Before Mazer invented himself as Mazer, he was Samson Mazer, and before he was Samson Mazer, he was Samson Masur—a change of two letters that transformed him from a nice, ostensibly Jewish boy to a Professional Builder of Worlds—and for most of his youth, he was Sam, S.A.M. on the hall of fame of his grandfather's *Donkey Kong* machine, but mainly Sam.

On a late December afternoon, in the waning twentieth century, Sam exited a subway car and found the artery to the escalator clogged by an inert mass of people, who were gaping at a station advertisement. Sam was late. He had a meeting with his academic adviser that he had been postponing for over a month, but that everyone agreed absolutely needed to happen before winter break. Sam didn't care for crowds—being in them, or whatever foolishness they tended to enjoy en masse. But this crowd would not be avoided. He would have to force his way through it if he were to be delivered to the aboveground world.

Sam wore an elephantine navy wool peacoat that he had inherited from his roommate, Marx, who had bought it freshman year from the Copy Navy Surplus String in town. Marx

had left it moldering in its plastic shopping bag just short of an entire semester before Sam asked if he might borrow it. That winter had been unrelenting, and it was an April nor'easter (April! What madness, these Massachusetts winters!) that finally wore Sam's pride down enough to ask Marx for the forgotten coat. Sam pretended that he liked the style of it, and Marx said that Sam might as well take it, which is what Sam knew he would say. Like most things purchased from the Army Navy Surplus Store, the coat emanated mold, dust, and the perspiration of dead boys, and Sam tried not to speculate why the garment had been surplussed. But the coat was far warmer than the windbreaker he had brought from California his freshman year. He also believed that the large coat worked to conceal his size. The coat, its ridiculous scale, only made him look smaller and more childlike.

That is to say, Sam Masur at age twenty-one did not have a build for pushing and shoving and so, as much as possible, he weaved through the crowd, feeling somewhat like the doomed amphibian from the video game *Frogger*. He found himself uttering a series of "excuse mes" that he did not mean. A truly magnificent thing about the way the brain was coded, Sam thought, was that it could say "Excuse me" while meaning "Screw you." Unless they were unreliable or clearly established as lunatics or scoundrels, characters in novels, movies, and games were meant to be taken at face value—the totality of what they did or what they said. But people—the ordinary, the decent and basically honest—couldn't get through the day without that one indispensable bit of programming that allowed you to say one thing and mean, feel, even do, another.

"Can't you go around?" a man in a black and green macramé hat yelled at Sam.

"Excuse me," Sam said.

"Dammit, I almost had it," a woman with a baby in a sling muttered as San passed inhood laterial

"Excuse me," Sam said.

Occasionally, someone would hastily leave, creating gaps in the crowd. The gaps should have been opportunities of escape for Sam, but somehow, they immediately filled with new humans, hungry for diversion.

He was nearly to the subway's escalator when he turned back to see what the crowd had been looking at. Sam could imagine reporting the congestion in the train station, and Marx saying, "Weren't you even curious what it was? There's a world of people and things, if you can manage to stop being a misanthrope for a second." Sam didn't like Marx thinking of him as a misanthrope, even if he was one, and so, he turned. That was when he espied his old comrade, Sadie Green.

It wasn't as if he hadn't seen her at all in the intervening years. They had been habitués of science fairs, the Academic Games league, and numerous other competitions (oratory, robotics, creative writing, programming). Because whether you went to a mediocre public high school in the east (Sam), or a fancy private school in the west (Sadie), the Los Angeles smartkid circuit was the same. They would exchange glances across a room of nerds—sometimes, she'd even smile at him, as if to corroborate their détente—and then she would be swept up in the vulturine circle of attractive, smart kids that always surrounded her. Boys and girls like himself, but wealthier, whiter, and with better glasses and teeth. And he did not want to be one more ugly, nerdy person hovering around Sadie Green. Sometimes, he would make a villain of her and imagine ways that she had slighted him: that time she had turned away from him; that time she had avoided his eyes. But she hadn't done those things—it would have been almost better if she had.

He had known that she had gone to MIT and had wondered if he might run into her when he got into Harvard. For two and a half years, he had done nothing to force such an occasion. Neither had sherighted Material

But there she was: Sadie Green, in the flesh. And to see her almost made him want to cry. It was as if she were a mathematical proof that had eluded him for many years, but all at once, with fresh, well-rested eyes, the proof had a completely obvious solution. *There's Sadie*, he thought. *Yes*.

He was about to call her name, but then he didn't. He felt overwhelmed by how much time had passed since he and Sadie had last been alone together. How could a person still be as young as he objectively knew himself to be and have had so much time pass? And why was it suddenly so easy to forget that he despised her? Time, Sam thought, was a mystery. But with a second's reflection, he thought better of such sentiment. Time was mathematically explicable; it was the heart—the part of the brain represented by the heart—that was the mystery.

Sadie finished staring at whatever the crowd was staring at, and now she was walking toward the inbound Red Line train.

Sam called her name, "SADIE!" In addition to the rumble of the incoming train, the station was roaring with the usual humanity. A teenage girl played Penguin Cafe Orchestra on a cello for tips. A man with a clipboard asked passersby if they could spare a moment for Muslim refugees in Srebrenica. Adjacent to Sadie was a stand selling six-dollar fruit shakes. The blender had begun to whir, diffusing the scent of citrus and strawberries through the musty, subterranean air, just as Sam had first called her name. "Sadie Green!" he called out again. Still she didn't hear him. He quickened his pace, as much as he could. When he walked quickly, he counterintuitively felt like a person in a three-legged race.

"Sadie! SADIE!" He felt foolish. "SADIE MIRANDA GREEN! YOU HAVE DIED OF DYSENTERY!"

Finally, she turned. She scanned the crowd slowly and when she spotted Sant, the sail special over her face like a

time-lapse video he had once seen in a high school physics class of a rose in bloom. It was beautiful, Sam thought, and perhaps, he worried, a tad ersatz. She walked over to him, still smiling—one dimple on her right cheek, an almost imperceptibly wider gap between the two middle teeth on the top—and he thought that the crowd seemed to part for her, in a way that the world never moved for him.

"It's my sister who died of dysentery, Sam Masur," Sadie said. "I died of exhaustion, following a snakebite."

"And of not wanting to shoot the bison," Sam said.

"It's wasteful. All that meat just rots."

Sadie threw her arms around him. "Sam Masur! I kept hoping I'd run into you."

"I'm in the directory," Sam said.

"Well, maybe I hoped it would be organic," Sadie said. "And now it is."

"What brings you to Harvard Square?" Sam asked.

"Why, the Magic Eye, of course," she said playfully. She gestured in front of her, toward the advertisement. For the first time, Sam registered the 60-by-40-inch poster that had transformed commuters into a zombie horde.

SEE THE WORLD IN A WHOLE NEW WAY. THIS CHRISTMAS, THE GIFT EVERYONE WANTS IS THE MAGIC EYE.

The imagery on the poster was a psychedelic pattern in Christmas tones of emerald, ruby, and gold. If you stared at the pattern long enough, your brain would trick itself into seeing a hidden 3D image. It was called an autostereogram, and it was easy to make one if you were a modestly skilled programmer. *This?* Sam thought. *The things people find amusing*. He groaned.

"You disapprove" Sadregated Material

"This can be found in any dorm common room on campus."

"Not this particular one, Sam. This one's unique to—"

"Every train station in Boston."

"Maybe the U.S.?" Sadie laughed. "So, Sam, don't you want to see the world with magic eyes?"

"I'm always seeing the world with magic eyes," he said. "I'm exploding with childish wonder."

Sadie pointed toward a boy of about six: "Look how happy he is! He's got it now! Well done!"

"Have you seen it?" Sam asked.

"I didn't see it yet," Sadie admitted. "And now, I really do have to catch this next train, or I'll be late for class."

"Surely, you have another five minutes so that you can see the world with magic eyes," Sam said.

"Maybe next time."

"Come on, Sadie. There'll always be another class. How many times can you look at something and know that everyone around you is seeing the same thing or at the very least that their brains and eyes are responding to the same phenomenon? How much proof do you ever have that we're all in the same world?"

Sadie smiled ruefully and punched Sam lightly on the shoulder. "That was about the most Sam thing you could have said."

"Sam I am."

She sighed as she heard the rumble of her train leaving the station. "If I fail Advanced Topics in Computer Graphics, it's your fault." She repositioned herself so that she was looking at the poster again. "You do it with me, Sam."

"Yes, ma'am." Sam squared his shoulders, and he stared straight ahead. He had not stood this near to Sadie in years.

Directions on the poster said to relax one's eyes and to concentrate on Congle pointed that attend image emerged. If

that didn't work, they suggested coming closer to the poster and then slowly backing up, but there wasn't room for that in the train station. In any case, Sam didn't care what the secret image was. He could guess that it was a Christmas tree, an angel, a star, though probably not a Star of David, something seasonal, trite, and broadly appealing, something meant to sell more Magic Eye products. Autostereograms had never worked for Sam. He theorized it was something to do with his glasses. The glasses, which corrected a significant myopia, wouldn't let his eyes relax enough for his brain to perceive the illusion. And so, after a respectable amount of time (fifteen seconds), Sam stopped trying to see the secret image and studied Sadie instead.

Her hair was shorter and more fashionable, he guessed, but it was the same mahogany waves that she'd always had. The light freckling on her nose was the same, and her skin was still olive, though she was much paler than when they were kids in California, and her lips were chapped. Her eyes were the same brown, with golden flecks. Anna, his mother, had had similar eyes, and she'd told Sam that coloration like this was called heterochromia. At the time, he had thought it sounded like a disease, something for his mother to potentially die from. Beneath Sadie's eyes were barely perceptible crescents, but then, she'd had these as a kid too. Still, he felt she seemed tired. Sam looked at Sadie, and he thought, This is what time travel is. It's looking at a person, and seeing them in the present and the past, concurrently. And that mode of transport only worked with those one had known a significant time.

"I saw it!" she said. Her eyes were bright, and she wore an expression he remembered from when she was eleven.

Sam quickly turned his gaze back to the poster.

"Did you see it?" she asked.

"Yes," he said. "Copyit: "ghted Material

Sadie looked at him. "What did you see?"

"It," Sam said. "It was amazingly great. Terribly festive."

"Did you actually see it?" Sadie's lips were twitching upward. Those heterochromic eyes looked at him with mirth.

"Yes, but I don't want to spoil it for anyone else who hasn't." He gestured toward the horde.

"Okay, Sam," Sadie said. "That's thoughtful of you."

He knew she knew that he hadn't seen it. He smiled at her, and she smiled at him.

"Isn't it strange?" Sadie said. "I feel like I never stopped seeing you. I feel like we come down to this T station to stare at this poster every day."

"We grok," Sam said.

"We do grok. And I take back what I said before. That is the Sammest thing you could have said."

"Sammest I Ammest. You're—" As he was speaking, the blender began to whir again.

"What?" she said.

"You're in the wrong square," he repeated.

"What's the 'wrong square'?"

"You're in Harvard Square, when you should be in Central Square or Kendall Square. I think I heard you'd gone to MIT."

"My boyfriend lives around here," Sadie said, in a way that indicated she had no more she wished to say on that subject. "I wonder why they're called squares. They're not really squares, are they?" Another inbound train was approaching. "That's my train. Again."

"That's how trains work," Sam said.

"It's true. There's a train, and a train, and a train."

"In which case, the only proper thing for us to do right now is have coffee," Sam said. "Or whatever you drink, if coffee's too much of a cliché for you. Chai tea. Matcha. Snapple. Champagny: There's a warle with infinite beverage possibilities, right over our heads, you know? All we have to do is ride that escalator and it's ours for the partaking."

"I wish I could, but I have to get to class. I've done maybe half the reading. The only thing I have going for me is my punctuality and attendance."

"I doubt that," Sam said. Sadie was one of the most brilliant people he knew.

She gave Sam another quick hug. "Good running into you."

She started walking toward the train, and Sam tried to figure out a way to make her stop. If this were a game, he could hit pause. He could restart, say different things, the right ones this time. He could search his inventory for the item that would make Sadie not leave.

They hadn't even exchanged phone numbers, he thought desperately. His mind cycled through the ways a person could find a person in 1995. In the old days, when Sam was a child, people could be lost forever, but people were not as easily lost as they once were. Increasingly, all you needed was the desire to convert a person from a digital conjecture to the unruly flesh. So, he comforted himself that even though the figure of his old friend was growing smaller and smaller in the train station, the world was trending in the same direction—what, with globalization, the information superhighway, and the like. It would be easy to find Sadie Green. He could guess her email—MIT emails followed the same pattern. He could search the MIT directory online. He could call the Computer Science Department—he was assuming computer science. He could call her parents, Steven Green and Sharyn Friedman-Green, in California.

And yet, he knew himself and he knew he was the type of person that never called anyone, unless he was absolutely certain the advance would be welcomed. His brain was treacherously negative. **Howyold intend that she** had been cold

toward him, that she hadn't even had a class that day, that she had simply wanted to get away from Sam. His brain would insist that if she'd wanted to see him, she would have given him a way to contact her. He would conclude that, to Sadie, Sam represented a painful period of her life, and so, of course, she didn't want to see him again. Or, maybe, as he'd often suspected, he meant nothing to her—he had been a rich girl's good deed. He would dwell on the mention of a boyfriend in Harvard Square. He would track down her number, her email address, her physical address, and he would never use any of them. And so, with a phenomenological heaviness, he realized that this very well could be the last time he ever saw Sadie Green, and he tried to memorize the details of what she looked like, walking away, in a train station, on a bitter cold day in December. Beige cashmere hat, mittens, and scarf. Camel-colored three-quarter-length peacoat, most definitely not from the Army Navy Surplus Store. Blue jeans, quite worn, irregularly fraying bootcut at the bottom. Black sneakers with a white stripe. Cognac leather crossbody messenger bag that was as wide as she was, and overstuffed, the arm of an ecru sweater sticking out the side. Her hair—shiny, lightly damp, just past her shoulder blades. There was no echt Sadie in this view, he decided. She looked indistinguishable from any number of smart, well-maintained college girls in the train station.

On the verge of disappearing, she turned, and she ran back to him. "Sam!" she said. "Do you still game?"

"Yes," Sam answered with too much enthusiasm. "Definitely. All the time."

"Here." She pressed a 3.5-inch disk into his hands. "This is my game. You're probably super busy but give it a play if you have the time. I'd love to know what you think."

She ran back into the train, and Sam trailed after her.

"Wait! Sadic blowrdg litert in to tech with you?"

"My email's on the disk," Sadie said. "In the Readme."

The train doors closed, returning Sadie to her square. Sam looked down at the disk: the title of the game was *Solution*. She had handwritten the label. He would know her handwriting anywhere.

When he got back to the apartment later that night, he didn't immediately install Solution, though he did set it next to the disk drive of his computer. He found not playing Sadie's game to be a great motivator, though, and he worked on his junior paper proposal, which was already a month overdue, and which would have, at that point, waited until after the holidays. His topic, after much wringing of hands, was "Alternative Approaches to the Banach-Tarski Paradox in the Absence of the Axiom of Choice," and as he was quite bored writing the proposal, he actively feared the drudgery that writing the paper would entail. He had begun to suspect that while he had an obvious aptitude for math, he was not particularly inspired by it. His adviser in the Mathematics Department, Anders Larsson, who would go on to win a Fields Medal, had said as much in that afternoon's meeting. His parting words: "You're incredibly gifted, Sam. But it is worth noting that to be good at something is not quite the same as loving it."

Sam ate takeout Italian food with Marx—Marx over-ordered so that Sam would have leftovers to eat while Marx was out of town. Marx re-extended an invitation to come skiing with him in Telluride over the holidays: "You really should come, and if it's the skiing you're worried about, everyone mostly hangs out in the lodge anyway." Sam rarely had enough money to go home for the holidays, and so these invitations were extended and rejected at regular intervals. After dinner, Sam started the reading for his Moral Reasoning class (the class was studying **the philosophycolythe youn** Wittgenstein,

the era before he'd decided he was wrong about everything), and Marx organized himself to go away for the break. When Marx was finished packing, he wrote out a holiday card to Sam and left it on his desk, along with a fifty-dollar gift certificate to the brew house. That was when Marx came across the disk.

"What's *Solution*?" Marx asked. He picked up the green disk and held it out to Sam.

"It's my friend's game," Sam said.

"What friend?" Marx said. They had lived together for going on three years, and Marx had rarely known Sam to mention any friends.

"My friend from California."

"Are you going to play it?"

"Eventually. It'll probably suck. I'm only looking at it, as a favor." Sam felt like he was betraying Sadie saying that, but it probably would suck.

"What's it about?" Marx said.

"No idea."

"Cool title, though." Marx sat down at Sam's computer. "I've got a couple of minutes. Should we boot it up?"

"Why not?" Though Sam had been planning to play alone, Marx and he gamed together with some regularity. They favored martial arts video games: *Mortal Kombat, Tekken, Street Fighter*. They also had a Dungeons & Dragons campaign that they picked up from time to time. The campaign, for which Sam was dungeon master, had been going on for over two years. Playing Dungeons & Dragons in a group of two people is a peculiar, intimate experience, and the existence of the campaign was kept a secret from everyone they knew.

Marx put the disk in the machine, and Sam installed it on his hard drive.

Several hours later, Sam and Marx were done with their first playthrough of Solarinted Material

"What the hell was that?" Marx said. "I'm so late getting to Ajda's place. She's going to kill me." Ajda was Marx's latest paramour—a five-eleven squash player and occasional model from Turkey, an average résumé for one of Marx's love interests. "I honestly thought we'd play for five minutes."

Marx put on his coat—camel colored, like Sadie's. "Your friend is sick as hell. And maybe, a genius. How do you know him again?"

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On the day Sadie first met Sam, she had been banished from her older sister Alice's hospital room. Alice was moody in the way of thirteen-year-olds, but she was also moody in the way of people who might be dying of cancer. Their mother, Sharyn, said that Alice should be given a great deal of latitude, that the dual storm fronts of puberty and illness were a lot for one body to grapple with. A great deal of latitude meant Sadie should go into the waiting area until Alice was no longer angry with her.

Sadie was not entirely sure what she had done to provoke Alice this time. She had shown Alice a picture in *Teen* magazine of a girl in a red beret and said something to the effect of *You would look good in this hat*. Sadie barely remembered what she had said, but whatever it was, Alice hadn't taken it well, screaming absurdly, *No one wears hats like that in Los Angeles! This is why you don't have any friends, Sadie Green!* Alice had gone into the bathroom and started crying, which sounded like choking, because her nose was congested and her throat was coated in sores. Sharyn, who had been sleeping in the bedside chair, told Alice to calm down, that she would make herself sick. *I'm drawty girlt*: Alice and It this point, Sadie

started crying, too—she knew she didn't have any friends, but it was still mean of Alice to point it out. Sharyn told Sadie to go to the waiting area.

"It's not fair," Sadie had said to her mother. "I didn't *do* anything. She's being completely unreasonable."

"It isn't fair," Sharyn agreed.

In exile, Sadie tried to puzzle out what had happened—she honestly had thought Alice *would* look good in a red hat. But upon reflection, she determined that, by mentioning the hat, Alice must have thought Sadie was saying something about Alice's hair, which had grown thin from the chemotherapy. And if that's what Alice thought, Sadie felt sorry that she had ever mentioned the stupid hat in the first place. She went to knock on Alice's hospital door to apologize. Through the glass panel on her window, Sharyn mouthed, "Come back later. Alice is sleeping."

Around lunchtime, Sadie felt hungry and, thus, somewhat less sorry for Alice and sorrier for herself. It was irritating the way Alice acted like an asshole and Sadie was the one who was punished. As Sadie had repeatedly been told, Alice was sick, but she was not dying. Alice's variety of leukemia had a particularly high remission rate. She had been responding well to treatment, and she'd probably even be able to start high school, on schedule, in the fall. Alice would only have to be in the hospital for two nights this time, and it was only out of, according to her mother, "an abundance of caution." Sadie liked the phrase "an abundance of caution." It reminded her of a murder of crows, a flock of seagulls, a pack of wolves. She imagined that "caution" was a creature of some kind-maybe, a cross between a Saint Bernard and an elephant. A large, intelligent, friendly animal that could be counted on to defend the Green sisters from threats, existential and otherwise.

A nurse, noticing the unattended, conspicuously healthy eleven-year-old in **Chowiting coontagave** Sadie a vanilla

pudding cup. He recognized Sadie as one of the many neglected siblings of sick kids and suggested that she might like to use the game room. There was a Nintendo console, he promised, which was rarely used on weekday afternoons. Sadie and Alice already had a Nintendo, but Sadie had nothing else to do for the next five hours until Sharyn could drive her back home. It was summer, and she had already finished reading The Phantom Tollbooth for the second time, which was the only book she'd brought with her that day. If Alice hadn't gotten pissed off, the day would have been filled with their usual activities: watching their favorite morning game shows, Press That Button! and The Price Is Right; reading Seventeen magazine and giving each other personality quizzes; playing Oregon Trail or any of the other educational games that had come preloaded on the twenty-pound laptop computer Alice had been given to do her makeup school work; and the myriad casual ways the girls had always found to pass time together. Sadie might not have many friends, but she'd never felt that she needed them: Alice was ne plus ultra. No one was cleverer, more daring, more beautiful, more athletic, more hilarious, more fill-in-the-adjective-of-your-choice than Alice. Even though they insisted Alice would recover, Sadie often found herself imagining a world that didn't have Alice in it. A world that lacked shared jokes and music and sweaters and parbaked brownies and sister skin casually against sister skin, under the blankets, in the darkness, and most of all, lacking Alice, the keeper of the innermost secrets and shames of Sadie's innocent heart. There was no one Sadie loved more than Alice, not her parents, not her grandmother. The world sans Alice was bleak, like a grainy photograph of Neil Armstrong on the moon, and it kept the eleven-year-old up late at night. It would be a relief to escape into the world of Nintendo for a while.

But the ganceroymicwasedot/leatheriaA boy was playing

Super Mario Bros. Sadie determined he was a sick kid, and not a sibling or a visitor like herself: he was wearing pajamas in the middle of the day, a pair of crutches rested on the floor beside his chair, and his left foot was surrounded by a medievallooking cage-like contraption. She estimated the boy was her age, eleven, or a little older. He had tangled curly black hair, a puggish nose, glasses, a cartoonishly round head. In Sadie's art class at school, she had been taught to draw by breaking things down into basic shapes. To depict this boy, she would have needed mainly circles.

She sat on the floor next to him and watched him play. He was skilled—at the end of the level, he could make Mario land at the top of the flagpole, something Sadie had never mastered. Although Sadie liked to be the player, there was a pleasure to watching someone who was a dexterous player—it was like watching a dance. He never looked over at her. Indeed, he didn't seem to notice she was there. He cleared the first boss battle, and the words BUT OUR PRINCESS IS IN ANOTHER CASTLE appeared on the screen. Without looking over at her, he said, "You want to play the rest of this life?"

Sadie shook her head. "No. You're doing really well. I can wait until you're dead."

The boy nodded. He continued to play, and Sadie continued to watch.

"Before. I shouldn't have said that," Sadie apologized. "I mean, in case you are actually dying. This being a children's hospital."

The boy, piloting Mario, climbed up a vine that led to a cloudy, coin-filled area. "This being the world, everyone's dying," he said.

"True," Sadie said.

"But I'm not currently dying."

"That's good." Copyrighted Material

"Are you dying?" the boy asked.

"No," Sadie said. "Not currently."

"What's wrong with you, then?"

"It's my sister. She's sick."

"What's wrong with her?"

"Dysentery." Sadie didn't feel like invoking cancer, the destroyer of natural conversation.

The boy looked at Sadie as if he were going to ask a followup question. But instead, he handed the controller to her. "Here. My thumbs are tired anyway."

Sadie acquitted herself well through the level, powering up Mario and adding another life.

"You're not that bad," the boy said.

"We have a Nintendo at home, but I'm only allowed to play it an hour a week," Sadie said. "But no one pays attention to me anymore, since my sister Al got sick . . ."

"Dysentery," the boy filled in.

"Yeah. I was supposed to go to Space Camp in Florida this summer, but my parents decided I should stay home to keep Al company." Sadie ground pounded a Goomba, one of the mushroom-like creatures that were abundant in Super Mario. "I feel bad for the Goombas."

"They're just henchmen," the boy said.

"But it feels like they've gotten mixed up in something that has nothing to do with them."

"That's the life of a henchman. Go down that pipe," the boy instructed. "There's a bunch of coins down there."

"I know! I'm getting to it," Sadie said. "Al seems annoyed with me most of the time, so I don't know why I couldn't go to Space Camp. It would have been my first time at overnight camp and my first time flying alone on a plane. It was only going to be for two weeks anyway." Sadie was nearing the end of the level. "What's the secret to landing high on the flagpole?"

Copyrighted Material

"Hold down the run button as long as you can, then crouch down and jump just before you're about to fall," the boy said.

Sadie/Mario landed on the top of the flagpole. "Hey, it worked. I'm Sadie, by the way."

"Sam."

"Your turn." She returned the controller to him. "What's wrong with you?" she asked.

"I was in a car accident," Sam said. "My foot is broken in twenty-seven places."

"That's a lot of places," Sadie said. "Are you exaggerating, or is that the number?"

"It's the number. I'm very particular about numbers."

"Me too."

"But sometimes the number goes up slightly because they have to break other parts of it to reset it," Sam said. "They might have to cut it off. I can't stand on it at all. I've already had three surgeries and it's not even a foot. It's a flesh bag, with bone chips in it."

"Sounds delicious," Sadie said. "Sorry, if that was gross. Your description made me think of potato chips. We skip a lot of meals since my sister got sick, and I don't think anyone would even notice if I starved to death. All I've had today is a pudding cup."

"You're weird, Sadie," Sam said, with interest in his voice.

"I know," Sadie said. "I really hope they don't have to amputate your foot, Sam. My sister has cancer, by the way."

"I thought she had dysentery."

"Well, the cancer treatment gives her dysentery. The dysentery thing's kind of a joke between us. Do you know that computer game *Oregon Trail*?"

"Possibly." Sam avoided a direct admission of ignorance.

"It's probably in the computer lab at your school. It's, maybe, my favorite game, even though it's a little boring. It's about these people in the 1800s, and they are in the get from

the East Coast to the West Coast, in a wagon, with a couple of oxen, and the goal is to make it so everyone in your party doesn't die. You have to feed them enough, not go too fast, buy the right supplies, stuff like that. But sometimes, someone, or even you, still dies, like of a rattlesnake bite, or starvation, or—"

"Dysentery."

"Yes! Exactly. And this always makes me and Al laugh."

"What is dysentery?" Sam asked.

"It's diarrhea," Sadie whispered. "We didn't know at first either."

Sam laughed, but just as abruptly, he stopped laughing. "I'm still laughing," he said. "But it hurts when I laugh."

"I promise not to say anything funny ever again, then," Sadie said, in an odd, emotionless voice.

"Stop! That voice is going to make me laugh even more. What are you even trying to be?"

"A robot."

"A robot sounds like this." Sam did his impression of a robot, which cracked them up all over again.

"You're not supposed to laugh!" Sadie said.

"You're not supposed to *make me* laugh. Do people truly die of dysentery?" Sam asked.

"In the olden days, I guess they did."

"Do you think they put it on people's tombstones?"

"I don't think they put cause of death on tombstones, Sam."

"At the Haunted Mansion at Disneyland, they do. I kind of hope I die of dysentery now. Shall we switch to playing *Duck Hunt?*"

Sadie nodded.

"You'll have to set up the guns. They're right up there." Sadie retrieved the light guns and plugged them into the console. She let San shorting ted Material

"You're fantastically good," she said. "Do you have a Nintendo at home?"

"No," Sam said, "but my grandfather has a *Donkey Kong* machine in his restaurant. He lets me play as much as I want for free. And the thing about games is, if you get good at one game, you can be good at any game. That's what I think. They're all hand-eye coordination and observing patterns."

"I agree. And what? Your grandfather owns a Donkey Kong machine? That is so cool! I love those old machines. What kind of restaurant is it?"

"It's a pizza place," Sam said.

"What? I love pizza! It's my favorite food on earth. Can you eat all the pizza you want for free?"

Sam nodded while expertly annihilating two ducks.

"That's, like, my dream. You're living my actual dream. You have to let me go with you, Sam. What's the name of the restaurant? Maybe I've already been to it."

"Dong and Bong's New York Style House of Pizza. Dong and Bong are my grandparents' names. It's not even funny in Korean. It's like being called Jack and Jill," Sam said. "The restaurant is on Wilshire in K-town."

"What's K-town?"

"Lady, are you even from Los Angeles? K-town is Koreatown. How do you not know that?" Sam said. "Everyone knows K-town."

"I know what Koreatown is. I didn't know people called it K-town."

"Where do you live anyway?" Sam asked.

"The flats."

"What are the flats?"

"It's the flat part of Beverly Hills," Sadie said. "It's pretty close to K-town. See, you didn't know what the flats were! People in L.A. only ever know about the part of town that they live in." **Copyrighted Material**

"I guess you're right."

For the rest of the afternoon, Sam and Sadie chatted amiably while slaughtering several generations of virtual ducks. "What did the ducks ever do to us?" Sadie commented.

"Maybe we're shooting them for digital food. The digital usses will starve without the virtual ducks."

"Still, I feel bad for the ducks."

"You feel bad for the Goombas. You basically feel bad for everyone," Sam said.

"I do," Sadie said. "I also feel bad for the bison in *Oregon Trail*."

"Why?" Sam asked.

Sadie's mother poked her head into the game room: Alice had something she wanted to tell Sadie, which was code for Sadie having been forgiven. "I'll tell you next time," Sadie said to Sam, though she didn't know if there would ever be a next time.

"See you around," Sam said.

"Who's your little friend?" Sharyn asked as they were leaving.

"Some boy." Sadie looked back at Sam, who had already returned his attention to the game. "He was nice."

On the way to Alice's room, Sadie thanked the nurse who had told her to use the game room. The nurse smiled at Sadie's mother—manners were honestly somewhat rare in kids these days. "Was it empty like I said?"

"No, a boy was in there. Sam . . . " She didn't know his last name yet.

"You met Sam?" The nurse's sudden interest made Sadie wonder if she had broken a secret hospital rule by occupying the game room when a sick kid had wanted to use it. There were so many rules since Alice had gotten cancer.

"Yes," Sadie tried to explain. "We talked and played Nintendo. He didn' Coepy tighing that was there."

"Sam, with the curly hair and glasses. That Sam?" Sadie nodded.

The nurse asked to speak to Sharyn alone, and Sharyn told Sadie to go on ahead to Alice.

When Sadie opened the door to Alice's room, she felt uneasy. "I think I'm in trouble," she announced.

"What did you do now?" Alice said. Sadie explained her theoretical crime. "They *told* you to use it," Alice reasoned, "so, you can't have done anything wrong."

Sadie sat on Alice's bed, and Alice started braiding her hair.

"I bet that's not even why the nurse wanted to speak to Mom," Alice continued. "It could have been about me. Which nurse was it?"

"I don't know."

"Don't worry, kid. If it turns out you *are* in trouble, cry and say your sister has cancer."

"Sorry about the whole hat thing," Sadie said.

"What hat thing? Oh, right. My fault. I don't know what's wrong with me."

"Leukemia, probably," Sadie said.

"Dysentery," Alice corrected.

By the time they were on the drive back home, Sharyn had still not mentioned the game room, and Sadie was reasonably confident that the incident had been forgotten. They were listening to an NPR story about the centenary of the Statue of Liberty, and Sadie was thinking how awful it would be if the Statue of Liberty were an actual woman. How strange it would be to have people inside you. The people would feel like invaders, like a disease, like head lice or cancer. The thought disturbed her, and Sadie was relieved when her mother turned off the radio. "You know that boy you were talking to today?"

Here it is, Sadie chought tees, WSadie and quietly. She

noted that they were passing through K-town and she tried to spot Dong and Bong's New York Style House of Pizza. "I'm not in trouble, am I?"

"No. Why would you be in trouble?"

Because lately, Sadie was almost always in trouble. It was impossible to be eleven, with a sick sister, and for people to find your conduct beyond reproach. She was always saying the wrong thing, or being too loud, or demanding too much (time, love, food), even though she had not demanded more than what had been freely given before. "No reason."

"The nurse told me he was in a horrific car accident," Sharyn continued. "He hasn't said more than two words to anyone in the six weeks since he was injured. He's been in terrible pain, and he'll probably have to be in and out of the hospital for a very long time. It was a big deal that he talked to you."

"Really? Sam seemed pretty normal to me."

"They've been trying everything to make him open up. Therapists, friends, family. What did you two talk about?"

"I don't know. Nothing much." She tried to remember their conversation. "Games, I guess?"

"Well, this is entirely up to you," Sharyn said. "But the nurse wondered if you might come back tomorrow to talk to Sam again." Before Sadie had time to respond, Sharyn added, "I know you have to do community service for your Bat Mitzvah next year, and I'm sure this would probably count."

To allow yourself to play with another person is no small risk. It means allowing yourself to be open, to be exposed, to be hurt. It is the human equivalent of the dog rolling on its back—I know you won't hurt me, even though you can. It is the dog putting its mouth around your hand and never biting down. To play requires trust and love. Many years later, as Sam would controversially say in an interview with the gaming website Kotaku, Charrian and relationate act than play, even

sex." The internet responded: no one who had had good sex would ever say that, and there must be something seriously wrong with Sam.

Sadie went to the hospital the next day, and the next day, and the next day, and then whatever days Sam was well enough to play but sick enough to be in the hospital. They would become great playmates. They competed sometimes, but they took their greatest pleasure from copiloting a single player character, passing a keyboard or a controller back and forth between them while discussing the ways they could ease this virtual person's journey through an inevitably perilous game world. While they gamed, they told each other the stories of their relatively short lives. Eventually, Sadie knew everything about Sam, and Sam, about Sadie. They thought they did, at least. She taught him the programming she'd picked up at school (BASIC, a little Pascal) and he expanded her drawing technique beyond circles and squares (crosshatching, perspective, chiaroscuro). Even at twelve, he was an excellent draftsman.

Since the accident, Sam had begun making intricate, M. C. Escher–style mazes. His psychologist encouraged him, believing that mazes could help Sam deal with his significant physical and emotional pain. She interpreted the mazes as a hopeful indication that Sam was plotting a way beyond his current situation. But the doctor was wrong. Sam's mazes were always for Sadie. He would slip one into her pocket before she left. "I made this for you," he'd say. "It's nothing much. Bring it back next time so I can see the solution."

Sam would later tell people that these mazes were his first attempts at writing games. "A maze," he would say, "is a video game distilled to its purest form." Maybe so, but this was revisionist and self-aggrandizing. The mazes were for Sadie. To design a game is to imagine the person who will eventually play it.

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At the end of each visit, Sadie would stealthily present a timesheet to one of the nurses to sign. Most friendships cannot be quantified, but the form provided a log of the exact number of hours Sadie had spent being friends with Sam.

It was several months into Sam and Sadie's friendship when Sadie's grandmother, Freda, first broached the subject of whether Sadie was truly doing community service or not. Freda Green often chauffeured Sadie to the hospital to see Sam. She drove a red, American-made convertible, with the top down if weather permitted (in Los Angeles, it usually did) and a silk printed scarf in her hair. She was barely five feet, only an inch taller than the eleven-year-old Sadie, but she was always dressed impeccably in the bespoke clothes she bought in Paris once a year: crisp white blouses, soft gray wool pants, bouclé or cashmere sweaters. She was never without her hexagonal weapon of a leather handbag, her scarlet lipstick, her delicate gold wristwatch, her tuberose-scented perfume, her pearls. Sadie thought she was the most stylish woman in the world. In addition to being Sadie's grandmother, Freda was also a Los Angeles real estate tycoon, with a reputation for being terrifying and unfailingly scrupulous in business negotiations.

"Mine Sadie," she said as they drove from the west to the east. "You know I am overjoyed to drive you to the hospital."

"Thanks, Bubbe. I appreciate it."

"But, I think, based on what you have told me, that the boy might be more of a friend."

The waterlogged community service form had been sticking out of her math book, and Sadie tucked it inside. "It was Mom's idea," Sadie defended herself. "The nurses and doctors say I'm helping. Last week, his grandfather gave me a hug *and* a slice of mushroom pizza. I don't see what's wrong with it."

"Yes, but the boy doesn't know about the arrangement, am I right?" **Copyrighted Material**

"No," Sadie said. "It never came up."

"And do you think there might be a reason you haven't brought it up?"

"When I'm with Sam, we're busy," Sadie said lamely.

"Darling, it may come out later, and it could hurt your friend's feelings, if he thinks he is a charity to you, and not a genuine friendship."

"Can't something be both?" Sadie said.

"Friendship is friendship, and charity is charity," Freda said. "You know very well that I was in Germany as a child, and you have heard the stories, so I won't tell them to you again. But I can tell you that the people who give you charity are never your friends. It is not possible to receive charity from a friend."

"I hadn't thought of it that way," Sadie said.

Freda stroked Sadie's hand. "Mine Sadie. This life is filled with inescapable moral compromises. We should do what we can to avoid the easy ones."

Sadie knew that Freda was right. Still, she continued to present the timesheet for signature. She liked the ritual of it, and she liked the praise she received—from the nurses and sometimes the doctors, but also from her parents and the people at her temple. There was even a minor pleasure to filling out the log itself. It was a game to her, and she didn't think the game had much to do with Sam himself. It wasn't a deception, per se. She wasn't hiding the fact of her community service from Sam, but the longer it went on, the less she felt that she could ever tell him. She knew that the presence of the timesheet made it seem as if she had an ulterior motive, though the truth was obvious to her: Sadie Green liked being praised, and Sam Masur was the best friend she had ever had.

Sadie's community service project went on for fourteen months. Predictably operiod the Mayesian discovered its

existence. Their friendship amounted to 609 hours, plus the 4 hours of the first day, which had not been part of the tally. A Bat Mitzvah at Temple Beth El required only 20 hours of community service, and Sadie was given an award by the fine women of Hadassah for her exceptional record of good works.

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The Advanced Games seminar met once a week, Thursday afternoons from two to four. There were only ten spots, and students were accepted by application. The seminar was led by twenty-eight-year-old Dov Mizrah, surname in the course catalog, but known only by his given name in gaming circles. It was said of Dov that he was like the two Johns (Carmack, Romero), the American boy wonders who'd programmed and designed Commander Keen and Doom, rolled into one. Dov was famous for his mane of dark, curly hair, wearing tight leather pants to gaming conventions, and yes, a game called *Dead* Sea, an underwater zombie adventure, originally for PC, for which he had invented a groundbreaking graphics engine, Ulysses, to render photorealistic light and shadow in water. Sadie, and about five hundred thousand other nerds, had played Dead Sea the prior summer. Dov was the first professor she'd ever had whose work she had enjoyed before she'd taken the class, not because she'd taken the class. Gamers, like herself, were avidly awaiting a sequel to Dead Sea, and when she saw his name in the course catalog, she had wondered why someone like him had wanted to interrupt a brilliant career designing games to Geoprighted Material

"Look," Dov said on the first day of the seminar, "I'm not here to teach you how to program. This is an advanced games seminar at MIT. You already know how to program, and if you don't . . ." He gestured toward the door.

The format for the class was not unlike a creative writing class. Each week, two of the students would bring in a game, a simple game or a part of a longer game, whatever could be feasibly programmed given the time constraints. The others would play the games, and then they'd critique them. The students were responsible for making two games during the semester.

Hannah Levin, the only girl in the seminar besides Sadie (though this was an ordinary male-to-female class ratio at MIT), asked if Dov cared which programming language they used.

"Why would I care? They're all identical. They all can suck my dick. And I mean that literally. You have to make whatever programming language you use suck your dick. It needs to serve you." Dov looked over at Hannah. "You don't have a dick, so clit, whatever. Pick the programming language that is going to make you come."

Hannah laughed nervously and avoided Dov's eyes. "So, Java is good?" Hannah said quietly. "Some people I know don't, like, respect Java, but—"

"Respect Java? Seriously, fuck whoever said that. Whatever. Pick the programming language that is going to make me come," Dov added.

"Yes, but if there's one you prefer."

"Dude, what's your name?"

"Hannah Levin."

"Dude, Hannah Levin. You have to chill out. I'm not interested in telling you *how* to make your game. Use three programming languages for all I care. That's how I do it. I write some, and **Gd'mblocked**. I worte work in another

language for a while. That's what compilers are for. Does anyone else have any questions?"

Sadie found Dov vulgar, repellent, and a little sexy.

"The idea is to blow each other's minds," Dov said. "I don't want to see versions of my games, or any other games I've already played. I don't want to see pretty pictures without any thought behind them. I don't want to see coding that is seamless in service of worlds that are uninteresting. I hate hate hate hate hate being bored. Astonish me. Disturb me. Offend me. It's not possible to offend me."

After class, Sadie went up to Hannah. "Hey, Hannah, I'm Sadie. Kind of rough in there, right?"

"It was fine," Hannah said.

"Have you played Dead Sea? It's amazing."

"What's Dead Sea?"

"It's his game. It's, you know, the whole reason I'm in this class. The main POV is this little girl, who is the lone survivor of—"

Hannah interrupted. "I guess I should check it out."

"You should. What kind of games do you play?" Sadie said. Hannah frowned. "Yeah, sorry, I have to run. Nice meeting you!"

Sadie didn't know why she bothered. You would think women would want to stick together when there weren't that many of them, but they never did. It was as if being a woman was a disease that you didn't wish to catch. As long as you didn't associate with the other women, you could imply to the majority, the men: *I'm not like those other ones*. Sadie was, by nature, a loner, but even she found going to MIT in a female body to be an isolating experience. The year Sadie was admitted to MIT, women were slightly over a third of her class, but somehow, it felt like even less than that. Sadie sometimes felt as if she could go weeks without seeing a woman. It might have been that the **Greeny nickt tof the later least**, assumed you

were stupid if you were a woman. Or, if not stupid, less smart than they were. They were operating under the assumption that it was easier to get into MIT if you were a woman, and statistically, it was—women had a 10 percent higher admittance rate over men. But there could have been many reasons for that statistic. A likely one was self-elimination: female applicants to MIT might have held themselves to higher standards than male applicants. The conclusion should not have been that the women who got into MIT were less gifted, less worthy of their places, and yet, that seemed to be what it was.

Sadie had the fortune or the misfortune of being the seventh student to present a game that semester. She had struggled with what to program. She had wanted to make a statement about the kind of designer she was going to be. She didn't want to present something that seemed cliché, or too genre, or too simplistic, graphically or in a ludic sense. But after seeing her fellow seminarians be eviscerated by Dov, she knew that it barely mattered what she presented. Dov hated everything. He hated variations on Dungeons & Dragons and turn-based RPGs. He hated platformers, other than Super Mario, though he loathed gaming consoles. He hated sports. He hated cute animals. He hated games based on intellectual property. He hated the fact that so many games were based on the idea that one was either chasing or being chased. But above all, he despised shooters, which meant he hated most of the games that were made by professionals or students, and a significant portion of the games that were successful. "Guys," Dov said. "You know I've served in the army, right? Guns are so fucking romantic to you Americans, because you don't know what it is to be at war and to be constantly under siege. It's truly pathetic."

Florian, the skinny engineering major whose game was currently on the Chapping block, said Dav, I'm not even from

America." Florian's game wasn't a shooter either: it was an archery game that had been inspired by competing as a youth archer in Poland.

"Right, but you've absorbed its values."

"But you've got shooting in Dead Sea."

Dov insisted that there wasn't any shooting in Dead Sea.

"What are you talking about?" Florian said. "The girl beats a guy with a log."

"That's not shooting," Dov said. "That's violence. A little girl hitting a violent predator with a log is hand-to-hand combat and that's *honest*. A man, who is represented by a hand, shooting a series of unknown henchmen is *dishonest*. It's not violence that I hate anyway. It's lazy games that act as if the only thing you can possibly do in life is shoot at something. It's lazy, Florian. And the problem with your game is not that it's a shooter, but that your game isn't any fun to play. Let me ask you a question: Did you play it?"

"Yes, of course I played it."

"Did you think it was fun?"

"I don't think of archery as fun," Florian said.

"Okay, fuck that, who cares if it's fun? Did it feel like archery to you?"

Florian shrugged.

"Because it didn't feel like archery to me."

"I don't know what that means."

"I'll tell you. The shooting mechanic has a lag. I can't tell where the sights are aimed. And it doesn't at all simulate the feeling of pulling back on a bow, as I'm sure you know. There's no tension, and the heads-up display obscures more than it helps. It's just a game with some pictures of a bow and a bullseye. It could be a game about anything, by anyone. And also, you haven't created any kind of story. The problem with your game is not that it's a shooter, but that it's a bad shooter and it has no character." **Copyrighted Material**

"This is bullshit, Dov," Florian said. He was very pale, and his skin flushed a psychedelic pink.

"Dude, dude." Dov smacked Florian affectionately on the shoulder, and then he pulled him into an aggressive bear hug. "Next time, we fail better."

When Sadie went to make her first game, she had no idea what Dov would like. And she started to wonder if this was the point. There was no pleasing Dov, so you might as well make something that amused you, at least. Out of desperation and with almost no time left, Sadie made a game about the poetry of Emily Dickinson. She titled it *EmilyBlaster*. Poetic fragments fell from the top of the screen and, using a quill that shot ink as it tracked along the bottom of the screen, the player had to shoot the fragments that added up to one of Emily Dickinson's poems. And then once the player had successfully cleared the level by shooting several of Emily's verses, you earned points to decorate a room in Emily's Amherst house.

Because
SHOOT
I could not
SHOOT
stop for
SHOOT
Death

The class hated it. Hannah Levin was the first to offer feedback. "So ... I thought some of the graphics were nice, but the thing is, the game kind of sucked. It was weirdly violent, and also weirdly bucolic at the same time. And Dov told us not to make shooters, but a pen that shoots ink, is still a gun, right?"The rest of the feedback would continue along the same line. **Copyrighted Material**

Florian had one mildly positive comment: "I like when you shoot the words, it turns into a little black spot of ink, and I like the plosive sound you added, when the ink hits the screen."

Hannah Levin countered, "I thought it sounded like a—excuse me if this is rude—I thought it sounded like a fart." Hannah Levin covered her mouth as if she herself had just farted.

Nigel from England added, "But I think it technically sounded more like a queef."

The class hooted.

"Wait," Hannah said, "what's a queef?"

The class laughed even more, and Sadie laughed, too.

"I wanted to work on the sound some more, but I ran out of time," Sadie apologized, though no one seemed to hear her.

"Guys, calm down. I hate this, too," Dov said, "but actually, I don't hate it as much as some of the other ones." Dov looked at Sadie as if seeing her for the first time. (It was the fourth week of class.) He glanced at his roster and Sadie could tell that he was learning her name, and she felt flattered, even if it was the FOURTH week of class. "It's a rip-off of *Space Invaders*, but with a pen instead of a gun. At the very least, I can say I haven't played this exact rip-off before, Sadie Green."

Dov played another round of *EmilyBlaster*, and Sadie knew she was being paid another compliment. "Fun," he said quietly, but loud enough so that everyone heard.

For her second game, Sadie felt she could and should be more ambitious. This time, she did not struggle with a concept.

Sadie's game was set in a nondescript black-and-white factory that made unspecified widgets. Points were given for each of the widgets you assembled. Sadie had designed the mechanic of the game to be like *Tetris*, a game for which Dov had often expressed administrate (Hadoveda Tetris because it

was fundamentally creative—a game about building and figuring out how to make pieces fit.) With each of the game's levels, you assembled widgets that had more pieces and greater complexity, and you had less and less time to accomplish the assemblies. At various times in the game, a text bubble came up, asking if you wanted to exchange points for information about the factory and the kind of products it produced. The game warned that if you received information about the factory, it would result in a minor reduction of your high score. The player had the option to skip as much or as little of this information as they wanted.

As was the procedure, Sadie distributed the 3.5-inch disks at the class before which she was to present, so that the group could play her game over the next week. By way of description, she said, "Well, um, my game is called *Solution*. It was inspired by my grandmother. You guys can play it, and I'm sure you'll tell me what you think."

Sadie got an email from Hannah Levin at the end of the weekend. Dear Sadie, I played your "game," and I honestly don't know what to say. It is disgusting and offensive, and you are a sick person. I'm cc'ing Dov on this email. I'm not sure if I will be able to attend class, because I'm too disturbed. This class is no longer a safe space for me.—Hannah

Sadie smiled when she read this email. She took her time crafting a reply: Dear Hannah, I'm not entirely sorry that you were disturbed by my game. The game is meant to be disturbing, and as I mentioned in class, it was inspired by my grandmother.

Hannah replied, Fuck you, Sadie.

Dov replied a couple of hours later, just to Sadie: Sadie, Haven't played yet. Looking forward, Dov.

Dov called Sadie the next day. "So, we both know Hannah Levin is an impossible idiot, right?"

Dov had spent the last hour on the phone with Hannah, who wanted Dovotoyrepont Sadicate MHT's Committee on