matter which price the other has opted for, each side does better by choosing the low price. If the Mexicans are charging high, you get three payoff units by doing likewise, but you get four by charging low. If they are charging low, you get zero charging high, but at least you get one by charging low. So both sides have an incentive to charge the low price, but you’d both do better charging the high price.”

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“Okay kid, go on,” Toes said, scratching his head.

“But this mutually destructive situation is not unavoidable, because it’s an ongoing interaction. It’s not a one time, isolated game that ends after one round with everyone going home with their money and their heroin. So I suggest coexistence under a truce of price control. You make them a deal. They raise their price back to the optimal market price, where supply and demand intersect in a monopolistic system. If they agree to that, you agree to let them have half the market. No bloodshed. No economic self-destruction. Everybody profits. Except the junkies, of course. They are out of luck and are going to be stuck paying more for their dope, I’m afraid.”

“First of all, what makes you think them wetbacks will agree to this price control thing?”

“It’s in their interest. Even if you didn’t rearrange any of their organs, and merely lowered your own prices in reprisal—which would show admirable restraint, sir—they will still see their own profits dwindle as they are forced to drop their prices to compete with you. And they are smart enough to know that they’d only be hurting themselves even more if they tried to wipe out you and your people. Both gangs are too strong for a war to be profitable.”

“Why should I give in to those sacks of shit?”

“Because you are a businessman, and a smart one. It’s a non-zero sum game. There can be two losers, but there can be two winners too, if you’re both smart about it. Neither the violent clashes nor the economic conflict serves your interest. When those who control the supply compete, the suppliers suffer and those in demand benefit. But when those who control the supply cooperate, the suppliers benefit, and those in demand pay
for it. That’s why there are laws against cooperation out in the—” he cleared his throat and enunciated the next word slowly to emphasize the quotation marks, “‘legitimate’ business world.

Toes pensively scratched his chin with a few of his misplaced pedal digits. Remy did his best to pretend this didn’t make his skin want to crawl off his body and hide under something.

“But you won’t need to worry about regulatory oversight, Mr. Barelli. The Justice Department doesn’t concern itself with conglomerates and cartels in here, breaking them up to foster a healthy spirit of competition in drug distribution, so you should feel free to conspire and price-fix to your heart’s content.”

“Okay Ace. You really got a good point there. And I take care of my friends, you know what I’m saying? You having any problems in here? You know, anyone giving you any trouble?”

“Well there’s that skinhead, Deakins. I think he wants me dead. And that fat biker, Turbo. He’s definitely going to try to kill me if he gets a chance. And then there’s Lucien, who you may have mistaken for a major land mass. He’d kill me twice, if he could. So yes, sir. A few individuals are giving me some small, possibly lethal, problems.”

“Jeez, ain’t you the little diplomat, huh? Making friends all over.” He chuckled.

“Okay kid. That’s good to know.”

“So you’ll protect me from them?”

Toes tossed his hands up in the air. “Hey, I can’t work miracles, you know? I can’t be everywhere. I’m not making any promises, Ace. But this way, if you wind up dead, then
I’ll have a good idea who to whack. People got to know they can’t kill my friends without consequences.”

Remy forced a smile. “Thanks, Mr. Barelli. That’s a very comforting thought.”

Chapter 34 Random numbers

“What the hell is that, man?” Mack asked, “Flipping a coin? I thought you were the brilliant strategist and you’re making decisions with coin flips. That’s shit I would do.”

“To the contrary,” Remy explained, “the best play of many strategic games involves a random distribution of strategies. It’s something of a paradox, or at least an irony.”

“Don’t worry. I can’t tell the difference.”

“Games based on probability—dice, cards, etc—often yield clear solutions that don’t require any random number generation on the part of the player to determine the best move. You’ll never need to flip a coin to know the best move to make in blackjack. But strategic games involving no random elements often require a randomizer for the most strategic play, if there is imperfect information concerning the opponents’ strategic choices.”

“Like what?”

“Take rock paper scissors. Nothing random about it. No cards. No dice. Each player is free to choose any of three options. But your best play is to assign an equal probability to each of the three and to choose one randomly each time. Anything but a random
pattern, and your play will be less than optimal. We don’t have time for a detailed lesson right now. We have to go pay Carlos a visit. The coin said so. It told us to hurry.”

They finished their drinks and left. Ned had yet to return but Remy left him a generous tip in spite of Mack’s objections and aborted attempt to pocket it. Carlos’s place was just around the corner and they made it there on foot in ten minutes. There could hardly have been anything less sinister or foreboding about the building, a modern two story A-frame, painted a cheerful light tan with reddish brown window frames and doors. It was exactly the sort of home in which you would not expect a sociopathic criminal mastermind to plot his diabolical schemes. Paradoxically, that’s where they can usually be found.

“Okay so did that coin tell you what to do now?” Mack asked.

“Yes. It told me that you should go and knock on the door.”

“What? And get shot?”

“No. Optimally, you would try not to get shot. Should I write all this down for you?”

“No, I think I’ve got it. Your coin is a real bastard though.”

“So: you knock. When Carlos answers, pretend that you have the wrong address. Put him at ease. And don’t go shooting him if you don’t have to.”

“Why? Is the bounty void if he’s dead?”

“No. I just don’t think that’s very sporting. Try not to shoot him unless you have to. I’ll move in to back you up after you throw him off his guard.”

“Okay, fine, fine,” Mack said. He tucked his gun into his waistband, covered it with his shirt and approached the increasingly foreboding brown door. Remy waited just
around the corner of the house, in a cozy little back yard secluded by thick hedges and a few spruce trees, his own gun resting uneasily in his sweaty hand. He peered around the corner, looking past Mack to the sidewalk, but there were no passers-by. It was close to noon. Kids were in school, most of the adults were at work, and everyone else was inside, enjoying the air conditioning. Mack knocked on the door, with what he hoped was a disarming grin on his face, ready to follow up with a torrent of shameless prevarication, and, if necessary or if he got bored, bullets. Remy wiped away the sweat beading on his forehead, hoping he hadn’t just sent his partner to his doom, for that would necessitate complex rationalization before he could get a good night’s sleep. A twig snapped behind him and he spun around.

“Good game so far, wouldn’t you agree?” Carlos said, his gun leveled squarely at Remy’s chest.

Chapter 35  Microeconomics

Prison is at least as good an introduction to microeconomics as anything the Harvard Business School has to offer. It presents a veritable economics laboratory, conveniently isolated and controllable, suitable for testing a plethora of theories. Few economists end up behind bars, however, which may reflect nothing more than the quality of the lawyers they are able to hire.

Economics is essentially just mathematics with a reason to get up in the morning. Math that grew up, cut its hair, and got a job. And math doesn’t change in prison. Two
plus two is still four. The digits of pi stretch out forever in exactly the same way. The internal angles of a triangle still add up to 180, in Euclidean space, anyway. Supply and demand determine the market price of goods and services inside the walls just as they do on the outside. Prisoners break a lot things, including bones, hearts, and laws, but only local, state, and federal laws, not the laws of economics.

Assign values to the pertinent variables in the microeconomic prison system, and certain equilibria will soon settle into place. Prison guards aren’t paid very well, so a lot of them supplement their income by bringing drugs and other contraband into the prison. Mathematically speaking the percentage of guards on the take, t, is a function of the pay rate, p, or $t = f(p)$.

When you raise guards’ pay, the risk of losing a good job outweighs the benefits gained by participating in the drug trade and other black market enterprises. This shifts the supply curve, raising the market price of the commodity, where supply and demand intersect, much to the chagrin of that junkie in cell block A, dying for a little shot of heaven to make it through another day in hell.

If supply intersects demand at a higher price, the demand at that price will be lower, though it might not be much lower, because junkies are notorious for their inelastic demand curves. But it will be at least a little bit lower. There is an inverse mathematical relationship between guard salaries and the quantity of drugs distributed in prison.

Bringing the first one up is the most obvious way to bring the second one down.

Instead of raising guard pay, prisons instead spend money hiring more slave wage guards to perform endless body cavity searches and shake downs in an effort to stem the welling tide of contraband coming into the prison. Hiring more poorly paid guards to
prevent drugs from coming into prisons, most enlightened observers must concede, is about as sensible as importing rats, garbage, and fleas to fight bubonic plague.

This, of course, is the brainchild of the same people who will gladly spend $50,000 per prisoner, per annum, to incarcerate people who would never have robbed anyone if they had $25,000 a year jobs. People are bad at math all over.

“Yo man, whatchoo need man? I can get it for you, man,” a twitchy, nervous little con, half black, half Hispanic, asked Remy. His name was Troy, but everyone called him Trader. Hardly an intimidating specimen at 130 pounds, wet with his shoes on, Trader possessed something more useful than hundreds of pounds of muscle. He had solid social and economic connections, and a well-established reputation for supplying almost anything his market demanded. He wasn’t a member of either the Hispanic or black gangs at Longacre, but did business with both, greasing the right palms in order to freely pursue his own enterprises. Topping off his carefully forged social network, Trader was the primary intermediate between the prison population, and its single most corrupt guard, Ritchie, who happened to be his cousin.

Ritchie showed up to work every day in a sleek black Alpha Romeo. Anyone who could add two and two could easily deduce that this was far beyond his legitimate means. Nobody ever said a word.

“Yo man, coke, weed, dope, whatchoo need man? Tits man, I got ‘em. I’ll take care of you,” Trader said, eyes glancing around for guards other than his cousin.
“My weakness is red wine,” Remy said as the two of them loped along the corridor outside the cells on the second tier.

“Wine,” Trader repeated. “Shit, man, that’s easy. I know a guy who works in the kitchen and—”

“I’m not interested in Zombie’s pruno. I want some real wine. The kind that comes in a bottle. With a cork. Not something that festered in a pail and was packaged in a shampoo bottle. Wine. A Baron Rothchild if you can manage it.”

“What the hell is that, man?”

“It’s a good Bordeaux. A nice white Zinfandel might do it for a mental institution, but red is really the only thing for prison.”

“You sure you don’t want some smack, man? That’s a lot easier.”

“Yes. I’m sure it would be difficult for someone to smuggle a bottle of Baron Rothchild up his ass, but that’s what I want. I understand your standard markup is 100%. They go for about a hundred dollars on the outside, so I’ll gladly pay you 200. I know this may prove more difficult than some of your standard commodities, so I’m placing an advance order. My one-year anniversary is coming up in a few months. I’d like to celebrate.”

“You want to celebrate being in this shithole a year man? That ain’t nothing to celebrate.”

“I’ll celebrate having survived the year in order to observe it.”

“All right man,” Trader said, doing the hunched, twitchy nod he always did when cutting a deal. “I’ll getchoo your, whatchu want? A bore dough?” Remy nodded. “All
right man. I’ll get it. You just get someone on the outside to get me the money. We’ll set you up an account.”

Prison economics is a fascinating dance of money, goods, and services. And, while it is for the most part, a neatly isolated system, aspects of it are inextricably intertwined with economics on the other side of the walls.

Prisoners have friends and family on “the street,” as the entire outside world is sometimes called, who can put money on their “books.” This is an account, maintained by the prison, like a bank account, but one thing prisoners cannot withdraw is money. Instead, they withdraw goods from the prison commissary. Food, non-alcoholic beverages, batteries, tobacco, radios with headsets, all the little luxuries that prisoners are allowed to have, they purchase with the funds on their books from the commissary.

Your friends can’t send you care packages. They can’t mail your things to you. And they can’t give you cash. But they can put money on your books. You can withdraw your assets from the commissary, and then use those assets to pay for things you can’t get from the prison administration directly, like drugs, a hit on an enemy, or a blowjob.

For large purchases, commissary goods become inconvenient. This is precisely why human civilization graduated from the barter system thousands of years ago, when some unsung ancient economist came up with the brilliant idea of money. But money isn’t allowed, so dollars often move on the outside to reflect transactions on the inside. Prisoner A gives prisoner B something he wants, perhaps some heroin, probably the single most appropriate complement to the prison experience. Prisoner B’s friends on the outside then give Prisoner A’s business associates a large cash payment. They, in turn,
may then put some or all of this on prisoner A’s books, so he can withdraw them at his own convenience, rather than horde a hundred packages of ramen noodles or cigarette cartons in the little locker in his cell. And while they forbid drugs, forbid contraband, forbid those terrible, corrupting green pieces of paper, the prison administration keeps all the books. They take care of all the paperwork, facilitating the movement of everything they forbid.

Prisoners, like most people, aren’t especially good at math. This may partially explain the somewhat simplified economics that govern transactions behind the walls, where calculators are hard to come by. The price of drugs and other contraband is marked up, of course. Couriers and distributors take significant risks. And the calculation is simple: whatever it costs on the outside, it costs double on the inside. People make loans in the big house, but they pay surprisingly little attention to the interest rates established by the Federal Reserve. It’s double. Doesn’t matter what the Fed chief says. Interest rates and profit margins are always 100%. Makes the math very easy.

“ Anything else, man? I can get the wine, man, but you sure you don’t want nothing stronger? Some tit, maybe? Boy, girl?” Trader suggested cryptically

“ I beg your pardon?”

“ C’mon, man. Heroin, coke. You ain’t never heard that before?”

“ I’m still unfamiliar with some elements of the local vernacular.”

“ All right man. You want some wine. A bore . . . what is it?”

“ A Bordeaux.”

“ Got it man. That it?”

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“No. I’d also like some shoe polish and a cherry bomb.”

Trader goggled at him. “Cherry bomb? Like a firecracker? What, you celebrating July 4th and shit? Gonna have you an Independence Day?”

“Something like that.”

Chapter 36 Mexican Standoff: A Game

“Well we have a situation straight out of game theory here, haven’t we?” Carlos asked, enunciating with the pompous yet half crazed tone for which he was well known among his circle of friends and his much larger circle of enemies, acquaintances, accomplices, and parole officers. He matched Remy for sheer pretentiousness and haughty demeanor, but Remy’s smug superiority was relaxed and even. With Carlos it was the same supercilious air, the manner of someone who knew he was smarter, wittier, more cultured, educated, and refined than you, but who might, on a whim, gnaw your leg off. He cackled for good measure, a short series of brief, high pitched snorty laughs, his brow furrowed and teeth bared.

“That we have,” Remy answered calmly. “What’s your analysis?”

“Well, I’ve got my gun pointed at you. You’ve got your gun pointed at me. It’s a classic. A textbook case. A two-player game, two choices available to each player. To fire the gun, or to lower the gun. And it’s obviously a non-zero sum game, because some outcomes are less preferable to both players than others. If we both fire, we both lose, yes? I think we can agree that nobody wants that.”
Remy kept his eyes locked on Carlos’s, and his gun trained on the spot directly between them. “No argument so far,” he said. “I concur with your analysis.”

“If we both lower our guns and begin to discuss our conflict reasonably,” Carlos continued, “well, I think under the circumstances and considering the alternatives we can say that we have two winners, eh? Certainly each of us would prefer that to the scenario where we both get shot.”

“Absolutely,” Remy answered, gripping his pistol a little more tightly.

“The most desirable situation is for each player to lower the gun, but lack of trust works against this. If either player chooses to lower the gun, he’ll get the minimum payoff if the other one shoots. Worse than if we both shot at the same time, because if either of us gets shot, he would find some brief consolation in taking the other son of a bitch down with him.”

“Ah, yes,” Remy said. “The old ‘I’ll see you in hell’ scenario.”

“Precisely so. But let us just say for the sake of an argument that I don’t really want to kill my old associate Remy. Bit of an overly idealistic little git, but I don’t want to kill him. Plus there would be the body to dispose and it would all be rather a bother. So if he weren’t planning on shooting me, I’ll have certain regrets if I shoot the poor bastard. But not as much as I’d regret getting shot. Likewise, let’s just pretend you don’t really want to shoot your old pal Carlos.”

“You use the word ‘pal’ rather loosely, but I do follow your reasoning.”

“If that were the situation, we’d have an obvious, though not entirely unproblematic solution.”
“Indeed,” Remy said, picturing the following payoff matrix in his head, as clear as if it were written out in front of him, superimposed like a watermark on the image with the barrel of a gun pointed right at him.

<table>
<thead>
<tr>
<th></th>
<th>Carlos</th>
<th>Remy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shoots</td>
<td>Doesn’t shoot</td>
</tr>
<tr>
<td>Shoots</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Doesn’t shoot</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

“Assuming that we each have the ordinal preference rankings as you described them,” Remy reasoned, “both of us laying down our guns would represent a Nash equilibrium. Unfortunately, our maximin strategies would still lead both of us to pull the trigger. My
worse case scenario is either 0 or 1 points, if you decide to shoot, so to maximize that minimum, I would shoot. ”

“Exactly,” Carlos said, deliberately moving his gun in a quick spasm to make Remy flinch, almost getting both of them shot. “There is, of course, no saddle point in this game. Neither of us can make a regret-free choice, independent of the choice of the other. Both of us setting down our guns represents a Nash equilibrium. But both of us pulling the trigger represents a second Nash equilibrium. My shooting you is my best strategic choice, if you’ve opted to shoot me, and vice versa. My not shooting you represents my best strategic choice if you’ve opted not to shoot me, and vice versa. Two equilibria.”

“But one is clearly dominant,” Remy noted. “We’d both prefer neither of us getting shot to both getting shot. One would think the dominant equilibrium point would be easily achieved.”

“Ah, but not so fast,” Carlos said, wagging his left index finger, his right still pressed firmly against the trigger of his gun. “The game is complicated by the fact that each of us is certain only of his own payoff table, not that of the other. It’s possible that you might be happy to shoot me dead, that you’d prefer this to both of us setting down our guns and discussing our conflict like reasonable mathematicians. Though I’d still imagine you’d prefer diplomacy to getting shot, and prefer taking me down with you to getting shot all by yourself.”

“A reasonable assumption.”

“And for all you know, maybe I don’t have any qualms about relieving the world of your unrealistic, self-righteous prattle.”
“Maybe you don’t,” Remy said, the payoff table in his mind’s eye changing.

<table>
<thead>
<tr>
<th>Carlos</th>
<th>Shoots</th>
<th>Doesn’t shoot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoots</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Doesn’t Shoot</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

“This one is a real conundrum,” Carlos opined.

“Perhaps,” Remy said, cocking his head slightly, but never averting his eyes. “But it has a clear Nash equilibrium. Just one this time. One and only one strategy combination for which each player would be choosing the very best move for himself, given the opponent’s choice. And that’s both of us pulling the trigger.”

Carlos nodded. “Bit of a dilemma though, isn’t it? Given this payoff table, we both have an incentive to shoot, no matter what the other one chooses, though given our druthers, we’d each prefer the outcome where we both don’t get shot to the one where we both get shot.”

“Fascinating . . . ” Remy said, convinced that Carlos was just trying to distract him with mathematics to catch him off guard. He undoubtedly had something up his sleeve.
and it was probably the sort of thing that exploded. “So which payoff table applies to you, Carlos? That might be helpful to know for analytical purposes.”

“Oh ho ho! Wouldn’t you like to know?”

“I would.”

“Well, the first payoff table applies to me, of course. I don’t want to shoot you Remy, dear old chum. Let’s both just put these dangerous things down and talk this over.”

“You first.”

“Hmmm . . . . You’re pretty good at this game, Remy. Have you played it before?”

“No, but I’m a fast learner. I’m well versed in general theory and have a knack for applying it to specific situations. Now: why don’t you lower your gun first, and then I’ll lower mine?”

“I’m not exactly a slouch at this game myself . . .”

“No, I suppose not.”

“How about on the count of three we both lower the guns at the same time?” Carlos suggested.

“I don’t think so.”

Carlos exhaled through his nostrils with exaggerated petulance. “Well, I suppose we’ll just stand here all day pointing these silly things at one another until one of us gets an itchy trigger finger and then we’ll both wind up dead. It’s the tragedy of the commons. Mutual detriment through unswerving self-interest and lack of trust. It’s everything wrong with the world right here in our own little microcosm.”
Remy sneered. “Suddenly high and mighty, are we Carlos? You’ve never expressed any interest in making the world a better place, with the exception of that small and odious subset of the world that is you.”

“Happily conceded, but here I realize that a cooperative approach could benefit me, as well as the other party, and yet lack of mutual trust precludes cooperation from taking place. Even a self-serving egoist can bemoan the tragic failure of global system optimization in favor of sub-optimization in non-zero-sum games. It’s sad, really.”

A voice from behind Carlos shouted.

“Drop the gun!”

Carlos didn’t move. “Oh look. A third player. The game has gotten exponentially more interesting.”

“Mack,” Remy said, eyes darting for the briefest split second to his partner as he emerged from behind the corner of the house, then returning to his adversary. “So glad you could join us.”

“Ah, so you know the new participant,” Carlos said. “It would seem I’m playing solo against a team. Disadvantage for me.”

“Yeah. Big disadvantage, buddy,” Mack said. “And I hate to, you know, sound like a cliché and all, but, uh, drop the gun or I’ll shoot.”

Carlos didn’t drop the gun, but stared resolutely at Remy, applied pressure to the trigger. A clumsy fly could have set it off had it collided with his finger.

“Well, first of all,” he reasoned, “I have no proof that you even have a gun, and I am not turning around to check. Secondly, if you do shoot me, I can assure that I have no qualms about shooting your friend here. You so much as say ‘boo’ and this gun is going
off. He’s as good as dead. So you really don’t have me at as big a disadvantage as you think.”

“You got one little problem there, Carlos.”

“What’s that?”

“What makes you think this guy is my friend?”

“Don’t try to bluff me. I have my sources. I know you guys have been working together for a while.”

“Sure. Just like you used to work with the people who are going to pay me good money to bring you in. What, are you a fucking idealist like Remy? Got some twisted notion about ‘honor among thieves’ and all that shit? Let me tell you how sick I am of hearing about that garbage. I’m out for number one here, pal. You want to shoot him, go ahead. I don’t really give a rat’s ass.”

Chapter 37 Rectangles

A lot of dirty laundry got washed at Longacre State Penitentiary, both metaphorically and literally. The inmates were society’s dirty laundry, its murderers the soiled briefs, rapists the scummy socks, drug dealers those stained T-shirts we vow to replace but never get around to. And, as the metaphor about dirty laundry roughly runs, it’s considered a breach of etiquette to wash it in public. Walls keep the prisoners inside, and of equal
importance, they keep them hidden from John Q Public, who doesn’t want to see it. He just wants his socks clean.

But Longacre, quite literally, washed an enormous volume of dirty laundry. Not just the laundry of the prisoners and staff, which comprised over a hundred large loads every day. The prison took in other people’s laundry, like an overworked widow struggling through the Great Depression, trying to make ends meet. It arrived by the truckload, stinky and sweaty, and went out cleaned, pressed, and folded, usually later the same day.

While they had lucrative contracts with hotels and casinos, which took advantage of the legal sub-minimum wage labor to keep their profits fat, the largest component of the prison’s clientele were state and local police departments, and prisoners regularly cleaned the uniforms of the cops who’d put them behind bars. This saved the state thousands of dollars that it could use to build more prisons, allowing politicians to fulminate even more bombastically about “cleaning up the streets.”

Remy was folding linens and thinking far too rigorously about geometry as he transformed large rectangles into smaller ones. He knew better than to go blindly taking wing on flights of cerebral fancy, but the mathematical muses, whispering elegant theorems in his ear, never had good timing. They could be downright malicious with inopportune bursts of inspiration. He had a sudden flash of insight into number theory, thinking of numerical relationships as geometric relationships, products as rectangles, getting good and Ancient Greek, and somehow the fact that he was in the most dangerous place a man can be, the very worse place to think about geometry, somehow escaped him for a moment.
He looked up to see Lucien’s huge lieutenant, Lionel staring down at him from the other side of the table. Thoughts of math disintegrated and fell away, primal instincts trumping prime number theory, but as the adrenalin flooded his veins and arteries, he couldn’t help but notice that he wasn’t dead already, and concluded this must be a good sign.

“So here’s the peckerwood that cut Lucien,” Lionel said, his voice oddly stolid. A toothpick hung from one corner of his mouth. The other corner seemed to turn up imperceptibly, producing an intimidating lopsided smirk.

Shaggy was again on duty, but was out of sight and earshot, on the other side of the laundry room, behind big, noisy machines, their rattling and clanking filling the air with a thick din. None of the nearby prisoners would have given a damn if a life and death struggle were to break out, except to place side bets, and Remy knew the smart money would be against him. Most of the mentally challenged money would be against him, too, and he could only count on the more serious J-Cat green. Given a chance, the gambler in him would have jumped at the opportunity for such easy cash, and he’d have bet against himself, even at steep odds.

“He didn’t give me much choice,” Remy said, tensing.

Lionel shrugged. “Yeah, well I don’t care much about your choice. I jus’ know you shanked him.”

“That I did. Are you here to settle a score?”

“Nope.” Lionel picked up some sheets and started folding them as he conversed.

Remy blinked. “I thought that you were his right hand man.”
“I am man, an he treats me like his bitch an’ shit. You safe until he gets out of the hospital. Don’t know ‘bout after that. He gonna take it personal, and I don’t think that’s good for business right now.”

“How’s that?”

“I hear you in wit them wop and kike wiseguys.”

“I am.”

“Mmmm hmmm. And I know you got some bad blood with the Nazis and bikers. I heard how you fucked some of them up real good.” His fat jiggled as he tried to stifle a laugh at the thought of the grievous bodily harm Deakins and Turbo suffered. “You got my personal congratulations on that. We got some shit to settle with them Aryan muthafuckers. Things been heating up with them, and as it stands now, Toes and his boys ain’t involved. I wanna keep it that way, y’unnerstan? Now’s a bad time to be stirring up trouble with them old school mobsters. But I’m just the number two man right now.”

“Right now? You thinking of making a move to the top slot?”

This, Remy immediately surmised, was not the right question to ask. He guessed this from the huge hand he found around his throat, ready to crush his windpipe with laughably little effort.

“That’s not yo business, little white boy. Best not be making them sorts of enquiries, knowhamsayin? I’m doing you a favor, telling you about things that do concern you. You keep your nose out of things that don’t. Aight?” The toothpick fell from his mouth. Nearby prisoners noticed the developing altercation, but pretended they didn’t. Lionel
held his grip for a few moments, making sure all the cons in the room got a chance to see him with his hand around Remy’s throat.

Remy nodded. Lionel released him, replaced the toothpick, and went on folding and talking as if nothing happened while Remy caught his breath, panting and coughing.

Shaggy peered around a big washing machine to investigate the coughing, but seeing no bloodshed, the hairy turnkey went back to planting his ass on a chair and reading a magazine.

“Anyhow, Ace,” Lionel went on, “if I was you, I woulda shanked Lucien too. I got no problem with you, an’ I don’t want no problem with your boss. Neither do a lot o’ the other homeboys in our crew. But we got our own boss. He got people on the outside, knowhatahmsayin? We don’t have to like that motherfucker, but he’s still the boss.”

“It’s good to be loved. It’s better to be feared.”

Lionel again stifled a laugh and shook his head.

“Man, Ace. You come up wi’ some fucked up shit.” Then, he added, much louder, for everyone in the laundry room to hear: “You a dead man!”

Lionel returned to another table, having delivered both a discreet message and a blatant threat. It wasn’t in his interest to be seen fraternizing with Remy. Nearly strangling him was just fine, but making jokes with his boss’s assailant could be a fatal indiscretion.

Remy resumed folding, his mind now more focused on his work, miles away from the world of geometry. Torres came by and wordlessly dumped some more washed, dry but crumpled laundry in front of him.
Remy noticed a pair of Levis, deducing that these must belong to some member of Longacre’s staff who was taking advantage of the free laundry services, as none of their other clients sent them casual pants. He found a tiny crumpled piece of paper in the pocket and surreptitiously unfolded it with one hand as he folded the pants with the other. While it had gone through the washer and dryer, it was still recognizable as a receipt for the purchase of a cup of coffee.

Had the receipt been from McDonalds or 7-11, each of which had hundreds of locations throughout the state, it would have been a worthless scrap of paper. But this was from a little shop called Anderson’s One Stop, a small family owned business that someone on the outside would have little difficulty tracking down. A Longacre employee purchased a cup of coffee there at 6:47 a.m., according to the receipt, then put the pants into the laundry after getting to work and changing into his uniform. It was a good bet that the owner lived very close to this shop and had gotten the java before heading out to work. Remy knew a good bet when he saw it.

Knowledge is power and Remy, having gotten a taste of it, hungered for a little more. The jeans were big, 38 in the waist and 40 long, but plenty of guys with long legs and fat asses worked at the prison, so that didn’t narrow down the list of possible pants owners by very much. He pulled at a few threads of the hem on one leg so that he could recognize the same pair if they showed up again and repeat his next procedure. He then discreetly obtained a handful of dry detergent and rubbed it vigorously into the inside ass of the trousers.
“As far as my understanding of the situation goes, there’s a big price on your head,” Mack explained, addressing the back of said highly valued head. “With Remy dead, there’s just more of that bounty for me, so go ahead: do me a favor and shoot him. Then I’ll shoot you and I can go laughing all the way to the bank. He he he. Hello, bank.”

“A most troubling turn of events,” Carlos lamented.

“I must concur,” Remy said, shaking his head. “Betrayal and perfidy. This does throw my plans askew.”

“Mine as well. You see, I had assumed you would have an accomplice. The part where he sneaks up around the house and points his gun at me while I’ve got my gun pointed at you, well come now, it doesn’t take a game theorist to see that this is your obvious move. So naturally I had a counter move all ready.”

“Did you now?” Remy asked.

“Jeez I’m getting tired of—” Mack began, but was cut short. “Oof,” he added as he fell to the ground.

Remy, eyes fixed on Carlos, hadn’t noticed the slender, dark-haired, olive-skinned woman slip from behind the trees a few feet from his partner. She’d pistol whipped him and now crouched down to place the more traditional business end of the gun up against the back of his bleeding head.

“A little late, my dear,” Carlos chastised without turning around to face his criminal collaborator.
“Sorry, baby. So anyway, you there,” she said, looking up at Remy. “Carlos tells me you’re a game theorist.”

“I am.”

“Good. So then you’re familiar with the concept of a threat, right? Very important in iterated non-zero-sum games. Your opponent tells you exactly what move she’s going to make, if you don’t make the move she wants. They can actually be quite useful in establishing stable cooperative equilibria.”

“Indeed. Are you a game theorist yourself milady?”

“Hell, no. Abstract algebra.”

“And why, may I ask, are you running around with Carlos pointing guns at people?”

“Because abstract algebra is boring. Game theory is much more interesting. And Carlos is a sexy bad boy.” She winked playfully. “So anyway, I think the threat we were discussing earlier is clearly implied.” She glanced down to the barrel of her gun against the side of Mack’s head.

“Let me take a guess,” Remy said, his attention and gun still on Caros. “‘Drop your gun or your partner gets it.’”

“Hey, Carlos was right. You are smart. Now drop it or sleeping beauty here won’t ever be waking up.” She pinched her captive’s cheek, then grimaced and wiped some of his blood from her hand to his shirt.

“The problem, dear Rita,” Carlos interjected, “is that his partner just now invited me to shoot Mr. Martin here, so it would seem unlikely that your threat, though quite credible, will have much persuasive value.”

“No. It won’t,” Remy confirmed. “So let us all just—”
“But why don’t you go ahead and do it anyway?” Carlos suggested, addressing his accomplice but not for a moment taking his eyes off Remy.

Remy flinched and Carlos saw it, his wicked grin widening. “W-what is the point in doing that, Carlos? All it is likely to do is startle one of us into pulling the trigger, which in all likelihood will immediately result in the other one following suit. Regardless of which payoff table applies, that’s clearly not the best outcome of the non-zero sum—”

“Yes, Rita, why don’t you go ahead and do it anyway. Say on the count of three, perhaps? There’s been a precedent established for that, so I think that will do nicely. And a one,” he smiled widely at Remy. “And a two. And a—”

Remy dropped his pistol. Rita got up and kicked Mack’s gun away from him. Now vaguely conscious, he was stunned and in no condition to perform any theatrics, but she was taking no chances. Carlos kept his gun pointed at Remy.

“Now that was an exciting contest. Threats, counter threats, bluffs. It was everything a good game should be.”

“Thrilling,” Remy agreed without enthusiasm, lifting his arms as Carlos frisked him.

“And what happens now?”

“Well,” Carlos said thoughtfully, spinning Remy around and marching him toward the house, gun pressed in to the small of his back as Rita dragged the groggy Mack behind them. “After a good chess game, players traditionally discuss the way things turned out, how they might have been different, had other moves been made. ‘Of all sad words of tongue or pen, the saddest are these, what might have been.’ ”

“I’ve heard sadder.”
Carlos laughed. “Well nevertheless, I think a nice retrospective analysis on well-played games is invaluable. You know what chess players call these, yes?”

“Certainly,” Remy said. “Post-mortems.”

Chapter 39  Number Theory

Prison life is dominated by counts. You get up in the morning and you are counted. At lunchtime you are counted. Before you go to bed you are counted. And in the middle of the night, you are counted again. One would think counting a relatively simple procedure, mastered by most in grade school. As far as the history of mathematics is concerned, this is Stone Age stuff. The ancient Sumerians, Egyptians, Indians, and Chinese all had that down thousands of years ago, long before they figured out magic squares and the Pythagorean Theorem and all that fancy numerological wizardry. But amazingly enough, the prison count is screwed up on a regular basis.

The lunchtime count had been going on for almost an hour because someone misplaced some crucial paperwork. Guards were squawking on their walkie-talkies, passing the buck all around, seeking to avoid blame. The inmates grumbled, but that was about all they could do about it, and even that was seriously pushing it.

“Man this shit just ain’t right,” Darnel complained under his breath. He and Remy were standing at what could almost pass for attention outside their cell, as were their neighbors all up and down the tier, sweating out the oppressive July heat, waiting for the count to clear. “Muthafuckas can’t count convicts when they’re standing still. Be glad
these jokers don’t work for the census, man, or we wouldn’t know what the fuck was going on.”

“Keep it quiet up there, LeBlanc, or you’re going to the hole again,” Captain Bigger yelled from the central guard station.

Darnel shut up, but stared hatefully at Longacre’s top cop. “Fucking uncle Tom,” he muttered, barely audibly. “Working with the crackers to keep the black man down. He’s the whitest nigga in the whole damn town. No offense, Ace.”

“None taken.”

The prisoners at Longacre were counted four times a day, every day. That’s 28 times a week, 1460 times a year. 2920 to 14,600 times for a two to ten year sentence. Remy amused himself during the count by counting, and then playing around with the numbers a little more. Properly speaking, the count wasn’t merely a count, which is establishing a one to one correspondence between elements of a set and the natural numbers, starting with one. That’s counting. The prison administration was doing more than this. They checked on the status of each individual prisoner, who had, of course, been reduced to a number. That’s not counting; it’s more like number theory. They were interested in the properties of # 547298, not merely the fact that it existed. Was 547298 in its cell? In the hole? In the infirmary? In the approximate center of a pool of blood? So while they counted and ascertained the physical state of the human being corresponding to each of their numbers, Remy counted and considered the properties of the numbers themselves.

The current inmate population was 2117. Every one of them counted four times a day.
2117 is the product of the primes 73 and 29, and one removed from 2116, the square of 46. Remy was almost certainly the only inmate at Longacre remotely interested in this fact, and even he didn’t find it especially interesting. There are plenty of numbers that are the product of two primes and one removed from a perfect square. The first is 15, five times three and one less than 16, which is mildly interesting. But 26 is also interesting, because it is the first product of two primes that is one greater than a perfect square. After that, well it’s not very interesting anymore.

“This is all fucked up now,” Captain Bigger yelled to his subordinate, a short, chunky and boisterous young black woman the inmates called “Sister Chubs” when she was far out of earshot. He crumpled up the papers in her hand and tossed them in the trash. “Take it from the top.”

A chorus of groans and complaints ricocheted all around the cellblock. Bigger picked up a megaphone. “Shut the fuck up or there will be a lockdown, and you’ll be wishing you just had to wait an extra half hour for the count. Shit happens, gentlemen.” He always pronounced this last word steeped in irony, most of the men a long ways from gentle. “The more you cooperate, the faster the count will be done, but it’s never going to get done if you don’t. That’s just going to fuck things up.”

“ Seems like you hacks doing a pretty good job fucking the count up all by yoselfs! CO’s sure as fuck ain’t no CPAs!” Darnel shouted, to the general approbation of virtually all the other unwilling guests of the state, who voiced their agreement with enthusiastic cheers and whistles.

“LeBlanc. In the hole,” Bigger ordered to Chubs and Jones.
Mathematicians have given a surprising amount of thought to interesting numbers. Probably the most famous story involves the self-taught genius Ramanujan who learned complex mathematics, all on his own, in a small village in India, hundreds of miles from the nearest adding machine. His colleague, the very well respected British mathematician, G.H. Hardy, was visiting the brilliant but humble Hindu in the hospital. He remarked to his sick friend that he had ridden in a taxi cab numbered 1729 and lamented that it was a dull number, without any interesting properties. “No,” Ramanujan replied without missing a beat, “it is a very interesting number; it is the smallest number expressible as the sum of two cubes in two different ways.”

There is more to this story than confirmation that the mathematicians’ definition of “interesting” is at considerable variance with the one the rest of the world uses. It leads to a paradox, and paradoxes are something mathematicians always find interesting. If you are sequentially examining whole numbers, at first most of them will be quite interesting. One is interesting. One is where it all begins, and that’s interesting. Two is the first prime, and the only even prime, which is as interesting as all-get-out. Three is the first odd prime. Four is the first perfect square. Five is the first sum of two different primes. Six is the first so-called “perfect” number (the sum of its factors are equal to the number itself, which is interesting but completely useless, and hardly the mark of perfection.) Eventually you come to the first uninteresting number, possessing no characteristics you haven’t seen before. But the very fact that it is the first uninteresting number is, to any mathematician with a pulse, not just interesting, but absolutely fascinating.

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Some have erroneously concluded from this demonstration that there are, therefore, no uninteresting numbers and that this proves it. They are missing the point entirely. It doesn’t prove that there are no uninteresting numbers any more than Epimenides the Cretan’s famous observation that “all Cretans are liars” proved that there were no Cretans. Many centuries later, a relative of this paradoxical statement would inspire Kurt Godel’s Incompleteness Theorem, which shattered the soul of the mathematical world, and is so interesting as to cause serious brain damage if you think about it too much and have the great misfortune to be smart enough to understand it.

The point is that the vast overwhelming majority of numbers are, in fact, uninteresting. (And we’re just talking about whole numbers, not fractions, algebraic irrationals, or transcendentals, of which there are literally infinitely times as many, almost all of which are dull beyond the capacity of human imagination). The only thing the above thought exercise proves is that you can’t single out the first uninteresting number. And if all of this is positively uninteresting to you, and you just want to get back to the gritty prison drama, all this proves is that you probably aren’t a mathematician¹.

“Oh man, leave the brother alone,” another prisoner yelled as Shaggy and Sister Chubs came down the second floor tier walkway to escort Darnel to the hole. Plaintive commentary erupted from all around the cellblock.

“Man, why you gotta be like that, yo?”

“Maricon.”

“Fuck that nigger. I want to get lunch.”
“Fuck you, you goose-stepping peckerwood cracker beyatch!”

“¿Que carajo pasa, Cabrones?”

“I’m fucking hungry!”

“Man, that goof is jackin’ ree!”

“It ain’t his fault, man. This is oppression. We gotta have us a sit-down strike.”

“Solidarity, brothers. Solidarity.”

“Fuck that shit. You all gonna nut up over some loudmouth gum-bumping bird? I wanna eat.”

“No puedo creer esta mierda! que vaina!”

“Everyone shut up, right now, or there will be a lockdown,” Captain Bigger bellowed over his megaphone. “That’s not a threat; it’s a promise. We will Pelicanize this place so fast all your ugly heads will be spinning. LeBlanc, you will accompany those officers right now, without a fuss, or I swear to God, you will lose every last second of good time that you haven’t already pissed away, and have another year tacked onto your sentence, not to mention the fact that I will personally kick your ass into next Tuesday, and your balls into Wednesday.”

Darnel gave him a look of pure, undiluted hatred, but he put his hands behind his back and allowed Jones and Chubs to cuff him and lead him away.

“As for the rest of you, I don’t want to hear another peep until the count is finished.”

There were peeps. Grumbling, livid peeps, but it was impossible to localize the source of any of them, and a thick, tense, irritated drone filled the huge cellblock as the guards finally finished the count.

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1 Or maybe you are one, and are bored with this mathamaticaster’s screed. Fret not. There is some good
Remy didn’t like it. He could feel the badness in the air. Things around Longacre were soon going to get very interesting.

Chapter 40 Pi and Topology

Carlos and Rita roughly ushered Remy and Mack inside and down into a basement, effectively dragging the latter, still dazed from the pistol whipping. They sat their captives on wooden chairs and lashed them with twine. Remy scanned the surroundings, dimly lit by the light peeking through the Venetian blinds above them at ground level. Large framed prints of M.C. Escher and colorful fractals adorned the walls. A curious pattern of tiles covered the floor. Consisting only of two different shapes, though each shape was represented in green, blue, red, and yellow, the tiles nevertheless covered the space without any apparent repetition of the pattern. Nor did any tiles of the same color share a border.

Remy was impressed, for reasons that lived on the border between pure mathematics and aesthetics. Were he conscious, Mack would not have noticed or cared, but he was currently out like a smashed taillight.

Carlos pulled up a chair a few feet from his prisoners and sat, his left leg on his right knee, the right hand holding the gun at his side. Rita had stationed herself outside the front door, on instructions from Carlos. This was ostensibly for security reasons, though Remy suspected his charismatic nemesis had plans to royally screw the attractive,
impressionable young felon in an exciting new way, and intentionally sent her out of
earshot.

“Ugh,” Mack groaned. Some blood trickled down the side of his head. He blinked a
few times, finally opening his eyes completely. He looked down at himself, then around
the room, judging the situation to be unpropitious.

“Shit.”

“Yes. A world of it,” Carlos confirmed.

Mack turned to his partner. “Uh, hey Remy, this is probably a moot point, but—”

“You were bluffing. Yes I know. You attempted to alter the perceived payoff table,
much as I did earlier when you were playing chicken. If Carlos were convinced that you
had no regard for my life, he would have been far more motivated to surrender than if he
felt he still had something with which to bargain.”

“Yeah!” Mack agreed. “That was it! That was it exactly!”

“Excellent strategic play. And yes, Mack, that appears to be beside the point,
unfortunately.”

Mack turned toward Carlos to try some negotiation. “Listen, asshole—” he began.

Carlos backhanded him hard, knocking him over in his chair onto the tile floor where,
still tied tightly, he was silent but for regretful groans.

“You used to be trustworthy, Carlos,” Remy interjected into the awkward silence that
followed. “There was honor among us thieves. What happened to you?”

Carlos let out a sardonic laugh. “Enlightenment, my old friend!” He began pacing
back and forth as he spoke. “When I pulled the trigger on that hostage I had an epiphany:
Ethics are nothing but meaningless abstractions. Constructions of the human mind that
happened to facilitate the replication of societies incorporating those ideas, and the concomitant replication of those ideas themselves, but they aren’t real. They’re just like \( i \), Remy. Useful, but imaginary.” A crooked smile spread again across his thin, cracked lips.

“But why did you do it, Carlos? Why did you kill that hostage?”

The smile broke into an angry scowl. “The bitch saw me. Clear as a bell. She could have picked me out of a lineup in a heartbeat. I had no choice. I may be a self-serving egoist, but I’m not a sadist.” He removed an English Oval from the pack in his shirt pocket, fitted it into a cigarette holder and lit it. “I told her that her parents paid the ransom and we’d be arranging to return her, unharmed, but it seems she didn’t believe me. When I went to use the bathroom, she managed to wriggle out and take her blindfold off. I never was very good with knots.”

“Basic topology, Carlos.”

Carlos snorted. “I’m a numbers man. I have no time for Geometry’s bastard child.” He took a long drag on his expensive import.

“Shame for her.”

“Yes.” He exhaled smoke through his nose. “And a shame she didn’t just trust me when I said she was going home. She had to try to escape.” He sighed heavily, then laughed. “I tried to find another solution, you know? Killing her wasn’t my first instinct, believe it or not. Can you guess what it was? A little game theory problem for you.”

Remy pondered this, replying after a few moments’ reflection, “You asked her if she had any deep, dark, terrible secret, the more terrible the better.”
“Excellent, Remy. You may go to the head of the class. Yes. She, of course, promised that she wouldn’t say a word, that she would never testify against me if I would only let her go, but where’s my means of enforcing that contract? It’s a non-iterated game; *that’s* the problem. Once she is free, there’s nothing to prevent her from going straight to the police. If the game were repeated, we could establish a stable mutually cooperative strategy where I don’t kill her and she doesn’t testify against me, but in a one time situation like that, well, \( w = 0 \) and she’s out of luck.

“A really horrible secret would have saved her life. I would have had confidence that she’d stick to her promise and keep quiet. If she failed to do so, she’d be hurting herself. Logical, mutual self-interest is so much better than ‘trust.’” His face tightened up again as he balled his left fist and shook it. “If only she had a murder to confess to, then we’d have been fine. Instant cooperative equilibrium. Everyone should commit a murder at some point, just to have it available for such an emergency. The world would be a better place.”

“Perhaps you could get a paper published, Carlos. ‘counter-intuitive applications of game theory’”

“Yes, perhaps,” Carlos agreed, smiling, evilly, as usual. “But I doubt that I’m going to put much effort into getting into the journals at this stage in the game. I have bigger fish to fry.”

“And now you won’t have to worry that I’ll interfere with those plans.”

“Come now, Remy. You really didn’t think I would send a message telling you where I was, just because I was afraid you would eventually find me. Don’t make me laugh.
I’ve been told it’s rather off-putting when I do.” He cackled maniacally, then caught himself. “Hmmm . . . they may have a point . . .”

“I figured it was a trap, of course, so that you could have me out of your hair once and for all.”

“You still overestimate the threat you represented to me. Or rather, you are pretending to—not very convincingly, I might add. You would never have found me if I didn’t lead you right to me. I only did that because you have something I want.”

“Moral integrity?”

“Ah, Remy. I believe you almost made a joke. I’m impressed. It’s touching, really. No, what you have that I want are Swiss bank account numbers.”

“I don’t know—”

“Oh save it,” Carlos said, with a disgusted wave. “You’re a mathematician, not a thespian. Besides I could kill you right now. I don’t need you. I just need your skin.”

“What are you—”

“Again, Remy, stick with blackjack and not poker. Blackjack is all math and requires no acting ability, which you don’t have.” He moved his gun to his left hand, strolled over to the kitchen area and returned with a knife, though not one that had any legitimate reason to be in a kitchen. It was a scalpel sporting a brand new blade, its only purpose in life to cut through human flesh and sinew. He approached Remy with a wicked grin, waving the surgical implement before him like a sadistic conductor leading some perverse orchestra. Remy swallowed involuntarily as Carlos lifted up the collar of his shirt, cutting it neatly all the way down and ripping it off him. He pushed him forward in his chair, hands still tied at the bottom.
“As I suspected the numbers are tattooed onto your back, my prevaricating friend, unobtrusively in the middle of the mathematical melange with which you’ve decorated yourself. Most people probably wouldn’t notice when the extended decimal expansion of pi is mysteriously replaced by seemingly random digits.” He tapped the blade gently against the skin, almost breaking it even with this light touch. “Right up there between the scapulas it starts off sensibly enough. 3.1415926535, that’s all well and good. But then as we make our way to the small of the back, 7206593. What is that all about? It’s certainly not the pi we know and love. I’ve already deduced that the black sheep entrusted you with treasury duties because of that unassailable reputation for your precious moral integrity. I am a mathematician Remy. You know I can put two and two together.”

Remy remained silent.

“You and I both knew that my pretending to want to make a deal with you to get the sheep off my trail was a ruse. What I really wanted were those numbers. And you had no intention of making a deal with me. You were solely interested in claiming the bounty on my head. It was a little game that each of us thought he might be able to win. We both chose to play. Someone’s going to be a winner and someone’s going to be a loser. And from the look of things, I don’t think your players are going to be dumping the Gatorade on you, coach.”

Remy sighed heavily. “Well I must concede that you do have the upper hand. But I must beg to differ with you on one point. You do need me.”

“Why is that?”
“Those numbers on my back are encrypted. There is a simple rule for conversion, but that’s privileged information. Yes, the sheep made me the treasurer, and I take my duties seriously. I’ve therefore engaged the services of an attorney who, in the event of my untimely death will send a separate number to each of the sheep. My will also specifies that the number on my back will be sent to each of our former colleagues should I expire prematurely. All the numbers added together will yield the bank account number. Without all the pieces, nobody can get to it.”

“I see. It might take quite some time to crack the code,” Carlos agreed as he waved the scalpel again, the blade catching the light flickering in through the blinds. “Better get a copy of it to carry around with me so I can work on it.”

Chapter 41  Catastrophe Theory

July turned the big house into a hothouse, a noxious, sweltering hellhole, roasting all the jailbirds alive. The pungent reek of sweat and semen filled the cellblock, sickening and stifling. Nobody could concentrate on anything but how hot it was, how bad it smelled, and how there was absolutely nothing you could do about it, except maybe hit someone, which hardly helped at all.

The mean got meaner, the mad, madder, those teetering on the edge were sent hurtling off. July was doing what July does best: baking, broiling, breeding discontent. In that blisteringly balmy month in 1789, a sweaty mob of Parisians, already agitated, had finally had enough and stormed the notorious Bastille prison, quickly cutting off the jailor’s head.
and waving it around on a pike. July is the month for sudden, violent action. It’s a bad month to be in a prison, no matter what side of the law you’re on.

Remy had studied catastrophe theory, mathematical ideas with application toward scenarios in the real world such as buckling bridges, sudden economic upheaval, and the eruption of riots. Situations where tensions build, but rather than creating a steady shift from one stable state to another one, like the simple mathematical description of the motions of classical physics, whereby objects experience steady accelerations in response to steady forces, the effects of the pressures lie hidden until there is a sudden and dramatic shift.

Bridges fold up, transforming thousands of tons of steel and concrete into dust and scrap metal, snuffing out dozens of lives in one catastrophic moment. Bustling economies turn belly-up, millionaires become paupers, and then, if they are near an open window when they get the news, they may become falling objects, accelerating steadily in accordance with the constant force of gravity, and then, after a very brief transition period, they become messy corpses with big debts. Placid crowds become frenzied, vicious, angry mobs.

Some mathematicians took issue with the broad application of catastrophe theory to such phenomena as human behavior, even in large groups, but as far as Remy was concerned the correspondence, if not perfect, was still a very useful approximation. He wiped the sweat from his brow as he filed into the cafeteria, the tension in the air palpable, undeniable. Was it intuition or his intimate familiarity with the complex tango between order and disorder, stability and instability? It didn’t matter. Someone put a shit
magnet right behind a fan then turned both of them on maximum power; that much was certain.

Steven “Lefty” Lefkowitz, a big young (right-handed) hit man, enlisted by Toes’ for his muscle, grumbled. “Holy fucking Moses, what’s taking so frickin’ long? I’m starving to death here.”

Remy, just behind him in the line, mumbled vague agreement with these sentiments. He was carefully appraising the crowd and the individual prisoners it comprised. Some had gotten their food and taken their seats, but the line had suddenly stopped moving, never a good sign.

Remy could see the informational waves of rumor traveling through the medium of hungry, hot, and angry felons. There had been a problem with the refrigeration unit, just now discovered. The first thirty men who’d been served had gotten the last of the hamburgers, which had been in a different freezer. But the main one had blown and all the beef had gone bad. There were no burgers for the rest of the prisoners.

“We have a degenerate critical point here if I ever saw one,” Remy mused aloud, to Lefty’s pointed lack of interest and enlightenment. The big goon was in no mood for mathematical lingo he didn’t understand. He was already being swept up in the emotions undulating around the room like ripples across a pond spreading out from a skipped stone.

“What the fuck?” he inquired.

None of the causes of the current woes—chiefly the weather—could be targeted, but the prisoners vicariously transferred their enmity to the inmates serving the food. They
had done nothing wrong and had no power to change the situation, but you cannot reason with a degenerate critical point.

“What the fuck do you mean there are no burgers left? I want my burger, bitch!” asserted the first man to be denied, Vinnie “the hammer,” a big Italian brawler, also working for Toes. He cracked his puke green plastic tray against the aluminum serving track for emphasis.

“There ain’t none, Jack. They gone bad.” This was “Tiny” Wilson, a diminutive, voluble black con nearly everyone liked, under normal circumstances, even the Aryans, he was just such an amiable little bastard. “’atsum fucked up shit, but ain’t nothing nobody can do. Say la vee, y’know? Obla-dee, obla-da. Que sera, ser-fucking-ra. You want some fucking peas or what?”

*Uh oh, thought Remy. We are approaching a discontinuity.*

Guards were moving to the front of the line to subdue the incipient altercation, but the rumor had already spread throughout the cafeteria. Some of the lucky few who’d gotten the last of the burgers became targets for budding impromptu communists, suddenly devoted to the redistribution of wealth so haphazardly doled out by the fickle fates.

“Let me get some of that burger, man.”

“Fuck off, dawg. It’s mine.”

*Tensions high. Temperature hot. Bellies empty. This was all it took. The undiplomatic burger eater never knew what hit him, the fist flew into his mouth so fast. He wouldn’t be eating anything for a while and would be taking his meals through a straw after he got his jaw wired in the infirmary.*
The puncher winced and shook his hand, now bleeding, knuckles cut on the same teeth they’d just broken. The man who owned those teeth had an ally, who now leapt on the back of the assailant. Three other burgerless cons simultaneously made a grab for the abandoned beef sitting on the tray of the man sprawled out on the floor, mouth filled with blood, broken teeth, and traces of knuckle flesh.

The guards moved to try to establish order, abandoning the front of the line where tensions resumed immediately. Accustomed to lies and not believing that there were, indeed, no burgers left, prisoners now flooded into the kitchen area, finding no edible burgers, but arming themselves with the deadly arsenal of cutlery and cookware.

Remy was barely a step ahead of the riot. As soon as the guards had moved to the front of the line, he’d slipped back, positioning himself equidistant from the dining area where ownership of the precious few burgers was now being violently debated, and the front of the line, from which no more burgers were forthcoming. He’d surmised that these would be the two epicenters of conflict and wanted to be as far from either as possible.

The riot, like all things catastrophic, mathematically speaking, ignited almost instantly. Order gave way to disorder in the blink of an eye. It was less than a minute between the loud complaint bellowed by the first man to be denied his burger, and the general melee that followed. While the food shortage had catalyzed the altercation, playing the straw to the reasonable level of order that served as a camel’s back, the mayhem soon branched out, becoming a more well-rounded and diversified riot. Existing tensions flared into open conflict. Cons took the opportunity to settle scores. Black prisoners clashed with Aryans, the mafia guys with the Hispanics, a lot of carefully crafted diplomacy flushed
down the toilet in an instant. The prominent Muslim and Christian prisoners, in contrast to centuries of hostility between those two groups, were notable exceptions. Indeed, it was these religious leaders who tried vainly to re-establish peace, but they were just about the only ones.

“Brothers! This is what they want! Do not clash with one another while our common enemy is laughing! Lay down your arms and humbly accept the will of the most munificent! Join me!”

“What would Jesus do!!! What . . . what the fuck would Jesus do, you stupid fucks?!”

Remy had no religious affiliation, but joined the Unitarian ensemble at the center of the cafeteria, trying to isolate itself from the madness encroaching on all sides. He’d grabbed a wad of napkins and dunked it in a cup of water abandoned by one of the combatants. He kept this makeshift gas mask at the ready for the inevitable tear-gas, not expecting it to help much. He sidled like a running back avoiding defensive tackles on his route to the equivalent of an end zone: a relatively empty corner of the room.

He spotted Deakins, the now partially tongueless Nazi who’d assisted in the attempted rape months ago. He’d recuperated, gathered his strength and bided his time, waiting for a chance to exact retribution, now at last seeing the perfect opportunity. Anything can happen during a riot, and because it can, it usually does. Deakins was coming out of the kitchen, his right hand behind his back, undoubtedly concealing something he’d just swiped from the overwhelmed food staff, something dangerously blunt or sharp. Probably sharp.

“You’re ‘ead muverfucker!” he threatened, his new speech defect almost comical but for the sincerity of his prediction and eagerness to make it a reality.
Remy picked up a serving tray, lifting it up as a shield just as the big Aryan raised the huge chopping knife. He lunged with it, but Remy interposed the tray. It cut through the plastic easily, but stopped at the hilt, and with a jerk of his hands, Remy disarmed the Nazi. He tossed the tray, impaled with the blade, off to the side as Deakins came in to try to kill him with his bare hands.

Remy turned to run, but tripped over the flailing legs of another unfortunate riot victim. He went down, landed badly, his right arm under him, wrist sprained. Deakins came in for the kill, ready to stomp on his head and neck with all his might.

Remy rolled out of the way of the first stomp, tried kicking his foe, but Deakins easily dodged, getting around him for an even more inviting approach at the frantically twitching head. He was just about to smash Remy’s face when Lefty grabbed him. The young mobster, clearly possessing some mastery of the science of judo, pivoted around, using the skinhead’s momentum against him. He sent him flying far away from Remy, straight into Lionel, an almost immovable object. The Nazi bounced off the mass of cushion covering the beefy black lieutenant and fell to the floor at his feet. Deakins then had serious problems of his own.

Amid all the other latent conflicts that rose to the surface, the first thirty continued to fight a hopeless battle to hold onto their burgers, and in the end almost every one of these was destroyed. The few that didn’t wind up all over the floor, smashed and trodden to pieces were rendered completely inedible by the tear-gas, which arrived, right on schedule, as the gas masked and riot-geared emergency response team came charging in.

Coughing and crying from the chemicals assaulting their tearducts, Remy and Lefty looked around for their boss. Toes was, of course, one of the first 30. He, along with a
privileged few other prisoners, didn’t wait in lines. He was sitting at his table with his burger when the riot broke out. Remy sought him out amidst the raging maelstrom, finally spotting him, lying completely still, keeled over on the floor.

Chapter 42 Probabilistic Punishment

“So what do you say, Remy?” Carlos twirled the scalpel between his fingers, his wide, wicked smile rendered even more menacing by its asymmetricality, the single gold incisor, a little to the right of center, glistening as he grinned. “I will get the information I need from you. I’ve already decided that. But you have some decision-making authority as well. You get to decide when and how you will tell me. Screamed out amidst impassioned pleas for a quick bullet in your head is one possibility. Why don’t you offer a different scenario? Maybe I’ll like it better.

Remy was silent, but Mack groggily chimed in with a suggestion. “Why don’t you stick that scalpel up your ass and perform a lobotomy?”

Carlos hurled the knife to the floor, shifted his gun to his right hand and turned to silence Mack permanently. Before he could pull the trigger, Remy, still seated, but with hands suddenly free stretched out and grabbed him around the elbow, pivoting him around and pulling him toward him. His balance off, Carlos fell forward, only to be met by a vicious head butt, breaking his nose. He dropped the gun. Remy laid his other hand on his nemesis, pulling him in with all his strength for another head to the nose, breaking
it worse, and then slamming Carlos’s face down onto his knee, and then the floor, knocking him out completely. Blood gushed from his smashed nose.

Remy quickly untied his legs, picked up the scalpel and ran over to his partner, lashed to the chair on the floor. The sharp blade made short work of the cords.

“Wow. Nice ink,” Mack said to his now shirtless partner as he was cutting him free.

“Thanks.”

“And not to overstate the obvious, but, you know, like, what the fuck?”

“Although Carlos is an accomplished mathematician, he’s never been particularly interested in topology. But I am well versed in the field. Especially knot theory.”

“They don’t really have—”

“Yes they do,” Remy answered as he hurriedly cut the ropes. “But right now—”

He got no further, for at that moment they heard the front door open and Rita start down the stairs.

“Hey Carlos,” Rita began, stopping a second later when she saw her lover and boss sprawled out in a bloody heap on the floor. After a moment’s confused reflection, she concluded that while she didn’t know quite what was going on, she should probably shoot someone. She raised her gun, but Remy was a half a second faster with his scalpel. The scalpel turned a perfect 180 degrees in flight, the blade disappearing into the center of Rita’s throat, performing the world’s fastest tracheotomy, from a distance of ten feet, without anesthesia or a single insurance form, a feat that deserved an article in JAMA. She dropped the gun and reached for her throat in an instinctive panic. Remy tackled and pinned her.
“Ropes, Mack. Bring them over here. And that duct tape,” Remy instructed calmly as his prisoner wriggled frantically, issuing gurgling shrieks. The blade hadn’t struck a carotid artery or jugular vein, but the larynx would never be quite right again, and her prospects of falling back on a singing career, were she ever to shirk off Carlos’s Svengaliesque influence, were immediately dashed. Mack held her down as Remy taped her mouth closed and then examined the neck wound.

“She could use some medical attention, but is in no immediate danger as far as I can tell. Carlos is worse, I think. I may have cracked his skull.”

Mack glanced back and forth at their two helpless, wounded adversaries and scratched his own bruised and bleeding head pensively. “Well, my professional medical opinion is ‘screw these bastards’”

“I’m offering a second opinion.”

“They were going to kill us. And they gave me the worse headache of my entire life. I reiterate: screw ‘em.” He looped rope around Rita’s legs and tied her hands behind her back.

Remy considered this proposal. “Are you familiar with the Golden Rule?” he asked after a moment.

Mack sighed. “Yeah. I’m familiar with the Golden fucking Rule. Is that stupid thing the foundation of your, whatever that thing is, your ethical abacus?”

“Calculus. And no, quite to the contrary: the Golden Rule is pie-in-the-sky, naïve idealism,”

“Finally, you’re making sense. I must be missing something.”
“Not yet, but give it some time. The Golden Rule is logically inconsistent. You may do unto others as you would have them do unto you, but this provides no incentive for self-serving egoists to do unto you—or anyone else—as you so graciously and kindly did unto them.”

“So screw ‘em.”

“Unconditional forgiveness encourages exploitation, and if you wouldn’t have other people encouraging self-serving egoists to exploit you, you shouldn’t do that to them. The inherently contradictory Golden Rule should therefore be amended. Do unto others as you would have them do unto you, if they have not already done otherwise. If they have, then do unto them as they have done unto you.”


“Non-zero-sum games can only be meaningfully examined in the context of continued interaction. The best strategies are those that most effectively elicit cooperation from others, by cooperating initially and then punishing those who do not cooperate. But they do not elicit cooperation if they punish too severely; they must be willing to forgive after they have exacted a small amount of retribution.”

Rita squirmed and gurgled some more. Mack turned to her in annoyance.

“Hey, we’re trying to decide whether or not to kill you. Apparently it’s some big strategic math thing.” He waved his arms chaotically. “But you keep squirming like that,
“Finally,” Mack said. “Ok, go on.”

“While an unswervingly punitive strategy will only promote spiraling defection, pure altruism and unconditional forgiveness is no better. While it looks nice on paper, and has a warm and fuzzy scriptural sort of beauty to it, it will not promote global system optimization.”

“Not to sound like a broken record and all, but I still think ‘screw ‘em’ fits in very well with all this.”

“Possibly,” Remy said, pointing a didactic digit at Mack. “Theory suggests the greatest good is achieved by a very limited altruism. Those who transgress must be punished, but one can occasionally grant clemency, looking the other way once in a while—on a strictly probabilistic basis—while exacting equal retribution in response to the majority of transgressions. This provides an opportunity to break the cycle of spiraling mutual defection, without openly inviting continued exploitation.”

“What about the bounty on his head?”

“The black sheep offered a reward for assistance in locating him. There may be a bonus for wet work, but I don’t kill for hire, so if that’s what they plan to do, they’ll have to do that themselves. Regardless, I’ll collect the reward and of course you have earned half.”

“Damn straight,” Mack said, pointing to the ugly gash on the side of his head.

“I knew that thick skull of yours would serve as an asset sooner or later. Now, as far as Carlos’s betrayal of me, personally, I’m morally obligated to act. I don’t kill for hire, but that doesn’t mean I won’t kill. An unwavering strategy of forgiveness encourages the
exploitation of others. But mercy—used sparingly—may ultimately promote stable cooperative strategic environments, provided these incidents of amnesty are infrequent and determined randomly.”

“What, so you’ll flip a coin again and let him go if heads comes up?”

Remy shook his head. “That’s a bit too forgiving. I was thinking three heads in a row. A one in eight chance, or a probability of .125 if you prefer.”

“Oh, definitely.”

“So, if we flip three heads in a row, we call an ambulance and get out of here. If not, then it’s game over for these two.”

He flipped a quarter, catching it and slapping it onto his forearm.

“Heads. So far, so good, Carlos.”

The addressed party remained motionless. Remy flipped the coin again.

“Could be your lucky day. Another heads.”

He sent the fate-deciding coin into the air a third time, but never bothered to catch it. Carlos, who suffered a serious concussion, but did not, in fact, have a skull fracture, had regained consciousness, albeit of a foggy, groggy, sub-par sort. He had the gun in his unsteady hand and fired, the first bullet passing a foot to the right of Remy’s head, the second shot about halfway between Mack and Remy. They were both out the door as the quarter came to rest on the floor.

(It was tails.)
Chapter 43  Information Networks, Circles, Tangents

Darnel was in the hole for just one day, but had little freedom waiting when he got out, the whole prison on a temporary lockdown, almost all the inmates confined to their cells. They needed the space in administrative segregation to house those prisoners who had elected to take shots at the guards during the riot, and there were more than a few of these ambitious opportunists. All but the most serious cases in the infirmary were sent back to recoup in their cells, clearing space for the influx of victims shanked and bludgeoned in the recent fracas. Darnel and Remy still had no TV, and now without access to the rec area, Darnel was missing some quality baseball.

“Man, this shit just ain’t right,” he complained to Remy after he was escorted back to the cell, where he immediately started bouncing an old horsehide against the rear wall. “Fer real. Why the fuck are they locking my black ass down? I was in the hole when all the shit jumped off. Ain’t my fault them freezers bust up. Ain’t no convict’s fault, but we the ones paying. The cessation of refrigeration is the responsibility of the administration. But what’s they answer to the sitchy-ation? That’s right, Ace, incarceration. Tha’s all they know.”

He caught and tossed the baseball rhythmically as he rapped. Remy was sitting on the lower bunk, leaning over to work a bar of soap into a desired shape by rubbing it on the concrete floor.

Darnel poked a shaving mirror out of the cell and looked up and down the tier, ensuring that no guards were in earshot, then turned to his cellmate.

“What the fuck is that shit? A gun carved out of soap? You think you gonna bust out of here wit dat? Man, you seen too many movies. Ace is getting cinematic and dramatic
with his phony automatic. But his behavior is erratic, ‘cuz the thing is, the guards seen them same movies. Gun out of soap is the ploy of a dope, you ask me if it’s gonna work, and I’m gonna tell you nope.”

“Let’s just say that it’s a hobby, okay Darnel? And let’s not mention it to anyone.”

“Yo man, you know me. My lips are sealed. Nothing’s revealed. I ain’t no snitch, bitch, so they’s no need to twitch.” He grinned widely as he said this, and extended his knuckles. Remy bumped them and smiled back.

“So what you know about that chow hall scene, man?” Darnel asked, discreetly checking out the tier walkway again. “You hear ‘bout anyone’s cap be twisted?”

Remy stopped his soapcraft for a moment. “They locked us down right after it happened. Rumors are slowly circulating. A few kites have come by in your absence.”

Kites in prison do not refer to diamond-shaped aerodynamic toys, but are notes, passed from cell to cell via long pieces of string with a weight on the end. The skillful kite operator can hurl these a fair distance by whipping them around in a circle, removing the centripetal force at the point the weight is at the tangent to the circle that intersects with the desired destination, though Remy was the only one who thought about it that way.

“I’m not sure if anyone was killed, but there were numerous injuries, some serious. At least one guard suffered multiple fractures. Another one was bitten by an HIV positive prisoner. I’m looking forward to the exciting legal drama destined to unravel over the course of years concerning that. Deakins has severe spinal injuries of some sort, over which I shall be shedding no tears. Toes went down. I’m not sure of the circumstances, or whether he’s alive or dead.”

“Oh, that OG, he still alive.”
“How do you know?”

“I got a phone call in the hole.”

Darnel had not received a genuine phone call, of course. He pointed at the toilet as he said it to indicate the communication medium, whereby prisoners could speak to one another through the pipes by bailing the water sitting in the trap and then speaking into the aluminum bowl.

“Some trusty brothers in the infirmary, they ain’t locked down and they gave me the grapes, shed some information on the altercation. But the details is sketchy. Sounds like some crazy ass shit. What was it all about?”

“A discontinuous jump between social equilibria.”

“I thought it had something to do with burgers.”

“That was merely a perturbation.”

Darnel paused to consider this for a moment, then laughed and resumed bouncing his ball.

“You a real media outlet, Ace. You better than the internet.”

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**Chapter 44  Strategic Irrationality**

“‘I think he has a skull fracture,’ ” Mack mocked as they both stopped and crouched behind some parked cars to catch their breath.

Remy shrugged. “I’m a mathematician, not a doctor.”
They were around the corner from Carlos’s place. The streets of Carter’s Mill remained disturbingly vacant, the people still indoors avoiding the sweltering heat. It was hot enough to fry an egg on the sidewalk, and nobody was hungry.

“Okay, let’s take stock of the situation,” Mack reasoned, a novel distraction for him. “Carlos’s really pissed. He’s probably right around that corner. You know what would be good right now? A gun. We don’t have any guns do we?”

“We have zero guns. Carlos, on the other hand, has a positive, non-zero number of guns.”

“Do you think he’d just shoot us out in the open?”

“Even considering the apparent scarcity of witnesses, that wouldn’t be a rational move. Unfortunately, as mentioned, although he’s highly intelligent, he’s been known to be irrational on more than one occasion. Paradoxically, this frequently gives him a decided strategic advantage.”

They scuttled along from behind one parked car to the next, occasionally popping their heads up to peek out for a sign of their irrational antagonist.

“Like that situation we described with the bank robber and the safe,” Remy explained as they crouched behind a green Pontiac in dire need of a wash. “The robber has nothing to gain and everything to lose by killing the manager, but if the manager is convinced that she is dealing with an irrational lunatic—a good bet, considering expected reward versus expected penalty analysis—she won’t think twice about opening the safe if she can. Someone known to be rational cannot make a credible threat to take action that will be of significant harm to himself as well as his opponent. The obviously irrational player can make such threats quite credibly. Some say that Khrushchev employed this strategy
during the Cold War. Appearing irrational greatly improved the Soviets’ strategic position. Only a nut would bang a shoe at the U.N. and display a blatant disregard for the continued existence of life on this planet. A nut, or a brilliant strategist.”

“Right, well Carlos is irrational and well-armed, so that’s got to mean that our best move is getting the hell out of here. We can take this little number here,” Mack proposed, slapping the Pontiac. “This model’s a piece of cake to hot-wire. Doors are a cinch to open too. And hey look: there’s a shirt in the back seat, and you need one. Must be a sign.”

“What about your car?”

“Yeah, well unfortunately my car is currently in the vicinity of the last known whereabouts of a certain lunatic with a non-zero number of guns.” Mack pointed back toward Carlos’s place, the Oasis, and his car, all lying in roughly the same direction.

“Let’s just bolt, man, before we get shot.”

“My ethical calculus may not look favorably upon stealing a car.”

“I hate that thing. Don’t you have some sort of desperate times call for desperate measures clause in there?”

“Absolutely. That’s merely an isolated phenomenon within the larger picture of global system optimization. My ends have their work cut out for them, justifying my means. Pithy aphorisms notwithstanding.”

“That’s great. Get in.”

Mack had already picked the lock on the car with a slim jim, not the fatty meat snack but a device made for the sole purpose of picking car locks. He kept this handy tool folded compactly in his back pocket for just such an emergency or, more often, just for
kicks, as such emergencies were actually quite rare. Mack needed no ends to justify his means. Remy got in the passenger side. Mack had a fistful of wires in his hand. He twisted the bare ends of some of them together and the car roared to life.

“Where to?” he asked, as he put the car into gear.

“Far away. Just drive.”

As they rounded the corner they passed Carlos, stumbling around, blood all over him, his gun poorly concealed in the right hand thrust underneath his shirt, his eyes dilated, and unfocussed from his concussion. He shielded them from the now overwhelming light of the sun. Remy and Mack crouched low in the car seats as they zipped by at forty miles an hour.

“See?” Mack observed as he tentatively sat up in his seat again. “He would have been on us in another twenty seconds. It’s a good thing we grabbed this baby.” He slapped the dashboard affectionately.

“Perhaps, but now we’re driving a stolen car.”

Mack shrugged. “We were driving a stolen car before.”

Remy gave him a pointed look of mild disapproval. “I didn’t know that.”

“I figured what you didn’t know couldn’t hurt me.”

Remy retrieved the shirt from the back seat and put it on. It wasn’t a bad fit. He then poked inside the glove compartment, amazed to find some gloves in there. There were a few other items that were even more interesting.

“On the possibly bright side, there may be compelling reasons the owner of this car might not contact the authorities.”

He brought out a pair of 9mm pistols.
Mack was overjoyed. “Fuckin’ A! That’s great! This is a sign, you know? There’s no such thing as coincidences.”

“Please don’t ever say that to a mathematician.”

“No, man. This is a sign. Fate; God; destiny. Whatever. We should rob someone. It’s a sign!”

“Seems a frivolous and irresponsible use of divine guidance.”

“Strange and mysterious ways, Remy! Strange and mysterious.”

They were out of the town, the houses and shops behind them as they continued down the long stretch of Carter’s Mill Road leading to the highway. Trees were sparse, hearty weeds providing most of the green, contrasting with the arid, yellowish-brown dirt.

“Well, only because it is slightly preferable to twenty questions as a means of passing time on a road trip, but what did you have in mind?” Remy asked.

“Well I don’t have any specific plan, but I thought something involving pointing these guns at people and demanding their money. Something like that. We’d have to work out the details.”

“I have serious difficulties with that scenario, even as vague as it is.”

“You’re no fun, man.” He pulled a Basic from his pack and lit it.

Remy continued to explore the glove compartment, finally coming up with some pieces of papers that he mulled over at length.

“Well, things have suddenly gotten far more interesting,” he noted after extensive perusal. “And they were already more than moderately interesting, so that’s saying something.”

“What? What is it saying? And what’s saying it?”

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“Well, there is a rudimentary attempt at encryption here, but it’s not too difficult to figure out what these documents pertain to. It seems that the owner of this car had been planning a heist.”

“Dude, how did you figure that out?”

“Well, the code this is written in is a simple cipher and wasn’t difficult to figure out. The maps are pretty self-explanatory. And these ski masks helped with decryption.” He held up the utterly weather-inappropriate attire.

“Jeez, man, if that’s not divine guidance, I don’t know what is. What do you want, a burning bush? This is perfect! Someone else did all the planning. We just waltz in and grab the booty.”

“Or get shot. Or go to jail. I’m just offering alternative scenarios.”


“Why would someone leave their plans and guns in a car?”

“Because they didn’t want it in their house, I’m guessing.”

“Why would that be?”

“Well you gotta figure they’re hiding it either from cops or other crooks, right? Either way, they don’t want the evidence in their own house. I’m thinking maybe it’s some kind of double cross. They don’t want the guys they are double crossing to find the plan in their hideout, so they stashed the stuff in the stolen car they kept nearby.”

Remy nodded as he listened and continued to examine the documents. “That seems a very plausible explanation. From what I gather here, the jeweler is most likely a fence. But any serious jewel thief would not rip off his fence. That would yield a short-term
advantage, but completely destabilize the cooperative equilibrium in a continuing, iterated, and very lucrative non-zero sum game. However, a serious jewel thief might have less trustworthy accomplices and hired muscle, who are not playing the same iterated non-zero sum game, and have less interest in the stability of the cooperative equilibrium between their boss and the fence.”

“So there are some crooks, who are betraying some other crook, who was doing business with yet another crook, and we’re going to rob that crook before the first crooks can,” Mack observed. “That works for me. On so many levels.”

“Well, it does keep us on firm ground, ethically,” he said. “Not only would we be stealing from criminals, we’d be stealing from double-crossing criminals who were betraying some of their fellow criminals and deserve to be taught a lesson.”

“Wow, and here I thought your rationalizations for being a crook yourself couldn’t get any more bizarre.” Mack rolled the window down all the way and knocked the ashes off his smoke.

“We’d also be committing a crime that was going to be committed anyway,” Remy continued, “but we’ll do it more responsibly.”

“I know I’m not going to like the next thing you say.”

“I would feel better if the guns weren’t loaded.”

“I was right.”

“Sorry, Mack.”

Mack took a long drag on his cigarette, and was about to toss it out the window for dramatic effect, but, realizing he had only two left, decided there were at least a few more
good drags on it before he got to the filter. He decided to embrace conservation and expressed his ire instead by forcefully exhaling the smoke through his nostrils.

“You would feel . . . since when do you feel anything, Remy? I wasn’t aware that you had any emotions.” He sucked furiously at the last stub of cigarette. “Did you steal some? I thought you just reduced everything to equations and decided what to do after you solved for x.”

“I won’t be pointing a loaded gun at anyone.”

“Fine! Fine! It won’t matter. Nobody is going to know. Nobody will get hurt. We’re robbing from the rich and giving to the poor.”

“Are we?”

“We’re poor. Look at us. We can’t even afford our own car. That’s just sad.” He shook his head in compassionate self-pity.

Remy emptied the bullets from both guns and tossed them out the window. Mack let out an aggrieved sigh. He tried one more drag, getting a lungful of filter, coughed, then tossed it.

“Why’d you do that? You said you didn’t feel comfortable with a loaded gun. I’d be much more comfortable with one. It’s like a teddy bear. Happiness is a warm gun. Or at least a loaded one. It doesn’t need to be warm.”

“Sorry,” said Remy, who wasn’t. “Just keep driving while I go over this material.” He pored over the maps and notes.

“Fine,” Mack said, exasperated, seeking emotional sanctuary in a country music station on the radio and turning it way up. Johnny Cash crooned.

Don’t take your guns to town son. Leave your guns at home.
Chapter 45  Ratios

The lockdown lasted only a week, though it seemed much longer, and the pervasive sense of relief when it ended was every bit as evident as the immense tension that preceded it. Remy took the first opportunity to visit Toes, now recouping in his cell, conscious but confined to his bed. Lefty was on guard detail just outside the cell, ensuring that no enemies took advantage of the mob boss’s weakened condition. The hulking sentinel, arms folded across his massive chest, nodded officiously and stepped aside to admit Remy entrance to see the don.

Toes caught his eye as he came in.

“A heart attack. Can you believe that, kid? I been locked up for five years now, and never been shanked or shot or hit with a whack, and I get laid down by a fricking heart attack."

“What do you remember, Mr. Barelli?”

“I was eating my burger. Then all the goddamn shit jumped off, but I just stayed where I was. No sense getting in the middle of a fucking riot. I didn’t survive this long by doing nothing stupid. So I just stayed put. And there’s all kinds of shit flying all over the place, you know, so I guess it got the old adrenaline going, and I know my ticker ain’t in the best of shape. Then the goon squad comes marching in. My back was to ‘em, so I never saw the sons of bitches, but I could hear their fucking goose-stepping jack boots

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stomping away. Thump thump thump thump. The next thing I know, I feel this sharp pain right here.” He pointed to his right shoulder. “Then it all went black.”

Remy raised his eyebrows in surprise.

“You felt pain in your right shoulder?”

“Yeah. What of it?”

“Do you mind if I examine it, sir?”

“There ain’t much to see, kid.” With some effort he sat up in his bed and moved his shirt aside to reveal the shoulder.

Remy examined it closely. “I’m not a doctor, but pain in the right shoulder is not characteristic of a heart attack. The pain is usually on the left side of the body.” He squinted as he carefully examined the patient. Toes’ shoulders were unusually hairy, and Remy noticed a small area in which the ends of the thick curly hairs appeared to be slightly singed.

“It is my opinion, sir, that your heart attack was caused by electric shock, delivered by stun batons of the riot squad.”

“No fucking way!”

“Yes, in fact, fucking way. Sir. I don’t think we can prove it, based on your testimony and this physical evidence, which will soon be gone and is inconclusive, but the security cameras in the cafeteria ought to have caught the whole thing. A CO zapping an unresisting, physically disabled, older prisoner with a heart condition. And, more to the point, one with excellent legal counsel.”
“Hey, who’s disabled, eh?” Toes asked, throwing a few mock punches at Remy, who deferentially dodged. “I can’t play the piano, but there are some guys who could tell ya I ain’t disabled. Well they could, if they weren’t at the bottom of a bog.”

“I understand, sir. All I’m saying is that you have a potential lawsuit.”

“Damn right I do! I gotta call my lawyer. Son of a bitch!” He tried to get out of the bed, but Remy carefully restrained him, taking a calculated risk.

“Please calm down, Mr. Barelli. You don’t want to have another one.”

Toes relaxed and reclined in his bed again. “No, you’re right, Ace. And to be honest, I don’t have the strength to get out of this bed. But I gotta get in touch with my lawyer. I got this shyster who’s a real bulldog in the courtroom. You ever hear that song, ‘a boy named Sue?’ ”

“Johnny Cash. I’m a big fan, sir.”

“Yeah, well, that’s this guy. He oughta be named Sue, because that’s all he knows how to do. Sue, sue, sue.” He reached underneath his mattress, pulling out a business card. “Go call this guy. Tell him what happened and that I want to meet as soon as possible. He’ll take care of the rest.”

“You’re the boss,” Remy said as he took the card.

“I know that,” Toes said. Remy’s statement was a tautology.

“Just an expression, sir. It’s as good as done.”

Remy took the card and headed down to use the payphones. Saying it was “as good as done” was an optimistic exaggeration. There were 2117 prisoners in Longacre. There were three phones. It doesn’t take a mathematician to see that this is a steep ratio. (A
mathematician might, depending upon his level of obsessive-compulsion, feel compelled to compute the exact figure of 705 2/3 to 1.) The inmates competed for the use of the phones like wild dingoes for abandoned babies. Wild dingoes were, in fact, far less dangerous. The average inmate weighed as much as three or four of them and was a lot handier with a shank.

He took his place in line, ready to defend that precious position, as the insane rules of his situation required, with his life. The line moved relatively quickly today, and for once Remy was grateful for the blatant conspiracy between the prison administration and the phone company, which charged the commissary accounts of the prisoners or the receivers of collect calls ten times the normal rate, giving even the most tearful momma strong incentives to cut short a conversation with her precious boy, lest she have to rob a bank herself to pay the phone bill.

His occasional card partner and coworker in the laundry room, Torres the painter, was again in line ahead of him. He turned as Remy approached and gave him the traditional unsmiling, unscowling nod, which the reticent con had truly perfected. It said what it always said. *I'm not your friend. I'm not your enemy. Don't fuck with me and we'll get along just fine. Fuck with me and I'll kill you.* But at the end, just as he was turning back around, barely perceptibly, Torres’s eyes darted to somewhere behind Remy. A message conveyed in a fraction of a second, without a sound. Remy turned as the big biker and would-be rapist Turbo was swinging a metal spoon, the handle meticulously sharpened to a vicious point, right at his neck.
“Sammy’s Stones” was a small but prosperous shop dealing with jewels, primarily, and other small, valuable things secondarily. The proprietor Samuel, “call me Sammy” Green, was well known for his friendly manner and professional eye. He could take one look at a ring or a watch or a necklace and tell you exactly what it was worth. He could do that, but what he actually did was take one look at it and tell you about 20% less than what it was worth, if you wanted to hock or pawn it, then offer a little bit less than that.

Sammy capitalized on both the joy and misery of others. People came from miles away to get their wedding rings from Sammy, sealing the eternal bonds of holy matrimony with ridiculously expensive rocks. Some of the same people would later sell those rings back to him to cover their gambling debts, or if the marriage itself came up craps. Sammy was happy to oblige.

You wouldn’t have guessed that the little shop had over a half million dollars worth of diamonds in the safe. His shop wasn’t big enough to do business on that scale, at least not legitimate business. But Sammy would occasionally offer much less than something was actually worth, if the seller wanted a quick turnaround, no record of the transaction, and no questions asked.
Remy idly mused that he’d need a good fence after they pulled this job off and wondered how long was a safe waiting period before he could try to sell them back to Sammy. But in the tradition of not counting chickens before they were hatched, he decided to not fence his diamonds before he stole them. He turned to Mack, seated next to him in the Pontiac, idling across the street from the shop, to go over the plan.

“According to our information,” Remy said, “The proprietor, one Mr. Green took possession of over half a million dollars worth of diamonds two days ago.”

“Diamonds are a boy’s best friends.”

“Mr. Green undoubtedly paid far below market value for them, because they’re stolen merchandise. All this works to our advantage on several levels, not the least of which is that I have no problem stealing from crooks, whereas I do from honest citizens.”

“Crooks suck! Let’s rob the bastards!”

“And while this is far larger than the quantities with which he usually deals, there is no indication that he has intensified his security measures. He really is asking for it.”

“Ask and ye shall receive. What’s the plan?”

“I will disable the silent alarm system by cutting the phone lines. This will increase the response time of the local law enforcement authorities.”

“Good. I hate the local law enforcement authorities.”

“You’ve never even been here before.”

“Ok. I will soon hate the local law enforcement authorities.”

Remy nodded. “Yes, I expect you probably will. Now then: you take the car around the block. I’ll be able to get to the phone line I need to cut via the roof of the adjacent building, which has a large dumpster someone had the poor judgment to position right
next to a fire escape. You pull up directly in front of the building. As soon as I see you get out of the car, I cut the cables. You charge in and focus your attention on the guard. Get his hands in the air, take his gun off him and—this part is not optional—toss it aside. I don’t want you shooting anyone.”

“Oh, like I would. You aren’t the only one with ethics, you know. I hardly ever shoot people.”

“Just toss the gun.”

“Fine.”

“According to this information, the guard is Mr. Green’s nephew and has probably never had a gun pointed at him in his life. I expect he will immediately pee his pants. I was going to make a joke about the probability of that occurring, with reference to the ‘p-value’ under consideration, but on reflection, I don’t think you’d find it all that amusing.”

“Thank you, oh merciful one.”

“While you are disarming the hopefully urine-soaked guard, I’ll make my way down from the roof and join you. That should take under ten seconds. Dumping the necklaces and rings from the display case into this sack should take another fifteen seconds, tops. The tricky part will be persuading the proprietor to open the safe, as I must convince him of the sincerity of my threat to shoot him if he doesn’t comply. Doing so would be of no benefit to me, so he must believe that I am either willing to make a personal sacrifice for the good of the armed robber community, or that I am simply irrational.”

“I’m sure you can pull it off. I know you pretty well, and I think you’re nuts.”

“That’s very reassuring. Let us hope Mr. Green is as astute a judge of character as you. If I convince him of my sociopathic irrationality, he should be highly motivated to
get the safe open within another thirty seconds. We’re out of there in a minute if all goes well. The police will come from that direction.” He pointed off to where most of the rest of Groversdale was located.

“There’s very little down our escape road. But it does cross a pair of railroad tracks. And the very punctual eastbound limited should be crossing in exactly” he looked at his watch. “11 minutes and 20 seconds. It’s about 2 minutes to the tracks at 75 MPH, which we can maintain in this vehicle for a short stretch. We allow one minute for the robbery. So we have to start all this in eight minutes. If we run late, we won’t make the crossing before the train, and will almost certainly get caught. If we are too early, the cops will not be delayed by the train and we’ll still have a high probability of being apprehended. But if it runs smoothly, that train will cut off their pursuit, and we will probably get away with it.”

“We’re definitely going to get away with it. I can feel it in my bones.”

Remy looked at him and shook his head slightly.

“My bones are always right!” Mack insisted. “Especially the femur.” He knocked on his right thigh affectionately. “It’s got a gift.”

Remy snickered. “Well, far be it for me to second guess your osteo-prognostication, but fortunately detailed mathematical analysis agrees with your bones. Probability of success is high. The expected penalty is relatively small compared to the expected reward, so we take the chance.”

“Hot damn.”

“Smoke a cigarette, while I run through the plan one more time.”

“Hey, come on. I got it. I’m not an idiot.”
“You’ve been known to do a frighteningly accurate impression of one. Go ahead. Smoke.”

Mack lit up another Basic as Remy went through it again. Six minutes and 20 seconds later, Remy quickly scrambled up to the roof around back and cut the phone lines as Mack, now wearing his mask and brandishing his empty gun, burst into the store.

Chapter 47

A arcs and Lines

Remy ducked as the sharpened spoon sliced an arc above his head. He tried to kick the big biker in the balls, but Turbo was ready, now guarding his scarred genitalia even more closely than evolution had programmed him to. His beefy left hand caught Remy’s foot, twisting it with a savage strength, sending the number-crunching con to the floor.

He scrambled to get up, the shank coming in again, catching him in the side, but only doing minimal damage. Turbo’s intended skeweree—correctly guessing that the vulnerability of his patron made him a more attractive target in the eyes of his enemies—had shoved magazines beneath his shirt. Thick back-issues of the Bulletin of the American Mathematical Society. Seasoned shank wielders typically bypass such protective measures by going for the neck.

The other cons waiting for the phones stepped aside as the combatants clashed. None made any move to intervene, and a few side arguments broke out when the disorder destroyed the integrity of the phone lines. Just outside the telephone area, a table had been set up containing material from Alcoholics Anonymous and assorted religious
brochures. Christianity and Islam got roughly equal time, the rest of the world’s faiths missing out on this avenue of evangelism.

The literature went flying, the wisdom of Jesus, Mohammed, and Bill W scattered as Remy flipped the table over, using it as an ersatz fort, though one ill-equipped to withstand the coming siege. It wouldn’t stop the biker, but it would slow him. A speed bump on the road to Eviscerationville.

“You have children, don’t you, Turbo?” Remy asked, breathless but struggling for clear elocution.

Turbo stabbed at Remy, on the other side of the overturned table, but it was wide of the mark. He stabbed again, coming closer, then feigned another thrust with the deadly spoon, his left hand coming up and grabbing Remy’s shoulder, partially immobilizing his prey.

“I know you do,” Remy said quickly. “I saw you with them in the visiting room when I talked to my attorney one time. Cute kids. Miraculous, considering that they’re the spit and image of you. They’re big like you, too. Stand out in a crowd.”

Turbo had pulled Remy closer, holding the shank right up against his throat now.

“You son, what is he, about nine?” Remy spat out. “He sure is a smart kid, isn’t he?”

“No. He’s gonna be a fucking doctor or something. Not a jailbird like his old man.”

Some paternal instinct stayed the hardened con’s hand for a moment.

“He was so excited when he visited. You must be so proud of him. The way he won that spelling bee? He couldn’t stop talking about it. Clinton Corners Elementary is going on to the state finals. I was just telling Toes about how that warms my heart. Good old
CC elementary. Going to the state finals. Maybe national! CCE. That’s in Collins County isn’t it? I’m almost sure it is. That’s a good school. One of a kind.”

Turbo said nothing. He kept the shank pressed up against his captive’s throat, but Remy could feel the pressure slowly lessen.

“Toes is stuck in his bed for a while, so he’s just putting his energies into organizing things. That’s one thing you’ve got to give the mob: organization. They put the ‘organized’ in ‘organized crime.’”

Turbo grunted and growled, but Remy could no longer feel the shank against the skin of his neck.

“And I guess they are no slouches on the ‘crime’ part either. They have both parts down. Toes said to congratulate your son, by the way. Said he hopes everything goes well on the way to the championship. But what could possibly go wrong?”

Turbo growled, an enraged bestial snarl, but he hurled Remy away from him, sending him bouncing off a wall. The proud father of the spelling bee champ then stomped off to the yard to pump a staggering amount of iron.

Remy picked himself up, brushed himself off, and checked for any holes with which he was not originally provided, finding nothing but a few scratches. The lines for the phones had reestablished themselves, diplomacy apparently carrying the day, as nobody looked to be bleeding. Remy stepped in front of a muscular, mean-looking Jamaican, who was just behind Torres. A few other cons watched as Remy stepped up.

“I was here,” the mathematician asserted.

“No worries, mon,” the Jamaican said, giving a respectful nod as Remy reclaimed his place in line.
He made his call, explained the situation to Toes’ lawyer, who promised he’d be visiting his incapacitated client, in his cell, tomorrow morning or he’d sue Longacre down to its last brick and strand of razor wire. His mission accomplished, Remy returned to his pod to pick up a few items, then stopped by the law library, though he had no need to prepare for a hopeless appeal. An old black trusty was repairing the floor tiles and Remy discreetly exchanged a pack of cigarettes for a glob of adhesive. He then headed to the yard to settle one more score.

Chapter 48  Cops and Robbers

“Hands in the air! This is a fucking stick up!” Mack shrieked unnecessarily, the gun in his hand and ski mask over his face far more succinctly telling the same tale.

A young couple, the only customers in the store, hit the floor instantly, displaying a keen rationality. Sammy Green disappeared behind his counter. His guardian nephew, true to pre-heist prediction, wet himself. Mack had his gun in the neophyte guard’s face. “Everyone cooperate and nobody gets—”

Sammy came up with a shotgun, slotting a pair of shells into the chamber with a distinctive, foreboding sound. Mack was behind the trembling guard now, using him as a damn, smelly shield, the barrel of the empty gun up against the side of his head.

“Drop that gun, fat man, or your nephew gets it!”

The guard’s gun, complete with bullets, was still in a holster at his side, but Mack dared not take his eyes off Sammy.

“If he gets it, you’re next,” Sammy returned.
“Uncle Sammy—” the guard protested.

“Don’t worry, Joey, you’re the only thing keeping this asshole alive. If he shoots you, then I shoot him. Why the hell would he do that? It’s illogical. Wouldn’t make any sense.”

“I’m warning you—” Mack sputtered with exponentially growing diffidence. “I’m irrational, man . . . you gotta . . . factor that shit in!”

“Drop your gun and run, you bastard, while you still have a chance.”

Remy charged in, disappointed but not entirely surprised to see that the plan had already gone horribly awry, as the best laid plans are wont to do, in accordance with chaos theory. He dove as the nearsighted proprietor turned and fired, filling the air above him with a deadly cloud of lead. As he completed the diving roll, and sprang up, Remy swiveled the unloaded gun gripped tightly in both his hands and shoved it in the face of the rotund jeweler.

“I’ve got another shell, asshole,” Sammy noted, the shotgun leveled right at Remy’s gut.

“I think you’re going to want to keep it that way; I really do.” Remy spoke calmly, his voice only a little strained from the impromptu calisthenics. “And while that opinion is admittedly somewhat biased, consider that if you shoot me, my partner will immediately shoot your nephew, and, only slightly less immediately, shoot you. Consider also that the implied threat you are making with that gun at my belly is a threat to double his share of the loot. I doubt he finds it very threatening.”

Sammy hesitated, calculating, considering.
“We’re really on a tight schedule here, so just to move things along, I’m going to shoot you in 3, 2, . . .”

Sammy tossed the shotgun to the side and put his hands in the air with a reluctant scowl. Remy stepped forward and grabbed the weapon, tossing the loot bag to him. “Get the safe open and fill this up.”

Mack disarmed the guard as Remy explained to the floundering Mr. Green the consequences of failing to expeditiously open the safe.

“It’s not that I want to shoot you, but I will. My ethics and sense of duty compels me. I’d be morally obligated.”

Mr. Green was convinced that Remy was a nut, making the threat to shoot him quite credible. He started to panic and his hands trembled as he tried to spin the dial.

“There’s no need to be nervous,” Remy said calmly, soothingly, “because I’m not going to shoot you. The reason I’m not going to shoot you is that you’re going to open the safe. Now if you don’t, then of course I will shoot you, but don’t focus on that.”

Sammy finally got the lockbox open and Remy dumped the contents into his sack. The terrified couple got up off the floor and charged out the door, without wedding bands but with one hell of a story to tell their anticipated children and grandchildren. Five seconds later the robbers followed suit, diving into the Pontiac, motor running, and floored it. Police sirens were wailing in the rapidly diminishing distance.
“Lucien,” Remy called out to his adversary from ten feet behind. The strutting mountain of muscle stopped dead in his tracks as he was making a counterclockwise circuit of Longacre’s A yard. He spun on a dime, ready to kill. Some of his boys stood back just behind him, arms folded, ready to provide very violent assistance if called upon.

“You win, Lucien,” Remy said, his hands held out at his sides to show that he was unarmed. “You win. I can’t fight you.”

“No shit, you can’t fight me. You think that little fucking scratch you gave me is gonna keep me down? I should kill you right here.”

“You’re too smart for that, Lucien. You’re smarter than you let on.”

“You think you gonna flatter your way into saving your little white ass? I’m too smart for that shit, too. You a dead man.”

“It’s not flattery. Just a fact. I’m also smart. Smart enough to notice that you don’t use your violence haphazardly. You’d never have survived in here as long as you have if you didn’t have control over that temper. You didn’t just slug or shank me right there at the card table, in the heat of rage, when all this started, because what you were really interested in was extortion. And because there were guards around, as there are now. Right up there in those towers. Rifles probably trained on you.”

“Them guards ain’t everywhere. Sooner or later, it’s just gonna be you and me. And then it’s just gonna be me.”

“I know I can’t hide from you. That’s why I’m surrendering. Look, money, cigarettes, whatever you want. Just don’t kill me.”
“I’ll think about it, bitch. It’s gonna take a lot. We ain’t just talking some fucking squares. You got someone on the outside? ‘Cuz I want $5,000 not to air you out all crazy an’ shit. They pay five g’s to my boys on the street, or you going in the ground. Sooner or later, they gonna find yo pasty ass in the shower wit a shiv through yo’ neck.”

“You got it. Whatever you want,” Remy assured him, trembling in meticulously perfected deferential sycophancy. He took a quick drag on his cigarette. “I know some people who will get that money to anyone you tell them to. Just don’t kill me. I’m paying up. You win.” He took another drag.

“Well I’ll think about it, egghead. Now while I’m thinking, I want what you got on you right now. Whatchoo got? I see you got some germs,” he observed, pointing at the cigarette, failing to note that he’d never seen Remy smoke one before. “That one on yo skinny lips is your last one. Give the rest of ‘em up, right now, beyatch.”

“Sure thing,” Remy said. He reached underneath his shirt, pulled out his soap gun, positioned there carefully inside two empty Camel packs, the flooring adhesive spread thick on the handle, one of the packs cut away on that side. He grabbed it by the other side, holding it backwards, ends of his fingers cupping the dry side of the handle, the barrel mostly hidden inside the other pack along his palm and wrist.

As his right hand was doing this, his left shook the cherry bomb from his sleeve into his palm. He’d practiced this ambidextrous feat a hundred times, and now rehearsals were over.

“I’ve only got a couple of decks on me,” Remy said, bringing up the soap gun, inside the cigarette packs, and slapping the sticky side into Lucien’s right hand, pulling the empty packs off and away in a smooth motion. At the same time, his left brought the
firecracker to the cigarette in his mouth. He dragged to get the burning cherry good and hot as it touched the fuse. The instant it started sparking, he flipped the sputtering little pyrotechnic into the air. The short fuse disappeared in a few seconds and a loud explosion reverberated through the yard.

Remy was already diving and rolling. Lucien was stunned into inaction for a second, his brain suddenly taxed with too much information and precious little time to analyze it. Everyone around him was hitting the dirt. Smoke hung in the air. His ears were ringing from a loud noise. There was something sticky on his hands. This last thought prompted an immediate glance down for reconnaissance purposes. He was holding a gun. He wasn’t expecting that.

He was almost certain he had a couple of packs of cigarettes just a few seconds ago, but now, no: there could be no doubt. Not cigarettes. A gun.

Lucien liked guns. He liked holding them, shooting them, aiming them at people, watching them tremble. It had been a long time since he’d felt the testosterone and adrenaline surge that accompanies the power to deal out death from a distance. For the tiniest instant, he felt that rush, but then a half second later, reality crashed in and he realized just how bad it was to have a gun, right then and there.

He tried to throw it away, but the phony firearm clung with adhesive tenacity. He screamed curses and shook his hand more furiously, but that only made matters much worse, panic clouding his otherwise diabolically keen judgment. Guards in two of the towers had trained their rifles on the psycho waving the pistol around down there in the yard. He was about to grab the barrel with his left, pull it loose and get rid of it, but he never got a chance. A bullet caught him in the back of the neck, went straight down at a
steep angle, through his chest, where it knocked off a rib and exited through the front. He fell to his knees, but didn’t drop the tightly adhering gun. Another bullet hit him in the right side of his head and took most of it off.

Remy scrambled along the ground, hopped up and dove in with another group, lying prostrate, hands on the backs of their heads, hoping not to get shot.

“On the ground! Everyone on the ground! On the fucking ground!!!” a CO was shrieking through the yard PA system. An alarm began blaring.

“Any inmate not on the ground in the next five seconds will be shot,” the PA system promised. It was, game theorists would agree, an extremely credible threat.

“Lockdown! Lockdown!” the PA continued. “You will remain on the ground until a correction officer tells you to get up, and then and only then will you proceed immediately to your cells. Anyone getting up before a CO tells him to, will be shot.

Repeat: stay on the ground until a CO tells you to get up, or you will be shot.”

Remy lay obediently still, as did all the other cons around him. Darnel was lying just a few feet away.

“Man, what in the fuck is going on? I’m out wit’ my homies havin’ fun, and someone pulled a motherfucking gun,” he rapped. “Then I turns to run, and all our yard time is done.”

“Man, shut the fuck up, Darnel,” a nearby inmate requested.

“Don’t be asking for respect, ‘cuz you got none, just oppression and repression by the
ton,” Darnel continued his rap already in progress as he returned to the cell bock, under
the now very watchful eyes of attentive COs. He pivoted his head around to see his
cellmate right behind him.

“Yo, Ace,” he said, smiling knowingly. “What you up to, brother wood?”

“The usual,” Remy said casually as he loped along. “Playing games.”

“Dat right? How you doing?”

“Oh, I won,” Remy said as they were approaching their cell. “I won, son.”

Chapter 50 Math Problems

Mack floored it and they raced down the road toward the railroad crossing, at least
thirty seconds behind schedule, cops behind them, getting closer.

Remy shook his head, frowning and grumbling. “I made serious miscalculations.”

“No shit,” Mack observed, glancing back at the police cars, a mere 50 yards behind
them, the gap diminishing rapidly. “High probability of success, my ass.”

“My analysis assumed rational behavior on the behalf of others. This was a rash
assumption and I should have known better.”

Mack was too preoccupied to argue or even say “duh.” Remy’s vexation regarding his
flawed analysis seemed to concern him more than the cops behind them or the train in
front, moving in from the west to cross their current trajectory at 110 MPH.

They both looked at the speedometer, which rattled back and forth around 80 or so.
“Okay,” Mack said, the fear in his voice shining through his attempt to appear calm and witty in the face of mortal danger, “remember those math problems from grade school, where there’s an eastbound train moving at 110 miles per hour—”

“And a northbound car moving at 80 . . .”

“Not to worry you or anything, but just so you know: I never got those right.”

The cops were only about five or six car lengths behind them. The train was approaching the crossing, the barrier lowered to dissuade the sane and non-desperate, were there any of them around. They closed their eyes and held their breath as they barreled through the wooden plank, shattering it into a million pieces as they sailed across the tracks, missing the train by inches.

The cops slammed on their brakes and cursed copiously. Mack let out a crazed, elated shriek of triumph. Remy exhaled and smiled.

“According to our information, there’s a little off-road right up here, not much more than a trail, almost invisible from the main road, where we can ditch the car, then make it on foot through thick woods right down into a tourist town called Treanor Lake. We change our clothes, bury the jewels, and give some business to the first bar we can find.”

“Lots of business.”

They turned onto the barely visible dirt road, which immediately descended into a valley, a hill hiding it from observers on the main thoroughfare. The small road zigged, then zagged, then zigged just a little more to compensate for overzealous zagging. The foliage grew thicker as they plunged forward into the verdant hideaway. They could hear the sirens of the police cars, first getting louder, and then quieter as the cops passed the
little dirt road and continued down the main one at breakneck speed. Their trail made a
sharp left, and Mack slammed on the brakes.

Blocking the road was the ’83 Mustang they never thought they’d see again.

Chapter 51

The lockdown lasted only a couple of days, time enough for investigators to conclude
that Lucien had just bugged, opting for the “10-10 furlough,” escaping from prison in a
pine box, making a kamikaze breakout attempt in broad daylight, knowing with complete
certainty that it was going to end in a cloud of blood, brains, and bullets.

This exit route had seen increasing popularity ever since they installed fencing above
the railing on the upper cell tiers, from which prisoners would leap or hang themselves in
the more carefree days of yesteryear. The new safety measures frustrated numerous
potential suicides, who had to devise alternate final exits. As easy as it was to get killed
at Longacre, it was surprisingly difficult to kill oneself, requiring ingenuity and
perseverance, so many enlisted a helping hand from courteous sharpshooters.

While it was within the view of three guard towers, Lucien had been standing in a
narrow blind spot to the numerous security cameras. Their fields of view were supposed
to overlap, but one of them had been shifted just a few degrees, leaving a tiny sliver of
phantom yard. In that little slice—the angle traditionally represented quantitatively by
the Greek letter theta (θ)—nothing was permanent, and secrets were shielded from
electronic resurrection. Either some conscious entity or blind chance had ensured that
theta afforded just enough of a surveillance shadow for significant events to occur therein, but not quite enough to draw attention to that shadow’s existence, until those events had messily transpired.

The smart money is on the conscious entity, one with an intuitive sense of geometry who discreetly threw a single well placed stone at one of the cameras a few days earlier, knocking it ever so slightly askew.

Riems had removed guards from their rounds down on the yard, around the tiers, and in the other areas of the prison where violence tended to break out, replacing them with cameras. So when fights, stabbings, murders, and rapes occurred, there was seldom a guard around to stop it, but, if technology didn’t fail them, they knew exactly who to throw in the hole. Progress.

There was nobody to toss in the hole this time. Not the ad-seg hole anyway, just one more for the hole in the ground in the potters field behind the prison. The tapes showed Lucien emerge from the blind spot, waving the gun that turned out to be soap. Just another suicide. Nobody ever could figure out exactly what he needed with the adhesive on the soap gun. Maybe he was afraid he’d lose his nerve and surrender. The guards couldn’t help but admire his resourcefulness and resolve.

Remy reported to his boss to discuss business. Toes, fresh from meeting with his lawyer, was seething with a not-so-quiet rage.

“Son of a bitch!” He yelled from his bed as Remy entered.

“What—” Remy began.

“That no good bastard Riems says that when some transformer or something blew, the same one that fucked up the freezer, it also temporarily knocked the cameras in the chow
hall offline or some shit like that. Says the tapes weren’t running when the goon squad came in. My attorney’s pissed, but he says it don’t look good.”

“Ah.”

“That’s all you got to say, Ace? You’re supposed to be my consigliere now.”

“Well, their explanation seems of dubious veracity,” Remy elaborated.

“Yeah. Dubious is fucking right. Real fucking dubious.”

Remy briefly pondered the available data. “It would stand to reason that there are tapes of the entire incident, and that rather than destroy them completely, they will attempt to copy selected portions of them to create a new tape. There are incidences for which the warden wants hard evidence to pursue charges against some of the inmates for assaults on the guards. The electrical problems give them an excuse to edit the tapes to their advantage, so that’s obviously their best move.”

Toes thought about this. “They keep the tapes in the front gatehouse building, next to the armory. There’s no fucking way to get to them.”

“You’ve established business relationships with some of the guards, sir. Do you think you could persuade one of them to discreetly remove the tapes you need?”

Toes shook his head. “Father Time is one step ahead of us. He’s been changing guard detail all around. None of the hacks in my pocket got access to those tapes. The only one’s that do are Bigger and a couple of his fucking boy scouts. We gotta find a way to get to them.”

“I’ll keep my eyes open, boss.”
He passed a metal detector on the way to the yard to unwind with some cards. The newjack manning the station was at the height of attention, because Captain Bigger was five feet away, harassing inmates and guards alike.

“Tuck in that shirt.”

“Slow down. This isn’t the fifty yard dash.”

“You know how to work that thing, Smits? Make that one step through again. He’s a sneaky son of a bitch. And check your calibration. Do I have to tell you everything?”

The guard captain found some fault in just about every con or underling who passed by. Remy was amused that the man so obviously had gargantuan self-esteem issues and only drew attention to them by criticizing everyone around him. He was even more amused by the fact that while Bigger was barking out orders and derision, he tried (and failed) to be discreet as he repeatedly scratched his itchy ass.

Chapter 52  Coincidence and Probability

They crouched down low as hot lead rained all around them. The windshield, always a stalwart defense against wind, fared considerably less well against bullets and promptly disintegrated. The engine block suffered a mortal wound. Ricochets pinged and zipped around haphazardly. After about thirty seconds, the fusillade subsided, and all was suddenly silent but for a hiss of steam from beneath the perforated hood. Remy cautiously poked his head up to catch a glimpse of his old nemesis.
“Round one: Remy. Round two: Carlos. Stay tuned for the exciting tie-breaking round, after these messages.” He fired again, Remy ducking just in time to keep the top portion of his head attached to the bottom of it.

“Carlos?” Mack asked Remy from his position beneath the steering wheel. “How the fuck—”

“My guess is that we stole his car,” Remy posited.

“Jeez, what are the odds on that?”

“That’s a surprisingly complex question. We could take a classical, frequentist or Bayeseian approach. When retroactively discussing probabil—”

Another bullet ripped through the air above their heads.

“I must thank you for doing the dirty work for me,” Carlos yelled to them from the back seat of the Mustang, guns in both hands out the window. “And yes, on the one hand it was a remarkable coincidence that you happened to pick my car, but on the other hand the odds would have been equally steep for any of the other cars in the area, but the other possibilities, all equally unlikely, would have occasioned no particular note or commentary. Rather like retroactively examining the results of iterated coin flipping and assigning probabilistic interpretations, wouldn’t you say, Remy?” He fired another bullet as a form of punctuation.

“What’s that whack-job talking about now?” Mack asked.

“If you were to flip a coin ten times,” Remy explained, “you’d be moderately amazed to get ten heads in a row. You would not be amazed if you got heads, tails, tails, heads, tails, heads, heads, tails, heads, but that outcome is every bit as unlikely.”

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“The point . . .” Carlos seized control of the conversation again, firing another shot as he did so, “is that extremely unlikely things happen all the time, but most of the time they go unnoticed. But every now and then, something happens that is no more unlikely than any of countless other possibilities, but simply, by chance, has some apparent order to it, and unscientific louts will spout mumbo-jumbo about fate and all that rot.” He sent another bullet a few inches above Mack’s head.

“Hey,” Mack said, offended more by the remark and its obvious implication than by the projectile.

“But one could also posit an alternate explanation, which is that you two fell into a brilliant trap laid by an even more brilliant criminal mathematician. Although it would make sense that his original plan allowed you to escape without giving said criminal genius a concussion and his accomplice a skewered trachea. And when computing your probabilistic analysis of how likely it would be for you to steal my car, bear in mind that I’ve nicked enough of them to know which ones are the easiest to steal. Those old Pontiacs are hard to resist, aren’t they? May as well leave the keys in the ignition.”

“Touché, you dick,” Mack said.

“So if that were my plan—and I’m confirming nothing—it couldn’t have gone too much better. You’ve taken the big risks; now I collect.”

“You haven’t collected yet,” Remy noted.

“True. But time is on my side, and let me tell you: there is no more reliable ally. Much better than ‘God.’ Interesting statistic: approximately 50% of people with God on their side, lose.”
Mack, crouched low in the driver’s seat, just barely out of the line of fire, had retrieved and readied the gun he had taken off the guard and was eager to put a few bullets that had carelessly been misplaced where they belonged: inside this asshole. Carlos fired another shot to make sure everyone was still paying attention to him.

“You see,” he said, “sooner or later, the cops will realize you turned off the main road, and they will backtrack and find us here in our little standoff, you two in the car they saw speeding away from the robbery, with a sack full of jewels. Me, I’m just a law-abiding citizen exercising his right to bear arms in resisting a couple of . . .” he snickered with calculated derision, “‘dangerous’ felons.”

“I think the detectives may be a little suspicious that we’re in your car.”

“Don’t be ridiculous. There’s nothing connecting that heap with me. That’s a stolen car.”

“So’s the one you’re in.”

“I don’t particularly want to get charged with car theft, but I’d certainly prefer it over what you’ll get. Armed robbery, conspiracy, reckless endangerment . . . who knows what else a clever DA could find? I’m willing to lose a few points in order to cost you more. This is an iterated non-zero-sum game after all. My play is strategically sound.”

“True.”

“So we could all just wait here, but then neither of us gets to keep those pretty stones. I’ll lose, and you’ll lose bigger. Would that not be tragic?”

“A deplorable waste,” Remy agreed.
“On the other hand, if you give up the booty, and I let you go, I’ll be richer, and you’ll at least be free men. Even a rudimentary knowledge of game theory should be enough to see that this represents optimal play for all parties concerned. What do you say?”

“Tragedy of the commons, once again, Carlos,” Remy observed. “Fear of betrayal prevents realization of the optimal outcome. If we could be assured that you’d let us go if we came out with our hands up, it would be rational for us to do so. But there is no enforceable contract, and we haven’t established a mutually beneficial equilibrium in our history of interaction.”

“Remy, Remy, Remy,” he said, endearingly, almost as if he were not shooting at him seconds earlier and would not commence doing so again at his earliest opportunity, such as upon reaching a conjunction. “Are you still sore about my threat to torture you to death if you didn’t give me what I wanted? Perhaps understandable, but . . .” he fired a shot. “Please recall: I spoke with all sincerity. I said I’d flay you if you didn’t sing, and I had every intention of fulfilling my promise. I may be an evil genius, but I’m an honest one. Brutally honest.” He smiled, evilly. Honestly.

Remy pondered this, forced to admit that it made some sort of sick, sick sense. Mack had completed a less formal analysis of the situation, and dove out of the car into the tall weeds. Carlos fired, grazing him in the leg. Mack fired back, sending Carlos down behind the relative shelter of the car door. Remy grabbed the bag of jewels and leapt out of the passenger side. Mack fired again, buying Remy time to make it to a clump of trees off to the side. When Carlos again ventured to peer out, neither of his adversaries was visible.
The game had shifted dramatically. His opponents, who he’d suspected might be armed, had confirmed this suspicion. Where before he had the drop on them, now he was a sitting duck. In the back of a stolen Mustang, surrounded by thick foliage, ideally suited for camouflage and concealment, an untenable position in which no sensible duck would sit for long. In an effort to avoid the natural progression to “dead duck,” he scrambled into the front seat and started the engine, conceding this round with immense reluctance.

He spun the car around, trying to squeeze by the other one, reminded by the resulting horrible noise that cars can’t really “squeeze” by anything, and what they do is mostly scrape and crunch. Both vehicles were even further damaged, though the GM had already been reduced to immobile scrap and the resale value of the Ford had declined with every bullet hole and was unlikely to ever pass inspection again. He floored it up the road just as the police sirens became audible again, the volume slowly growing.

Mack stood up from his position in the weeds. Standing a safe distance from the Pontiac’s corpse, he carefully put a bullet into the gas tank, sending the remains up in flames, conveniently destroying any fingerprints, skin cells, and hair follicles that might have carelessly been left in their escape vehicle. Then he tore off into the woods.
Game theory gives extensive attention to information available to players. A gross oversimplification: the more you have, the more likely you are to win. Sometimes math is just common sense buried under a lot of funny-looking symbols.

A single crumpled piece of paper had revealed to Remy where someone got a cup of coffee, a pinch of detergent told him who. Armed with these two tiny bits of information, Remy, Toes, and his extended criminal family were able to use it to procure a lot more, as a fisherman might use a guppy to catch a salmon, and a salmon to catch a shark. The analogy breaks down when one asks what you need a shark for, and note that it’ll never fit in the boat, but expecting analogies to hold up under extensive analysis is like expecting a purple umbrella to protect your aardvark from a rain of meatballs.²

Discreet surveillance at Anderson’s One Stop confirmed that Captain Bigger regularly stopped there, allowing Toes’ spies to learn his license plate number and home address. They then began discreet surveillance of the Captain himself who, to his eventual deep regret, did not exercise an appropriate level of discretion.

Within a few days, the snoops had captured the captain, a happily married man, with no interest in becoming an unhappily divorced one, on tape entering a motel room with an attractive woman, who was not his wife. A carefully crafted hybrid between a bribe and a death threat persuaded the motel management to let them set up a hidden camera on the inside, and the sequel a week later was an even more shocking piece of photojournalism. The Captain, it turned out, had more than a professional interest in

² Some hold up better than others.
shackles, handcuffs and other devices meant for restraining people, and some other
devices for smacking them around, as well as a few designed for shoving into their now
vulnerable orifices. At work, they’d always have to improvise with broom handles, but
these were made for the job.

Bigger soon received a copy of his starring role in an insightful documentary. Shortly
after that, the unedited footage from the prison riot arrived at the boy named Sue’s office.
In return for what was, all things considered, a simply brilliant piece of modern
pornography, Toes’ attorney got riot footage, though this was, for him, far more arousing.
He watched it, breathless, like a teenage boy with a copy of Hustler. It was only with
effort that he kept his hands off himself as he watched, drooling, purring, wondering how
many people and institutions he could sue into writhing, guilty little bits with this
litigious gold mine in his hands.

Riems went ballistic and Bigger sacrificed an unsuspecting lamb. One of his own
underlings—a guard with nine years of distinguished service at the prison—took the fall
and lost his job for the misappropriation of video evidence, vainly protesting his
innocence to the end. Prisoners traditionally went for the neck, but the guards tended to
stab one another in the back.

* * *

Remy stopped by Toes’ cell to bid the boss farewell.

“Can you believe it, kid? I’m out of here. I’m going home.” He popped open a bottle
of Louis Roederer Cristal and poured out a glass for Remy, who accepted it graciously.
“That’s fantastic news, Mr. Barelli.”

“My parole hearing, well it went real good, knowwhatahmsayin? A lot better than I expected it would a few weeks ago.”

“You cut a deal with Father Time.”

“Yeah. Heh heh. My shyster showed him that tape and he tells Riems he’s pretty much going to sue the prison, the state, and him personally like they’ve never been sued before. But Father Time’s got some favors he can call in, you know? He doesn’t want some messy lawsuit against his precious prison. He don’t need the governor on his ass. So the parole board suddenly gets all sympathetic to the plight of a harmless old man like me, and hell, I’m so happy to be out of this crummy shithole, I’m not even going to bother suing it.”

“Of course officially, your threatened lawsuit and the results of your parole board hearing have nothing to do with one another.”

Toes grinned widely. “Entirely unrelated.”

“Congratulations, boss.”

“And hey, Ace, I gotta thank you for that information about Bigger. That was key to the whole thing. And I don’t forget a favor. One hand washes the other, you know?”

“I’ve always been a firm believer in hygiene.”

Toes finished his glass and poured himself another, holding the bottle in the air for a moment until Remy took the hint and drained his own glass, holding it out for a refill.

“Five years in this joint,” Toes said as he sipped his champagne, savoring this glass longer than he did the first. He shook his head, then his brow wrinkled in anger. “All thanks to a goddamn snitch.”
“Lowest form of life, boss.”

“We once had a thing called omerta. But nowadays. Fahgetaboutit. Back in the old days, we had a good thing, ya know? We was all making money hand over fist, and the feds couldn’t touch us. Because we were smart,” he tapped a toe to his forehead. Remy still found this a little unsettling but wisely repressed the urge to wince. “And because we had honor. We had omerta. Back then, you got pinched, you didn’t say nothing. You just kept your mouth shut. You did your time like a man. Knowhatahmsayin?”

“All too well.”

“You did your time and when you got out, you got a hero’s welcome. And your don, he recognizes that you acted like a stand-up guy, a man of honor. Maybe you get a promotion, because you’ve demonstrated your loyalty. More responsibilities, more territory, more rewards. Maybe you get a couple guys you can boss around now. And you know that they ain’t gonna turn stoolie on you, because you got omerta.”

“Everyone’s a winner.”

“Yeah, but it’s all shot to hell now. Started with Valacci. Gave up all those guys to save his own worthless ass. And don’t get me started on Sammy the bull, that no good son of a bitch rotten snitch bastard. Don’t even get me started.” He gulped down his bubbly.

“So these guys broke omerta, and the amazing thing is how fast the whole goddamn thing all went to shit. Overnight, our sacred code of honor just disappeared. Now, as soon as any two-bit soldier gets leaned on a little, he squeals. Goes into the Federal Witness Stoolie Rat Protection Fucking Program. See, omerta just ain’t no sacred thing
anymore. These guys today, they know it ain’t gonna be protecting them, so they don’t see no need to honor it.”

“Catastrophic,” Remy said.

“Damn right.”

Remy didn’t explain his usage of ‘catastrophic.’ As always, his words had precise mathematical denotations. The collapse of *omerta* was an example of catastrophe theory applied, albeit only intuitively, without rigorous formalism, to game theory. The complex multiplayer non-zero sum games mobsters played with one another, whether they knew it or not, had stable strategy combinations that persisted by rewarding cooperation and punishing defectors, in the long run. But if enough of the players bucked that system, the stable cooperative equilibrium suddenly shifted to the more stable and far-less desirable strategic milieu where defection and betrayal dominate. A sudden discontinuous shift, just like a buckling bridge, or the riot they’d recently endured. Catastrophic in every sense of the word.

Remy persuaded the mob boss to refrain from finishing off the champagne, in deference to his still recovering ticker. Toes gave him a manly prison hug, reserved for such significant occasions. He’d meet with a few more loyal members of his crew, and then be accompanied by a guard down to R&D, where he’d fill out a few forms and then walk out the front gate to a waiting limousine.

Remy returned to his cell to relax by making up some partial differential equations and then attempting to solve them. As he was scratching down some figures, a visitor appeared at his cell door, approaching slowly, Remy caught the skulking shape in the corner of his eye and spun around.
“Torres,” Remy said, a little surprised. “Um, hola, amigo. What can I do for you?”

Torres’s jury-rigged shank was constructed from the lid of a can of soup, cut into a vaguely crescent shape, secured to the back of his hand with leather straps and duct tape, the keen, round, edge was thrust forward, a razor sharp semicircle extending from his fist. Remy hadn’t seen this innovative shank design before, and guessed it had probably been hastily thrown together from whatever materials were available. He never in a million years would have expected to see Torres come into his cell swinging wildly at his throat with something like that.

Chapter 54 Hexagons, Heptagons, and Parabolas

Remy feverishly dug a hole in the soft dirt beneath a rotting log and shoved the jewels in, taking quick mental snapshots of the arrangement of trees in the immediate vicinity, identifying a recognizable pattern, then took off again. He used his pocketknife to transform his jeans into cut-offs, and ripped off his shirt as he ran, shoving the tattered fabric into another rotting log far from the first, then resumed his mad dash through the woods.

He emerged at the pristine pond for which the community of Treanor Lake was named and on which its economy largely depended. Now dressed for it, he dove right in, swimming around with the other tourists. He floated placidly on his back, seemingly as relaxed as one could possibly be without a marginally sub-lethal dose of heroin. Just a regular Joe enjoying his vacation. His innocence matched only by his buoyancy. Definitely not worth dragging, dripping wet, down to the station for questioning.
He bobbed up and down, keeping his eyes on the woods, alert for the appearance of police, his nemesis, or his partner in crime, unable to resist making little bets with himself about which of the three would show up first. He’d correctly wagered on the cops, and when they showed up a few minutes later and began questioning vacationers, he made a note that he owed himself a glass of wine.

He continued to float until the cops summoned all the swimmers to shore. The police questioned him, along with everyone else, but nobody had seen the pair of dangerous characters they described. After his brief interrogation, Remy vacated the lake area and headed toward the town. On the way there, he exchanged a few soggy bills for an overpriced Treanor Lake T-shirt and put it on. He turned to glance behind him as he made his way toward the bar and restaurant area, teams of police heading into the woods with highly motivated and talented German shepherds.

He found a pub with an outdoor veranda, and ordered a glass of Merlot, sipping it with a slow indulgent relish. The sun had just dipped below the tall hills surrounding them, and twilight was a brief, ephemeral phenomenon here in the valley. The street lights came on about fifteen minutes later, but these were dim, low-wattage bulbs, delicately illuminating the town like candles, supplying the pleasant, relaxing, crepuscular mood for which the tourists paid good money. Remy had just gotten a second glass of wine when he saw a vague form limping in the shadows just across the street. He started whistling “Mack the knife.”

The shadow stopped, then started to approach the veranda, but Remy shook his head from side to side. He apologized to his wine before downing it with a quick gulp, appalled that circumstances would force him to swill that which should be savored. He
snapped the empty glass down and strolled nonchalantly out to follow the shadow into an alley.

“What the fuck, man?” Mack asked in a loud species of whisper.

“The jewels are safe,” Remy answered, his voice quieter. “You aren’t. This entire area is crawling with police. I note that you are still wearing the clothes we robbed the store in.”

“I didn’t have time to hit the Gap,” Mack explained. “Carlos winged me, but it’s not too bad.” He removed his hand from his leg where the bullet had grazed him. Remy looked at it.

“No, it’s not bad, medically speaking, but it’s still very bad for us. Not quite as bad as a signed confession, but certainly not orders of magnitude better. It’s almost certain to draw attention, which we should assiduously avoid. We’ve got to get out of here.”

“Where are the rocks?”

“Safe.”

“Safe where?”

“In the woods.

“Where in the woods?”

“Near some trees.”

“Which trees?”

Remy let out an exasperated sigh. “The jewels are buried at the approximate center of an irregular hexagon formed by lines between the vertices of an irregular convex heptagon defined by seven trees, all of which fall inside a circle with radius 25 feet.”

“Well okay then. That’s all I wanted to know.”
“I could describe the geometry of the landmarks in more detail if you’d like. We have all the time in the world. It’s not like we’re actively fleeing from the scene of a crime or anything.”

“No, that’s okay, man.”

“Look, I made careful observations and I will be able to find it. You’ll get yours. Don’t worry about that. Right now, we have to get out of here until the heat is off.”

“We could steal a car,” Mack suggested.

“True. But in rather dramatic contrast to you, Mack, I make a distinction between ‘could’ and ‘should.’ We’re not stealing a car. You need some new clothes, ideally including pants without the characteristic hole created by a close call with a bullet. I’m sure the police have already informed bartenders and innkeepers to report any suspicious characters. You’d probably qualify even without a fresh bullet wound. Slightly more so with one.”

“What should we do?”

They heard a voice, just around the corner.

*Yeah, I think I saw him go over there.*

*Get inside,* another voice answered, *There may be trouble.*

Mack and Remy ran down the alley, away from the voices. Mack spotted a basement window, open to make room for the fan that was ventilating the place. They quickly pulled it aside and lowered themselves down, replacing it just a few seconds before they heard footsteps racing by outside. They scampered to the shadows of the basement as flashlight beams flickered into their hideout, but these soon disappeared.
“Check down that way!” a voice outside commanded. The clomping of feet slowly diminished into inaudibility.

“That was close,” Mack whispered in the darkness.

“We’re by no means out of the woods. Did you lose the gun?”

“Yeah. It’s back in those woods we aren’t out of.”

“Good. Find some clothing.”

They blindly felt their way around the pitch-black basement, Remy at last putting his hand on cold metal, further exploration confirming that it was a dryer. Mack changed quickly, deducing from the pants he appropriated that at least one of the residents was a man of his approximate size, but with just a bit more padding around the middle. He found a T-shirt and put that on, idly wondering what color it was, if it bore a message, and whether or not he looked like a dork.

Remy carefully prodded the darkness, stumbling at last upon a chain that turned on a single bulb above a small alcove containing a cabinet of tools and a work table. Rummaging through the cabinet, he found some sturdy bungee cords and a hammer. He carefully wrapped Mack’s old clothes around the hammer, then removed the fan from the window again, using the strong elastic cords to create a powerful makeshift slingshot. He loaded this with the clothing-wrapped weight, enlisting Mack’s assistance in stretching it back, aiming it at as steep an angle out the window as possible, then letting it go.

The projectile’s motion traced a portion of a parabolic curve, landing on the roof of the building across the alley, almost perfectly at the vertex of its flight when the y-vector’s instantaneous velocity, about which Remy’s hero Gottfried Wilhelm Leibniz was so obsessed, was very close to zero.
They replaced the fan again, then considered their options, deciding to wait in the dark basement until just before the bars closed before they would venture out again. A couple of bedraggled guys stumbling around just after last call, would, they reasoned, blend right in. This seemed like an excellent plan, until someone turned the basement lights on and started down the stairs.

Chapter 55

Baseball

Torres swung his right fist wide, the blade extending a few inches from his knuckles heading right at Remy’s neck, spared only by the selfless actions of his chin, which interposed like a secret service agent leaping in front of a bewildered president. The chin would get a nasty scar to honor its selfless actions.

Blood gushed. Remy raised his hands to his face and fell back as Torres came in again, this time targeting his gut. The shank sliced the air not a half-inch from Remy’s skin, once, twice, nicking his arm on the third pass. He stumbled over scattered books, and fell to the floor. Torres was on top of him in a heartbeat. Remy tried to grab anything that might serve as a weapon, reaching out to a heavy math text (Algebraic Topology: Modern Applications) lying near his head, but Torres slashed at his hand, cutting a sizable gash in his left palm.

Remy looked up at his attacker’s empty brown eyes, desperately seeking mercy, but they were as emotionless as ever. These windows to the soul had been bricked up long ago, and any occupants on the other side were undoubtedly squatters. Torres, even in the
act of murder, was cool and calm. He didn’t grin or frown. He wasn’t enraged or even angry. He was just industrious and determined. Nothing more.

Remy caught the right hand around the wrist, temporarily neutralizing it, forestalling the killing blow. “Torres! What—” he muttered scraps of pointless pleas and inquiries as he struggled. “Please . . . Why?”

The attacker pulled his hand free and was raising his fist again for another shot at Remy’s throat. The shank was two feet away, the elbow bent, ready to extend, bringing the fist and the shank down with deadly cutting force. Remy searched the face of his attacker, but still no trace of emotion could be found in those cold eyes. Then suddenly they blinked strangely, just as Remy heard an odd noise, a sharp thud. The fist with the shank, instead of crashing down, began to fall under the effects of gravity. Remy hooked his right fist around, his knuckles connecting solidly with Torres’s temple. The assailant collapsed as Remy slid out from under him.

The baseball that had slammed into the back of Torres’ head was still in the air, having bounced up on the rebound. It nearly hit Remy in the face as it came down beside him.

“Nice pitch,” Remy said between frenzied pants. He picked the ball up and tossed it back to Darnel, who’d just returned to their house.

“Guy’s gonna take a base now, but it’s worth it,” Darnel said, then blew on his throwing hand like it was a smoking gun. “Sends a message to the other batters who might be crowding the plate an’ shit.”

Remy and Darnel had Torres tied to the bottom bunk with tightly coiled shirts before he came to consciousness a few minutes later, a splitting headache raging in his battered skull.
“What is this about, amigo? Eh?” Remy inquired. He cautiously removed the sock stuffed in his captive’s mouth, but kept the shank against his neck to encourage a civil response.

Torres said nothing, just sank back into his trademarked reticence. He looked up and to the right, avoiding eye contact as he lay quiet and still on Darnel’s bunk.

“You speak English. Yo hablo Anglaise, right, amigo?” Remy said.


“I have a talent for mathematics, not languages. How much can you speak?”

Darnel shrugged. “I didn’t study it school or nuffin. Mostly I know how to ask about drugs and pussy, and to call people nasty names. You want me to do that?”

“Maybe later.”

Torres finally looked at his captor, and in his countenance was reflected the first trace of emotion Remy had ever seen in the taciturn inmate. Disgust, probably more at himself than Remy and Darnel. Disappointment, perhaps.

“6-5, Ace,” Darnel warned from his position near the door. “Hack coming down the tier.” Remy tossed a blanket over the hog-tied con.

“Don’t fidget while this guard goes by, or I’ll cut your throat right here.” Remy warned his prisoner. He sat on the bunk next to Torres, his hand under the blanket with the shank pressed up against his captive’s throat. He was holding a book in his left hand, covering his blood-dripping chin, as he reclined on what looked to be an unmade cot with a blanket strewn on it. Darnel was bouncing the baseball off the back corner of the cell and catching it. The guard sauntered casually, looking in as he did, alert for rules
violations. As an inexperienced young newjack, looking for rules violations was something he took moderately seriously. The more seasoned guards would primarily just scan for corpses.

“So what’s this about, Torres?” Remy asked after the guard passed. “Why did you try to kill me, eh . . .” he faltered and Darnel chimed in.

“Maricon,” Darnel suggested with the tone of a nurturing tutor.

“Right. Good,” Remy said, still panting with adrenaline. “What have I done to offend you now, maricon? This place is a madhouse. Glance at someone the wrong way and you get shanked. So what did I do to you? Why the fuck did you try to kill me, Torres?”

“Better watch out, dawg,” Darnel warned, still bouncing his ball. “Ace just used a naughty word in two different languages. Must mean he’s real mad.”

Torres remained silent, turning to glare up at them with what might have been a hateful scowl, though Remy could swear he saw the expression break for a second into something softer. Humiliation? Or could it be penitence?

“Man it’s obvious what’s going on here,” Darnel interjected as he caught the ball on a rebound. “Speedy Gonzales here, he got nuffin agin you, aight? You just been put in the hat is all, yo?”

“Translate,” Remy demanded.

“In the hat, man. It’s when some gang is gonna hit someone. They put your name in a hat with a bunch of blank pieces of paper. Then everyone pulls a piece of paper out.

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3 It was The Hunchback of Notre Dame, which he had been enjoying immensely. He didn’t only read math books.

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Whoever gets the piece witcho name on it, they gots to kill you. And nobody even knows who got the job. You in the hat.”

“Fascinating.”

“Tha’s just an expression now, though. They don’t do that thing wit’ the hat no more. He probably got ordered to kill you straight up, and the rest of the gang know exactly who got the job. You know, blood in, blood out, man. He got to kill someone to get in the gang.”

“Is that what happened, Torres?” Remy asked. Torres said nothing.

“That would explain why he tried to kill me,” Remy observed after a tense silence. They could see they were going to get nothing more out of their prisoner without a translator. A wrench would also be a useful interrogation tool, but they didn’t have one of those either. “He wanted the protection of gang membership for his own survival. His actions are understandable, if not excusable. But what I would like to know is why he got those orders in the first place.”

“You in with Toes and his boys. I hear they disputin’ turf with the clica.”

“I hardly qualify as a gangster. I’m just a goddamn accountant.”

“Hey, explain that to him. Oh right, you can’t do that. Sorry, Ace. My bad.”

“Listen amigo,” Remy said, the shank pressed against Torres’ neck. “I’m not sure how much English you really comprehend. Probably not much. And I’m willing to wager that you understand even less game theory. But one thing I understand is that reprisals for transgressions are necessary to compel mutual cooperation and the greatest good for the greatest number by providing disincentives for egoist suboptimization. On
the other hand, limited reprisals will prevent conflict escalation and eventual mutual
defection.”

“Man, I speak English perfectly well, and I don’t know what the fuck you saying, Ace,” Darnel interjected. “How the hell you expect Senor Shanky there to understand you?”

“I believe on some level he understands perfectly well,” Remy said, not turning around, still looking at his prisoner, still ready to cut his throat at any instant. “I know you have nothing against me personally, Torres, and that you had no choice. But I can’t just turn the other cheek. This will only encourage exploitation. But neither do I wish to establish endless defection feedback. Therefore limited reprisals . . .”

He took the shank, moved it quickly to cut a long line down the left side of Torres’ face. The captive gritted his teeth but endured it without a sound. Keeping his left hand clamped around Torres’ throat, Remy stretched his right down the length of the cot until he found Torres right foot, and he gritted his own teeth as he dug the shank in, much deeper now, severing the tendon with less than surgical precision.

Remy rolled up and off his prisoner, now curled up tight, silently enduring the pain, which wouldn’t last long. But the scar and the limp would serve as permanent advertisements.

Torres turned with a look full of complete understanding before hobbling off.
Chapter 56  Oaths and Optimization

The little blonde haired girl that came down the stairs was cute enough to embarrass any button that dared compare itself to her. She folded her arms across her chest and glared at the intruders who were unsuccessfully trying to hide behind objects smaller than themselves.

“Hey. Does my daddy know you’re here?” she asked, her manner scolding and not nearly as alarmed as it probably should have been.

“Yes,” Remy said in a low voice as he stepped out from behind a narrow pillar.

“We’re friends of his.”

“I think you’re fibbing. I’m gonna tell.”

“No wait. Don’t do that,” Remy pleaded.

“Why?”

Remy ignored the question, replying instead with one of his own.

“Where is your daddy right now?”

“At the bar.”

“How about your mommy?”

“Don’t have a mommy.”

“Don’t you have a baby sitter?”

“No. I’m big.”

“Well look here, little girl,” Mack broke in. “We’re much bigger, and we can’t let you go telling anyone anything. See?” he said, pointing at himself. “Much bigger.”
Fear overcame the precocious child’s face as she correctly interpreted the implication, and started wailing, tear ducts pushed suddenly to maximum capacity, sobs just gushing out in torrents.

“Hey, don’t cry, little girl,” Remy said, briefly glaring over at his undiplomatic partner in crime who deflected blame with a shrug. “We’re not going to hurt you. But you have to promise not to say anything to anyone about us, okay?”

“I promise!” she blubbered. “I won’t say anything to anybody!”

“Do you swear on your mother’s life?” Remy asked.

“Mommy’s dead. I was just a baby. Daddy told me.”

“Right. Sorry. But that’s even better. Do you swear on your mother’s grave?”

The little girl looked up, a perplexed look on her tear-covered face.

“What?”

“You must swear on your mother’s grave,” Remy explained. “This is a binding contract.”

The little girl was so confused that she forgot to continue crying.

“If you swear an oath on your mother’s grave, you place her immortal soul in jeopardy, and you could send her to hell if you break your promise.” Remy stated, trying to sound sincere, though he deemed it among the most absurd hogwash he’d ever heard.

“That’s silly.”

“Smart girl,” Remy reflected. “Too bad. A little superstition would have gone a long way toward establishing a mutually cooperative strategy.” He scratched his chin pensively.
She trembled and whimpered. Remy gripped her by the shoulders and spoke in a soothing, avuncular tone. “But you can transcend superstition by swearing an oath and not breaking it. You want to reinforce mutually cooperative social strategies, don’t you?”

She boggled for a moment. Mack, standing behind Remy caught her eye and nodded his head in exaggerated up and down motions until she mimicked him.

“Good,” Remy said. “Then it’s settled. We will just be on our way, and you will say nothing.”

“I promise.”

“You must swear an oath.”

“I . . . uh.”

“‘Swear on my mother’s grave’”

“Swear on my mother’s grave.”

“That I won’t say anything to anyone about these two strange men.”

“That . . . that I won’t say anything to anyone, um . . .”

“That’s good enough for me,” Mack interrupted. “Let’s go.”

Mack started up the stairs. Remy and the little girl followed. Mack opened the front door, peering cautiously out. He turned and gave a nod to his partner and then slipped through. Remy followed, turning to the little girl and putting his finger up to his lips, symbolically sealing them. He smiled, then disappeared through the door.

“You wouldn’t really have hurt that little girl, would you?” Mack asked after they’d left, looking carefully around the moodily lit streets.

“Of course not, but our position wouldn’t have been enhanced if she knew that.”
“I don’t see how it affects our position. We have to get the hell out of here. She’s going to talk. I’m not saying we should have killed a little girl to keep her quiet; that’s just cold blooded, but the point is we didn’t. So now she can either snitch or stay quiet, and she doesn’t have anything to lose by snitching.”

“But she has sworn a solemn oath.”

The bars were letting out, and the streets began to fill with tipsy revelers. Mack and Remy blended into the crowd, Mack’s slight limp rendered far less anomalous by the lisping speech he adopted. The criminal pair passed a cop, standing alertly on a corner, and neither of them flinched.

“The individual mechanisms and symbolism of religions differ, but their ultimate macroscopic significance reduces to a simple mathematical reality. They are self-perpetuating instruments of optimization.”

“It should probably go without saying that I’m not following you here.”

“Swearing on your mother’s life or immortal soul or whatever priceless intangible collateral one chooses, this was a socially adaptive superstition, evolutionarily selected, because it tends to produce advantageous mutual cooperation.”

Mack belched loudly to maintain appearances.

“A sworn oath is essentially a means by which a player publicly changes the payoff table to promote mutually cooperative strategies. They publicly invite the wrath of angry spirits should they defect. And these perceived shifts in the payoff table were acknowledged by others, facilitating mutual cooperation, although there is no evidence that any angry spirits have ever set upon an oath-breaker, his family, or their departed souls.”

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“No, I guess not.”

“But these bogeymen played a valuable role in the establishment of reputation as an essential component in deal making, whenever there is any continued interaction expected between the parties, which became the norm once societies settled down into permanent organized communities. Defection becomes an obviously inferior strategy. A ruined reputation would represent more of a loss than whatever ill-gotten gains temporal opportunism would earn. Until the value of reputation was established, primitive people could only convince others of their sincerity by openly risking supernatural misfortune should they break their word.”

“I’ll kill all those verfukkerszh,” Mack muttered convincingly as some more people passed them, then faked a drunken stumble. Remy continued after they were out of earshot.

“But once established, the bogeyman can quickly fade away. Going back on an oath establishes that one cannot be trusted. No one will make an oath with the offending party again. The others will prosper through their mutual cooperation, while the oath breaker struggles alone without cooperative help and will fall behind. Exit bogeymen. Enter game theory.”

“Well, I really doubt that little girl is thinking about it that deeply, so we better get out of here, like, fast.”

As they turned the corner, a stocky drunk staggered out of a bar. He looked at Mack, perplexed for a second, then his face lit up in anger.

“Hey, that’s my shirt!”
Mack and Remy swore, though it was an expletive, not an oath, then dashed off into the night.

Chapter 57  Set Theory, Venn Diagrams, Fuzzy Logic

Torres, righteous con that he was, never betrayed his employers in response to Remy and Darnel’s interrogation and frighteningly convincing promises to remove his testicles in their efforts to loosen his tongue. Nor did he tell the warden who it was who severed his Achilles tendon, taking his punishment without complaint. Though Remy didn’t follow through on the castration threat, crippling him significantly shortened Torres’ life expectancy, and his failure to assassinate Remy might well have been tantamount to a death sentence, given the harsh and unforgiving performance evaluation protocols that dominate prison gang culture, but this wasn’t the mathematician’s problem. He was more concerned with figuring out just who in the fuck gave the order and why.

Remy was playing some sort of N-player game now, and he didn’t even know the value of N. In a two-player non-zero sum game, if your opponent defects, you punish him and try to encourage him to adopt a cooperative strategy, or, if you can, you just kill the bastard. But in games with more than two players and imperfect information, it’s not clear which player made which move. You don’t know who to threaten, who to punish, who to kill. Tenuous cooperative equilibria can easily be destabilized by external agitators. Want to end a fragile truce in a gang war? Just kill someone involved in it and don’t get caught. Then stand back and watch the bloodbath.
Remy imagined little Venn diagrams representing subpopulations within the prison. The set of all the cons who wanted him dead had numerous elements. Then there was the set of all the cons with the resources and proper connections to hire the Mexican mob to hit him. There was the set of all cons willing to suffer the consequences. It was the overlap between these sets, those elements that were members of all sets that interested him. But these were fuzzy sets, though not of the warm and fuzzy sort. Cold-blooded and fuzzy, in fact. Fuzzy logic describes sets defined by quantitative rather than qualitative characteristics. Some of his enemies wanted him dead more earnestly than others did. Some had more resources. Some were more vulnerable to the possible reprisals. Some had more to lose.

Remy went out to the yard, trying to glean information from careless glances and twitches, a bountiful font of data to the trained observer. A pair of big but inexperienced new member’s of Toes’ crew went with him, under instruction to take orders from the wise guy’s accountant. The three of them strolled slowly around the track area as Remy surveyed faces, none of them flinching or blinking. That’s all it would take, but nobody blinked. Nobody ever blinked. Poker faces, all around.

The Mexican mob might have broken the truce on their own initiative. Although his presence was still felt, Toes was gone, and Lefty, who now ran the organization, was not as experienced a leader. Starting a war between the two gangs wasn’t strategically expedient, but Remy had already learned not to count on rational behavior from one’s opponents in complex non-zero-sum games. Their imperfect information and analysis might have led them to conclude that hitting their rivals, starting with the chief strategist,
was a good move. The truce was unstable as it was, subject to destabilization from the smallest of perturbations, but Remy was sure there was someone who had destabilized it.

The Latinos stared back at him, and while at least some of them obviously had more information about the latest series of moves, Remy found them all to be as expert poker players as they ever were, and their countenances betrayed nothing.

Over in one corner, the bikers were standing around, looking mean, which is what they did best, with the possible exception of being even meaner than they looked. They were experts at that, too. Remy’s implied threat of reprisal against Turbo’s family was already less credible with Toes’ departure, and by hiring an independent contractor, the bikers might be able to get away with wasting Remy. He met Turbo’s eyes, and while the big biker stared back hatefully, Remy could glean nothing else there. Not the slightest suggestion of “I almost got you, motherfucker.”

Deakins and his Aryan brothers could conceivably have hired the Latinos to kill Remy. In their own twisted little Venn diagrams, the swastika covered White Power gang had placed all Hispanics in the vast set they had labeled “impure and inferior specimens of humanity.”⁴ So they could not do business with them without a large dose of hypocrisy. Unfortunately for both Remy and his analysis, the Aryans had as much of that as they had time on their hands.

Remy doubted they were behind it though. Deakins wanted him dead, but his humiliating defeat at Remy’s hands had lost him status within his gang, and he’d heard through the prison grapevine that the other Aryans were reluctant to get involved over it. From what he’d gathered, Deakins was lucky they didn’t throw him out. Then again, this

⁴ The label was doubtless rife with misspellings. Stupid Nazis.
might have been disinformation they deliberately distributed to catch him off guard. There’s more disinformation floating around prison than there is information, and it looks exactly the same. But if the Nazis were spearheading a disinformation campaign to remove suspicion from Deakins, they were doing an uncharacteristically thorough and convincing job. Remy had heard them repeatedly mocking their maimed colleague and his permanently lisped speech, and they had renamed him “stub,” to which Deakins inevitably replied “ont call me sssub!” which always got a big laugh.

Remy thought he had a tacit agreement with Lionel, for whom he’d done an enormous favor, killing his boss. The portly bruiser was conveniently sucked right into the power vacuum Remy had engineered. But Lionel might just kill him anyway, just to clear himself of any culpability in his predecessor’s demise and consolidate the power he inherited. Lucien had powerful allies on the outside, and Remy was a loose end.

Remy’s eyes met Lionel’s. His gut told him they were cool with each other, but none of his other organs told him anything, certainly not his eyes. Lionel’s face revealed nothing. Just a barely perceptible nod that said, “you stay out of my way, and I won’t kill you. Aight?”

All the players were holding their cards close. Try as he did, Remy couldn’t catch the briefest peek at their souls. He and his associates were completing their circuit of the yard, when the game suddenly shifted again, one piece of new information changing everything. They passed the chess and card table, where Solomon was playing a new arrival to Longacre. The newcomer was losing, of course. Nobody ever beat Solomon. But the fish didn’t seem to take the loss to heart. In fact he was smiling, the only sort of smile a prisoner could really get away with. The smile of a madman. He directed the
lunatic grin at Remy as he looked up from his chess game and the afternoon sun glistened off his gold tooth.

Chapter 58 Pursuit-Evasion Games

Pursuit-evasion, Remy thought as he and Mack charged into the alley, cops hot on their tails. Another game. Terra firma. I know this game. I’ve played it before. Or something close to it, anyway.

Specifically, this was what the mathematicians would call “discrete pursuit-evasion” as distinguished from “continuous pursuit evasion” which might find an analog in the real world of, say, a homicidal chauffer trying to run you down in a big empty parking lot. If this ever happens, you’ll know the best mathematical model for your current predicament.

Players of various discrete pursuit-evasion games have strategies, payoff matrices, saddle points, and nash equilibria, just like other games studied by game theory, like the prisoner’s dilemma and chicken. But their choice of moves is no longer defect or cooperate, chicken out or keep driving. Here they move between nodes on a graph.

This graph was essentially the first quadrant of the Cartesian plane, with nodes at every X, Y integer pair, which, in the real world, corresponds to the intersections of the squalid back alleys that Remy and Mack were winding through, desperately trying to shake their pursuers and, to a lesser extent, avoid puddles of urine.

The town had one major North/South thoroughfare, Lake Street, and one major East/West one, Front Street. Remy and Mack had been heading east on Front St. when
the conflict erupted and now careered north into the narrow alley, arriving at the first intersection just as the drunk, who’d stumbled in his first awkward attempt to apprehend the thieves, was getting to his feet and bellowing for the cops.

Forest
Remy and Mack instinctively understood the basic premise of the game. Their challenge was to lose their pursuers in the intersecting alleys and then make it to the forest that lay just beyond them. If they reached the forest without any of their pursuers seeing them, i.e., occupying either the same X or Y coordinate, they win. If not, they lose.

The pursuers have a pure winning strategy in this particular game, which is, compared to many pursuit evasion games, laughably simple. They don’t even have to use any mixed strategies and randomly determine moves in order to optimize their play. All they have to do is keep running north.

Fortunately for Mack and Remy, people seldom make consistently optimal plays even under moderate time constraints, let alone during adrenaline charged chases, unless
precise strategic thinking has become as much an instinct as a savage punch. Remy’s own fight or flight response usually involved some sort of matrix and a few lowercase Greek letters.

In a more traditional manner, it also put wings on his feet and he and Mack sprinted North at a breakneck speed, nearly breaking said necks as they wove around or leaped over trashcans, cats, and other obstacles. Remy turned to see the drunk just about a block behind them. The cops, unseen by their quarry, charged north. This, it turned out, was the logically optimal move, easily proven by those who feel compelled to do that sort of thing.

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Mathematicians will laugh at things like integral functions and conic sections if they are funny enough.
When he reached the next intersection (3,3 in Cartesian coordinates), Remy turned back again. The drunk remained in pursuit, as expected, but now he saw Cop A come from around the corner one block behind the drunk. Remy concluded that the other must have continued north, and further concluded that one must be a better player of games, as that was his optimal move. He grabbed Mack’s shoulder and pulled him along as the two of them took the corner and headed west.

Cop A shouldn’t have made that right turn. It was sub-optimal play, worthy of sound chastisement from any game theorists, though right now the only one for miles around was the one he was chasing, and that one wasn’t about to say anything about it. The cop was operating on instincts, not logical analysis, and certainly not anything resembling a
coordinated logical analysis. As a team, the two cops and one drunk should have been able to win this game. But Cop A had grown impatient. He’d been running north through the empty second alley and hadn’t caught sight of his prey, whom he knew were somewhere to the east of him, so he turned instinctively. His instinct stank.

Mack and Remy reached the next corner and made a sharp right just as the drunk got to (3,3). Cop A was one block south of him. Cop B was one block to the East, and now he too gave into irrational instinct, having just sighted his prey rounding the corner at (2,3), and turned left.
At the next corner (2,4), Mack and Remy swung another left and now the drunk and both cops were thoroughly confused. Their targets zig-zagged down a few more alleys and quickly lost themselves in the forest without being seen. The pursuers, now officially declared the losers of this impromptu little game, were unfamiliar with game theory and hadn’t studied Cartesian coordinates since junior high school. None of them had paid much attention, foolishly thinking that a practical application for this knowledge would never present itself in a million years. It had taken about twenty, but it would, at long last, have come in handy. One of the cops had briefly studied calculus in college. As it turned out, he was correct in his prediction that he’d never ever have the slightest use for that.

Chapter 59  Continuous vs. Discrete Time Games

“Well, 547298, I think you know why I’ve summoned you here,” Father Time said as he flipped his hourglass over. He straightened his tie, brought a piece of paper up and squinted at it briefly before looking Remy straight in the eye.

“Yes, sir,” the prisoner said, “I do have a theory in which my level of confidence is high.”

The warden displayed a thin smile. “Go on.”

“I will soon pass the two-year mark here in your fine institution, and you wanted to remind me of the opportunity to cooperate with the state in order to reduce my sentence.”

“Well?” the old man asked. “You’ve had some time to think. So has Mr. Vicker, I feel compelled to add. He has not yet testified against you, but he still has that option.
And now is the most lucrative time for him to do it, as you must be aware. Does that stimulate your memory in any way?”

Remy was silent and pensive as the sand slipped through the glass. Father Time, true to his nickname, was patient but relentless, finally probing further with “Hmmmm?”

Remy raised an index finger and opened his mouth as if about to speak, then furrowed his brow again in renewed introspection. He did this only for dramatic effect. In reality he was computing the natural logarithm of 547298, which was utterly pointless but did produce impressive brow furrowage. The warden removed and examined his stopwatch, as if calibrating the hourglass. Remy drew one final deep and analytical breath before replying.

“The dilemma Mack and I each faced has a temporal dimension. The DA’s deal was applicable at any point in our sentence. Neither of us had much incentive to betray the other when we were first charged and sentenced. We each had to serve a minimum of two years. And we’re savvy enough to know that two years in prison with a reputation as a snitch—well sir, that could make what would otherwise be a delightful, educational experience in your fine institution considerably less pleasant. We might even want to leave. If either of us planned on turning state’s evidence, it would be strategically expedient to wait until just before that betrayal would get us out.”

Riems nodded approvingly as he listened.

“As the two year mark draws closer, of course, then a very interesting game emerges. Knowing that the other player doesn’t want to live in prison as a snitch, but might embrace the opportunity to become one just in time to get out, each must gauge the other and try to beat him to the punch, but not by any more than necessary. Every day earlier
than that is hazardous. We have a surprisingly intricate non-zero-sum game further complicated by the additional dimension of time.”

“Fascinating.”

“There is a temporal analogue to the backwards induction paradox. If we were each fairly certain the other would testify on the last day of the two years, we’d each wait until the day before that. Knowing the other might think the same thing, we’d each be inclined to testify on the second to last day, to get the full benefit of betrayal, with minimal consequences. One additional day of living with a reputation as a stool pigeon is almost inconsequential. And knowing that the other was likely to testify on the second to last day, the day right before that begins to look rather attractive. And so on, all the way back to the beginning when we were first tried.”

“Indeed. But neither of you did.”

“No sir, we did not. Because although it resembles the backwards induction paradox, there are key differences. What we have here is essentially a continuous as opposed to a discrete game. The payoff table on day 99 is almost but not exactly the same as the payoff on day 100, which differs from the payoff on day 101. In fact testifying at noon has a very slightly lower payoff than testifying at 1:00. In the limit the time intervals become infinitesimal and we have a continuous game. Those ‘almost inconsequential’ days and hours and minutes of living in prison with a ‘snitch jacket’ as my ‘dawgs’ would express it, are significant.”

“You know, 547298, even after two years, I’m afraid you still can’t pull off the prison slang without sounding like a ‘fish’ out of water.”

“Sorry, sir.”
“That was a joke, 547298.”

“And a very funny one, sir,” Remy said. “It works on different levels. Or should I say ‘tiers,’ sir.”

“Just continue, 547298.”

“Yes, sir. As I was saying, we are still both motivated to hold off testifying as long as possible, to avoid living inside as snitches, but to do it before the other one does. But now that the two-year mark is rapidly approaching, we have a real moment of crisis and decision. If Mack were going to testify, he wouldn’t have done it much before now anyway. And neither would I.”

Riems glanced down at the hourglass, which actually contained perhaps a quarter of an hour worth of sand, most of which had already made its way to the bottom in a little inverted cone. He looked back up at his prisoner, minor annoyance now sitting awkwardly on his face. “Well, I don’t have all day, 547298. Do you have anything to tell me?”

“Yes, sir. In addition to the above reasons, other recent changes have dramatically affected my strategic play of the game. So I’m giving in, Warden. I’m defecting. I’d like to sign a confession and testify against Mack Vicker.”

Chapter 60 Classic Game Theory

The cops were just far enough behind them that they could stop to catch their breath, both of them now panting furiously, Mack slightly more so thanks to the pack a day of Basics. The woods had thickened, dense foliage all around, virtually inhibiting
movement. They stumbled along a largely overgrown path, blazed long ago and not yet reclaimed by Mother Nature, finally arriving at what amounted to a fork. Neither path was promising, but any other route was impossible. Remy surveyed their surroundings and considered their options.

“Classic,” he announced.

“Classic what?” Mack asked.

“Classic game theory. Two players. Two choices. Zero sum.”

“Pick a path. Let’s go!”

Remy panted. Tried to catch his breath. “We have a few seconds to make this important strategic decision. The left path leads to a more open area. If we pick that one and the cops follow, they’ll have a very promising chance of apprehending us. Probably about 80%, I’m afraid. On the other hand, the one on the right obviously leads to more dense growth that would allow concealment, giving the advantage to the pursued rather than the pursuers. If we go down that one, I think we’d have about a 50% chance of eluding them, even if they followed right behind us.”

“Then that’s the one we take. Let’s go!”

“Not so fast. Obviously, the cops will assume we will take the path that favors us, so they are more likely to go down the path to the right. But they won’t catch us if we’ve taken the left path. On the other hand, they might realize that we’ve already thought of that and take the left one. It’s a classic game.”

“Ennie meenie miney moe has always worked for me.”

“Game theory allows us to make a slightly more educated random determination.”
Remy imagined the game theory payoff table matrix, which looked something like this:

<table>
<thead>
<tr>
<th></th>
<th>Cops</th>
<th>Robbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left path</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>Right path</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>

“According to my calculations,” Remy explained, “we should use a mixed strategy with an 8:5 distribution of right/left. Pick a number from one to 13.”

“Um, three.”

“Okay, well, I’m using some simple modular arithmetic,”

“What the—“

“You don’t need to understand that,” Remy explained as he pulled Mack along with him down the path to the left. “The practical upshot is that we take this path.”

“But that’s the worse path for us!”

“Yes, but they know that, and they know that we know that they know that, so we have to use mixed strategies.”

“Fuck that, man. Just go with your gut! I’m so sick of this math shit!” Mack yelled, then doubled back and went down the right path.
Remy paused for a moment. Mack had abandoned rational probabilistic game theory, in favor of his gut, which knew even less math than his brain. Reluctantly, Remy followed his confederate and, even more reluctantly, hoped that “luck” would be on his side.

Chapter 61 Stable Cooperative Equilibria

Remy met up with his old boss and pal, Markus Barelli at a chic outdoor café a few weeks after he was released from prison, having looked his former accomplice in the eye while stabbing him in the back in a carefully orchestrated ritual led by the prosecuting attorney.

“Could you identify the man with whom you held up Sammy’s Stones?”

“Yes sir, I can.”

“Can you point him out for us?”

Remy had pointed at his scowling erstwhile partner-in-crime.

“Let the record show that the witness did identify Mack Vicker . . .”

A fat capo sat next to Toes, preoccupied with a newspaper, a cigar sticking out of his thick salt and pepper beard. Toes lifted his glass of Chateau Petrus as Remy took a seat.

“Hey, congrats kid. Welcome back to the real world.”

“Thank you, Mr. Barelli, for everything.”

“One hand washes the other, right Ace?”
“Yes, sir.”

“You ain’t Sicilian, so you know you can’t be my regular consigliere out here. No offense, kid.”

“None taken.”

“But I can think of a lot of favors you might be able to do for me, and I know I can do a lot for you, capesh?”

“Si, sir.”

“Heh, heh.” Toes gave him a friendly punch. “Now say it, you know, your way. With the math and shit. I love that stuff.”

“We’ve established a stable cooperative equilibrium.”

Toes gave in with a mighty guffaw, spilling what amounted to several dollars worth of wine, though it was only a few drops. “I love this guy! Hey Paulie,” Toes said to his portly colleague, still engrossed in the paper. “You gotta talk to this guy. I met him in the joint. He’s a stand-up guy. A stand-up guy. Smartest guy I ever met. And he’s pretty tough, too. We called him Ace.”

“Pleased to meet you,” emerged from the beard as Paulie extended a beefy hand.

Remy took a seat and the three of them discussed business, Remy providing sound strategic and economic advice concerning their enterprises and certain conflicts that had arisen in the course of maintaining them. They briefly outlined some specific projects they wanted Remy to work on with some of their other colleagues. The food was delicious and the wine was better. Toes picked up Paulie’s paper.

“Will you look at that?” he said as he perused the front page.

“What’s that?”
“Daring prison escape. Says here they were transporting some prisoners from the Thomkins State Correctional facility to the Longacre facility and some kinda shit went down. A few guys got sprung, but cops rounded most of them up. One guy’s still at large. Said to be dangerous. Maybe we better watch ourselves, eh kid?”

“Indeed. Who is the fugitive?” Remy inquired as he sipped at his wine.

“Name is Mack Vicker.”

Chapter 62  The Backwards Induction Paradox

“Look,” Remy spat out as they stopped again to catch their now elusive breath. “I can hear the cops behind us, so they didn’t take the wrong fork in the road back there. This path is getting more and more overgrown. There’s a pretty good chance we’re going to get caught, but if we keep our mouths shut, they won’t be able to pin that robbery on us.”


“When they arrest us, the police will advise you of your right to remain silent. Please fight your natural instincts and exercise that right.”

“Oh man, I had a whole speech planned. Lots of swearing.”

“I mean keep silent about what happened. Look, you torched the car, right?”

“Right.”

“Nobody saw you do it. Nobody but Carlos saw us, masks off, with the getaway vehicle or at the scene of the crime, or wearing the clothes we were wearing when we did it. Your minor wound was sustained after we fled the scene of the crime.”
“So?”

“So there’s nothing but circumstantial evidence connecting us with the robbery. The cops will figure it out, but it’s nothing a half-decent lawyer couldn’t beat. Right now, however, we’ve got multiple eyewitness testimony sure to convict us of burglary and theft. Plus you’re wearing some of the stolen goods. With the victim’s face on it, I note.”

Mack looked down at his shirt. The light of the nearly full moon streaming through the canopy of leaves above just barely illuminated it enough to make out the details. Indeed, there on his chest was the image of the drunken father of the little blonde girl, mugging goofily on his customized T-shirt.

“Oh man, this blows.”

“They’re going to use our guaranteed conviction for the smaller charges as an incentive to try to get us to turn evidence against one another regarding the robbery. That’s how these people work. Just remember that I’m not going to turn on you, so don’t you turn on me, okay? No matter what they say. In the long run, we can establish a mutually cooperative equilibrium, which will prove far more beneficial than the short term advantages you might realize by self-interested defection.”

“Okay, man. Honor among thieves. Hey, um, where are the jewels?”

Remy ignored the query. “Of course there is the backward induction paradox,” he mused quietly as he crept along.

“What the hell is this backward induction paradox you keep talking about?” Mack whispered a little too loudly.
“Ah,” Remy said, asymptotically approaching a light chuckle as he considered the question, but never, of course, actually reaching one. “Well, that’s a fascinating subject indeed.”

“Okay, and by ‘fascinating’ you mean ‘more boring than watching continents drift,’ right?”

“Unfortunately, most would probably interpret it that way.” They scampered along the forest floor, hopping about erratically in an attempt to obscure their trail. Far off in the distance they heard dogs barking. Not fluent in canine, they were still fairly sure that it translated to something along the lines of “they went that way.”

“You’ve heard me talk about establishing mutually cooperative strategies. Both players cooperate with one another in order to ensure that the other cooperates with them on the following round. That way they avoid mutual defection, which would hurt them both.

“Yeah, ok.”

“But on the very last round of the game, there’s nothing to be gained by cooperation, because the game is over; there is no next turn. So both sides have absolutely nothing to lose by betraying one another on the very last round.”

“Okay.”

“And if both players are fairly certain that the other is going to defect on the very last round, they don’t have any incentive to cooperate on the second-to-last round, do they? After all, the other is just going to defect on the last round anyway.”

“I think I see where this is going.”
“And since both sides know the other guy is going to defect on the second-to-last round, they don’t have any compulsion to cooperate on the second-to-second-to-last round either. And so on, right up to the very first round. So mutual defection predominates and both sides get screwed.”

“Bummer. What can we do about that?”

“If the game never ends, or the players don’t know when it’s going to end, then the backward induction paradox disappears.”

“Cool. Hey where are the jewels?” Mack asked. Off in the distance they heard the dogs again, closer, and seemingly from several different directions.

“For the good of both of us, I’m not going to tell you, Mack. Don’t take it personally. This is a strategic decision. And it benefits you.”

“How does not knowing where the jewels are benefit me?”

“Because if I have less reason to suspect that you might betray me, then I’m less tempted to beat you to it. If you know where they are, you have considerable motivation to drop the dime on me, not just to cut your sentence down, but to get all that money to yourself.”

“Hey, I wouldn’t do that. Don’t you trust me?”

“Trust is nice, but I prefer the comfortable assurance of mutual self-interest.”

“Call me cynical, but I think that means you don’t trust me.”

“You’re cynical, Mack.”

“What’s to stop you from just turning on me, getting out of prison early and then getting the jewels yourself?”

“This,” Remy said. He handed Mack a photograph.
“Who is this broad?”

“Careful there, Vicker. That’s a picture of my mother. Her address in Louisiana is on
the back.”

“Why the hell would you give me that?”

“To make it clear that each party would be worse off by defection, and guarantee we
cooperate. We can defeat suboptimization and the backwards induction paradox by
changing the payoff table. You know perfectly well that I can’t swear an oath on my
immortal soul, as our superstitious ancestors did. Sophistication has rendered that
adaptive delusion obsolete. But this serves the same function. If I betray you, you could
hurt my mother. Now we have a stable cooperative equilibrium. I don’t turn evidence
against you; you don’t turn evidence against me. I don’t burn you for the jewels; you
leave my family alone.”

“Everyone’s a winner.”

Remy grabbed Mack by the shoulder and looked him straight in the eye.

“So just remember: no matter what happens, I am not going to betray you, and you are
not going to betray me, right?”

“Yeah man. You can trust me.”

They bumped knuckles then tried to find some way out of the tangled foliage. The
dogs and cops were very close now. The doomed criminal duo crouched low and tried
vainly to free themselves from the clenching fist of the law’s infamously long arm. But it
was inevitable and they knew they were just delaying it. Human and canine police closed
in and surrounded them. The game was over.

“Freeze! You’re under arrest!”
Another game was about to begin.

Chapter 63  Global System Optimization

“So,” Remy asked. “What do you think of your new identity?”

Mack smirked as he examined the brand new driver’s license and passport.

“Eugene Drayson? Could you have picked a dorkier name do you think? Something in a Mortimer?”

“Let’s have no complaints from you.”

“Nah, it’s cool man. Thanks.”

They were in a tavern in a tiny town in the middle of nowhere, many miles from all the other middles of nowhere at which they’d worn their welcomes down to little nubs.

“According to Toes, that new identity is very solid and will hold up provided you stay out of serious trouble.”

Mack snickered. “Stranger things have happened.”

“This is true.”

“Yeah, I saw this thing on TV about how it rained frogs this one time. It was freakin’ bizarre.” He gulped down some Corona and swished it around his mouth before swallowing.

Remy did the same with his surprisingly perky Shiraz, though he did not so much gulp as sip, nor swish as savor. “Sammy Green only declared a fraction of what he actually lost, of course, to keep himself out of prison. We had to return that as part of the deal I cut. Toes is keeping most of the rest. We’d never have been able to fence them off at
anything close to their real value without his contacts anyway. And we wouldn’t have been able to spring you and set you up a fake identity either.”

“I guess that’s fair,” Mack muttered. “So after two years in prison each, we got nothing to show for it. That sucks.”

“I beg to differ, Mack. We have gained significant intangible assets.”

“Like what?”

“For one thing, reputation. The fact that you didn’t squeal goes a long way with Toes. You’ve established that you are a man who can be trusted. This is more valuable than you may realize. He’s got some work for both of us. Did you learn much Spanish in Thompkins?”

“Um, un poquito.”

“Good. Brush up. You’re going to be his man in Mexico. One of them anyway. He’s got a lot of work for you south of the border.”

“Right on,” Mack enthused, giving a thumbs-up. “The man in Mexico. I can be that guy. I love a country where you can bribe your way out of just about anything.” He took a long pull at his beer, a drag on his cigarette then released a belch full of smoke.

“Ironically, the very fact that Toes could send you back to prison at a whim is an asset to you. It’s an enforceable contract. Not only have you shown trustworthiness in actual practice, it would no longer be in your interest to betray Toes. He now has great trust in both of us. And my old associates, the Black Sheep, well, my reputation with them has only been improved, and they have some ambitious undertakings planned as well. Many exciting, lucrative opportunities await us.”
“Sweet!” Mack enthused, then gulped down the rest of his beer. “By the way, I have something for you.” He pulled out the old photograph Remy had given him two years earlier.

“Ah, that,” Remy said somewhat sheepishly, “about that picture . . .”

“Let me guess,” Mack said, chuckling conspiratorially as he put out his cigarette.

“That’s not your mother. And that’s not her address.”

Remy was momentarily taken aback. “Well, no, but . . .”

Mack laughed out loud now. “You’re really not a very good poker player. I could tell you were lying when you gave that to me, but I didn’t say anything.”

“If you knew I was lying, why didn’t you testify against me?”

Mack lit another Basic. After two years of restricted nicotine intake, he was making up for lost time and now chained them down, something he could never afford to do to the precious squares on the inside.

“I figured the only reason you lied to me was to make sure that I thought you’d never burn me, cuz of your mom. Then I wouldn’t be worried about you burning me, and I wouldn’t try to beat you to it. And since you knew that I wouldn’t be trying to beat you to it, you didn’t have to worry about beating me to it. Did that make sense?”

“Amazingly so.”

“And I figured that if you knew that I knew you were lying, you might worry about me turning on you, and then you’d consider turning on me. I didn’t want you thinking about that, so I played along.”

Remy gently struck his right palm with the middle and index finger of his left hand, producing miniature applause. “Well played. Very well played. Letting me think I had
fooled you was your best move. I apologize for lying to you. I do that only under rare circumstances. Deception was necessary for the greater good. To peremptorily dismiss occasional dishonesty as an option in pursuing virtue would essentially be ethical sub-optimization, and we all know where sub-optimization leads.”

“Do we?”

“It seldom leads to global system optimization. That’s the point.”

“Ah.”

“But I could just as well have lied to you about my mom precisely because I was planning on turning on you.”

“Yeah, I thought about that. But you know . . . I just went with my gut and figured you weren’t.” He caught the attention of a waitress and requested another beer and her phone number. She left to retrieve the former item.

“But even if you were certain that I’d stay quiet, you could still have guaranteed that you got out earlier by turning on me. So why didn’t you?” Remy looked him directly in the eye as he sipped the Shiraz.

“Well, I wanted my share of those jewels, sure. And there was that thing you said about the mutually . . . what was that thing? With the trust?”

“A mutually cooperative equilibrium.”

“Right. I wanted one of those. Mostly though, you know, being a rat just felt wrong, man. Snitches are the worst form of life. Like I said, man: I just go with my gut.” He belched indignantly. “So how’s that ethical calculus thing you used to talk about, huh? How’s that coming along?”
Remy finished his wine, then poured another from the bottle on the table as he considered the question.

“When it comes down to it, there is no justification for my core ethical axioms. They are axioms in the truest, non-Euclidean sense. Not self-evident truths, but absolutely arbitrary assumptions. But there is no denying my very real feeling of right and wrong. Nor yours, as you’ve just described.”

“Sure.”

“Mutual self-interest is necessary to establish stable cooperative equilibria, but it is not sufficient. Not only does the backwards induction paradox always loom in games of known length, the establishment of stable cooperative equilibria may be virtually impossible, because isolated ‘nice’ strategies cannot successfully invade a ‘mean’ strategic milieu.”

“Yeah. Um, I hate that.”

“Ah,” Remy said. “But there is a solution. You just change the payout table. That’s precisely what biological and social evolution have done, slowly, over the course of millennia. Change the payout table so that individual sub-optimization does in fact yield global system optimization. It’s that simple.”

“Of course,” Mack said, smacking his forehead. “I should have thought of that.” The waitress brought him a beer. He gave her a leer.

“If I feel bad when I betray someone, and good when I refrain from doing so, this must be factored into my payoff. I can thus act perfectly rationally—and perfectly selfishly—and still be altruistic. Exploiting people makes me feel bad, so it makes perfect sense and is entirely self-serving that I won’t do it. Virtuous people are happier. They score more
points. Eudaimonia. Plato was really on top of it long before Leibniz, let alone Von Neuman. I’m beginning to think mathematicians should leave philosophy to the philosophers.” He made the last comment with an ironic grin.

“I doubt you’re going to let them have all the fun.”

“No, probably not,” Remy postulated. He paused for a moment then raised his wineglass. “To the future.”

“Fucking A,” Mack agreed, raising his bottle and tapping it against Remy’s glass.

Remy sipped his wine and Mack drank his beer. Conversation among the small afternoon crowd lulled as Johnny Cash’s gravelly voice emerged from the jukebox and filled the bar.

I’m stuck in Folsom Prison

And time keeps dragging on.

Appendix A: Glossary of prison slang used in this book

6-5: Correction officer approaching

7-up: Correction officer approaching

10-10: furlough: Getting yourself shot by guards as a means of committing suicide.

Badge: A prison guard (corrections officer)

Boy: Heroin
CO: Corrections Officer. In many prisons addressing a corrections officer as “guard” is a punishable offense.

Deck: A pack of cigarettes

Dope: heroin

Fish: A new prisoner

Fish Tier: An area where new prisoners come in for a period of time, usually a few weeks, before they are assigned a semi-permanent cell in the general population.

Gen Pop. General Population. This is distinguished from the fish tier, administrative segregation, and protective segregation (usually reserved for child molesters, former police officers, and others who wouldn’t last long in gen pop.)

Girl: Cocaine

Grapes: Gossip, information

Hack: derogatory term for a guard

House: a cell. Prisoners often refer to their own cell as their house.

Jacket: Reputation, in general. To “yank” a jacket refers to scrutinizing other prisoners, uncovering secrets, etc.

J-Cat: An insane inmate

Kite: a note, passed between cells, usually during periods of lockdown, by a weight on the end of a long string.

(on) pipe: sexually enslaved

Pelicanize: To implement further restrictions in a prison. Refers to the supermax Pelican Bay state prison in California, in which the highest security-risk prisoners are kept with severely restricted freedom.
Prag: a slave. This includes but is not limited to providing sexual services.

Square: a cigarette

Shank: a knife, usually makeshift. Also used as a verb

Tit: Drugs in general, but usually heroin specifically.

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Appendix B

“13 ½”

By Darnel LeBlanc

Doing life on the installment plan
No escape
Can’t beat the man
Beat down, locked up, thrown in a cage
Gots years to nurse and grow my rage
Twelve jurors, one judge, and half a chance
I’m just a victim of circumstance
In again, out again, this circle be vicious
If I had a hope, then liver’s delicious
Like I said, I’m a victim of circumstance
I’m just doing the incarceration dance

356
Couldn’t get no job, so I took to stealin’

And my so-called friend, he ends up squealin

The whole thing’s like some shit straight out of a movie

They hauled my black ass straight down to juvie

Now I learnt my lesson, and I learnt it well

You don’t want to go to prison, ‘cuz it’s worse’n hell

So I combed my hair, try to get me a job

And the man say “I ain’t hiring no ex-con slob”

Couldn’t get me no work, and I had no green

I was out on the streets, yo, and the streets is mean

So I takes a little here, and I sells a little there

and where do I end up?; I think you know where

Twelve jurors one judge and not half a chance

You call it justice, but don’t make me laugh

I’m doing the incarceration dance

Thas’all I’m saying, 13 ½