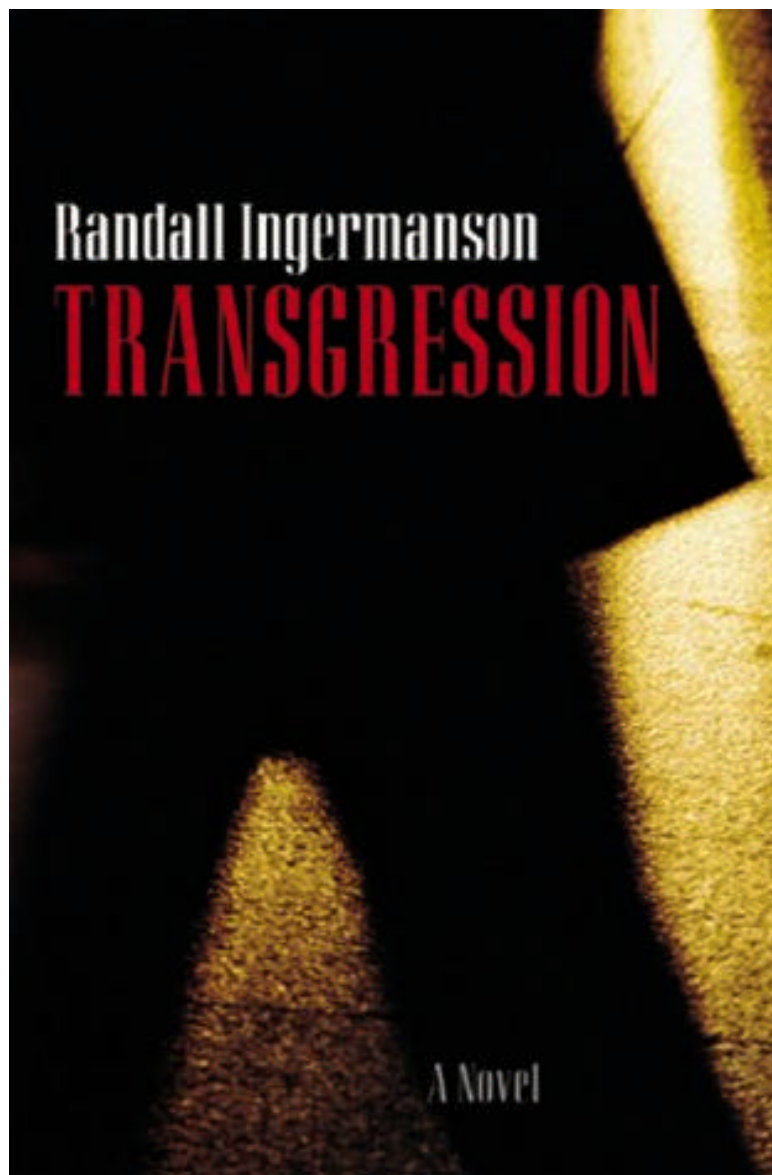


Transgression: A Novel

by Randall Ingermanson



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Part I: Virtual Unreality

"There is much we still don't know, such as what happens to objects and information that fall into a black hole. Do they reemerge elsewhere in the Universe or in another universe? And can we warp space and time so much that one can travel back in time? These questions are part of our ongoing quest to understand the Universe. Maybe someone will come back from the future and tell us the answers."

– Stephen Hawking, in the foreword to *Black Holes and Time Warps*, by Kip Thorne.

Prologue

Rivka

Rivka Meyers knew something was wrong when she bumped into a wall that wasn't there.

"Ow!" She tugged at the virtual reality headset she'd worn for the past half hour. "Dr. West?" she said. "How do I get this thing off?"

No response.

She fumbled with the straps at her chin. "Dr. West? Are you there? Hello?"

The buckle popped loose in her hand. She pulled the headset off and blinked. The lab was much darker than she remembered, and it smelled musty. Why hadn't she noticed that before?

The game had defocused her vision. While she waited for her eyes to adjust, she put her hand against the wall. It felt rough, stony. *Like limestone*, said something deep inside her archaeologist's brain.

But that was impossible. She was in the back part of a physics laboratory. Wasn't she? Rivka suddenly felt dizzy, nauseated.

"Dr. West, what's going on?" she asked in a loud voice. "I'm done playing your computer game." Her voice echoed oddly in the stillness.

"Dr. West!" She was shouting now, angry. What kind of a prank was he playing? She didn't like it, and she wanted out. Now.

Rivka turned her head in a slow semi-circle, studying her surroundings. In one direction, she could see light from a rough-cut entrance. In the other direction -- total darkness. She sniffed. It smelled like. . . a cave. But it couldn't be. Not on the third floor of a physics building in downtown Jerusalem.

"God, help me!" It wasn't a prayer -- just a figure of speech. Maybe it wouldn't hurt to try the real thing.

Lord. . . help me get back to the lab. I need to find Ari --

A bead of sweat ran down her back. Did she really want to see Ari again, after what he'd said last night?

A footstep scuffled at the lighted end of the room. A deep male voice said something muzzy and indistinct.

Thanks, Father. Rivka turned to look.

Right away, she saw that it wasn't Ari. Nor Dr. West. At the moment, she didn't care. Any human being would be welcome. "Excuse me!" she shouted in English, and began walking toward the man. "Could you tell me how to get to Ari Kazan's lab?" She repeated this in Hebrew.

The light grew better as she got closer to him. He wore a black beard and rough garb much like a Bedouin's -- but different. Rivka couldn't quite place his costume, although she'd been in Israel for over a month now, and had thought she'd seen everything -- Arabs in checkered *kaffiyehs*, Hasidic rabbis in black fur hats, Druze villagers in baggy shirts and pants, sabra girls in string bikinis. This man might well be the janitor -- or just as easily the department chairman.

The man squinted in her direction. The nearer Rivka came to him, the more she slowed. Finally, she stopped. "Hello?" she said. "*Shalom? Salaam?*"

He said something in a language she didn't recognize. The vowel usage reminded her vaguely of Syriac -- a notion so ridiculous that Rivka almost laughed out loud. Syriac had been a dead language for centuries.

A little smile formed on the man's face as he stared at her. His gaze ran up and down her body, seeming to peel away her tee-shirt and cutoffs. His eyes lit up with an evil glow that needed no translation.

Rivka's heart double-thumped, then began a tap dance of panic in her chest. She stepped backward, clutching the virtual reality headset in her hands as though it were a shield. "Dr. West!" she shouted. "Help!"

The man chuckled softly. He took a step toward her, his hands held out to either side to cut off her escape.

"Who are you?" Rivka asked in a loud voice that grated in her own ears. She stepped back again. "*Mi attah?*" She couldn't remember how to say it in Arabic.

The man took another step toward her.

Rivka backed rapidly away from him. "Don't you dare touch me!" she said. "I'm an American! *Ani Amerikait!*" The words sounded foolish, but she had to try. She'd read somewhere that you had a better chance if you kept talking and put up a fight.

The man gave a yellow smile and kept advancing, catlike.

Rivka stepped back again, and the headset in her hand clunked against something hard. A wall. Her mind spun wildly now, out of control. The man was only a few paces away. Desperate, she lunged forward and screamed, "Get away from me!"

She threw the headset at his face and dodged to her left.

He batted the flimsy missile away with a hairy paw and scooted to his right, keeping between her and the exit. His eyes glowed with animal pleasure. He took another step.

Rivka pulled a key out of her pocket and clenched it tightly. *Improvise! Fight!* She kept moving sideways, maneuvering for room. *Please, Father, save me!*

The man fainted forward. She skittered sideways, tripped over a huge bump on the ground, staggered. Then her foot stepped on a marble sized pebble and shot out from under her.

She landed hard on her back in the dirt. Her key dropped into the loose dirt somewhere nearby.

The man grunted in triumph and rushed at her.

She dug her hands into the soft dust for balance and timed her kick perfectly.

Almost perfectly. At the last instant, he twisted his hips. Not much, but enough.

Her sandal thudded into a very solid thigh. The shock ran up her leg and into her spine. "No!" she screamed, and she began kicking her feet in the air like windmills.

His hands snaked at her ankles, caught them, locked them in an iron grip. He laughed softly and forced her feet to the ground. He pinned them down with one enormous hand and leaned forward. Rivka smelled his vinegary breath.

She slashed wildly with her left hand, scratching at his eyes. He jerked his head away to his left. Which was Rivka's right.

Point-blank, Rivka flung a handful of fine dust into his eyes. He screamed, clawed at his face. Suddenly, Rivka's legs came free.

She rolled away from him. He lunged blindly for her, coughing, spitting.

She scrambled up, grabbed another handful of dust, and pitched it into his gaping mouth.

He choked and fell on his face.

Rivka turned and ran. "Ari!" she screamed. "Help!"

She raced outside into the sunlight, sprinted madly through a dark grove of trees with gnarled branches. Her heart pounded in her chest. Her ragged breath rasped in her ears. Was he following? Faster! Tears fogged her eyes. Her leather sandals tore at her feet. Trying to look back over her shoulder, she tripped and fell. Dust flew up all around her.

Coughing, she clambered to her feet and dared to look back. The man was nowhere in sight.

Rivka panted until she caught her breath. Her left wrist throbbed from the fall. She massaged it while she squinted into the trees, afraid that the man might be lurking in the shadows. Nothing happened.

Finally, she turned around to get her bearings.

She blinked twice and then stared. Across a small valley rose up massive stone walls. Herodian masonry. Jerusalem limestone. Towering white walls. It looked like --

But that was impossible. She closed her eyes, breathed deeply three times, and opened them again. *Absurd*. Had she gone loony or something?

Rivka had visited the Temple Mount twice, and studied hundreds of pictures during three years of graduate school. But she'd never seen it looking like this. So pure. So spotless.

So new.

Part II: Timeout

"On the surface, Thorne's mathematical reasoning is impeccable. Einstein's equations indeed show that wormhole solutions allow for time to pass at different rates on either side of the wormhole, so that time travel, in principle, is possible. The trick, of course, is to create the wormhole in the first place. . ."

– Michio Kaku, *Hyperspace*, chapter 11

Chapter 1

Rivka

Rivka raised her pick high overhead and swung it again into the hard-packed earth.

Crack! Rivka had heard that sound dozens of times in the two weeks she'd been on this dig.

"My friend, you are trying to break every pot on this site?" A broad grin covered the face of Dov Lifshutz, her co-worker for this week. Dov was a graduate student from Hebrew University with a couple of years experience digging already. Though only about three years older than Rivka, he'd spent those three years in the Israel Defense Forces. Service in the IDF aged soldiers like dog years.

Rivka gave an innocent shrug and held up her tool. "This thing isn't a toothpick, you know." She'd learned her first day on the job that you couldn't help breaking things. Like it said in all the books, archaeology was destruction.

She stood up to her full height and dug a fist into the aching muscles in her lower back. They'd been working half the morning in the middle of a square hole, five meters on each side, and now almost a meter deep. Apparently, they were about to hit another layer from the late-Roman period.

Dov knelt in the bare dirt and inspected the mark Rivka's pick had made in the reddish earth. She dropped down beside him. In a minute, they'd know if she'd found another pot, or something more interesting. Together, they loosened dirt with their fingers and pulled it out of the small hole.

"Can you see anything?" Dov asked.

Rivka pushed her small hand in and plucked out a handful of dirt. Something flashed in the sunlight. Something blue. Rivka gasped. You didn't find blue pottery in the Roman period.

Dov lowered his face until his nose almost touched the dirt. "*Tov me'od!*" he said. *Very good!* He raised his head and hooted with glee.

Rivka felt a sudden rush of adrenaline. "Is it what I think it is?"

"It is never what you think it is," Dov said. "That is the charm of archaeology." He grabbed a triangular steel trowel from her bucket of tools and handed it to her with mock formality. "I leave the honors to you, my brilliant and lovely friend."

Rivka smiled and took the trowel. Carefully, she poked it into the earth around the hole, loosening the dirt. Archaeology was a funny business. You attacked the earth with heavy equipment -- bulldozers, picks, shovels -- until you hit something. The minute you made

contact, you had to treat it like a family heirloom. Which, in a sense, it was.

When she'd broken up the dirt a bit, Rivka began scooping it into a *goofah*, a makeshift bucket recycled from an old tire. Archaeology was a thrifty science, dependent on old tools and volunteer labor and the occasional wealthy donor. She wasn't getting paid for this summer's work; she was paying for the privilege. More precisely, her father was paying.

Rivka took a broad paint brush and whisked the loose dirt away from a smooth flat surface, exposing an area the size of her hand. Tesserae -- tiny tiles! The colors were still dull and indistinct, except for the brilliant blue crack she'd made with her pick. She felt her insides trembling. This looked wonderful.

"We must wash it." Dov jumped up and got a Dixie cup full of water from the jug of ice water resting in the narrow strip of shade at the edge of the square. He handed it to Rivka.

She poured a little onto the patchwork of tiny inlaid tiles and polished them with her wet finger. When she'd poured out the whole cup, the edges were muddy but the center gleamed blue and white.

"Beautiful," Dov said. He raised an imaginary microphone to his mouth, and made a theatrical gesture with his left hand. "Ladies and gentlemen, I present to you the famous Rivka Meyers Memorial Mosaic!"

Rivka laughed. "Memorial! That sounds a bit morbid."

"Morbid?" Dov said. "What means *morbid*?"

"*Mahalati*," Rivka said.

"Miss Meyers, you amaze me," Dov said, still using his mock formal tone. "When you started here, you still had your most charming American accent. Now you speak like a *sabra*, mostly."

"Thank you. . .mostly." Rivka picked up the trowel again. "Now, if you don't mind, I'm going to uncover some more of the famous Lifshutz-Meyers mosaic."

Dov grabbed another trowel. "With your permission, I wish to join you."

Just then, his cellular phone buzzed. He pulled it out of his pocket and flipped it open. "*Hallo, medaber Dov.*" He listened for a moment. "*Ken, Imma.*"

Rivka smiled. Cellular phones were very big in Israel -- much more so than in the U.S. It was both common and comical to see a tough-looking Israeli soldier standing on a street corner, an Uzi dangling from his shoulder, a phone pressed to his ear, nodding and saying exactly what Dov had just said. *Yes, Mama.*

Rivka did her best not to listen. Dov's reluctant tone and slouched posture told her that Dov's mother was asking him to do something he didn't like. Finally, he hung up.

Rivka continued working in silence. Dov went to the water jug and poured two cups of water. "Rivka, you should take a break, please. It would be most unfortunate for you to become dehydrated."

She continued work for a full minute, then reluctantly decided he was right. This mosaic

wouldn't run away.

"I guess you're right." Rivka dropped her trowel and took the cup he offered. They sat down in the sliver of shade on the north side of the square and drank.

Dov crushed his Dixie cup in his hands and studied it minutely. "Did I ever tell you about my cousin Ari?"

Rivka suppressed a smile. In Hebrew, *Ari* meant "lion" and *Dov* meant "bear". "Did your grandparents own a zoo?"

"No, they lived in one," Dov said cryptically.

Rivka waited for him to explain this remark.

"So, as I was saying, my cousin Ari is a genius," Dov said. "He teaches physics at Hebrew University. Very, very smart, but he studies too hard."

What was Dov driving at? "We all study too hard," Rivka said. "The perils of academia."

"Okay, so let me finish, already," Dov said. "Ari's a nice guy, but he doesn't get out much. So his mother gets worried, and she talks to my mother, and -- "

"And so your mother tells you, 'Dov, find Ari a nice Jewish girl so he won't be lonely.'" Rivka wanted to laugh. "Am I right?"

"Not exactly," Dov said.

"Close?"

"Something like that -- "

"Sorry." Rivka stood up and dusted the seat of her cutoffs. "Not interested."

Dov laughed out loud. "Hey, little sister, you think I'm *meshuga*? Crazy? I know you have a most excellent gentleman friend back home, yes?"

Rivka mumbled something that even she couldn't hear clearly. Stefan was neither excellent nor a gentleman nor a friend, but if Dov wanted to think so, where was the harm?

"And anyway, you're too short for Ari, my friend. I'm not asking you to go out with him, okay?"

Rivka almost asked what height had to do with it, but decided to skip it. "What are you asking me?"

"I'm asking for a little help," Dov said. "That's all, yes?"

"What kind of help?"

"You're a nice girl, and you know everyone on the dig." Dov stood up and stretched. "You find another nice girl -- somebody adventurous -- "

"And I suggest to this nice girl that she hitchhike to Jerusalem and meet a mad scientist for a little fling?" Rivka stared at him. "You think I'm crazy?"

"Fling? What means *fling*?" Dov said. "Anyway, Ari isn't a mad scientist. He's a nice

guy, only shy. And besides, who said anything about hitchhiking? We can take her in my car."

"We?" Rivka said. "Where do you get this *we*?"

Dov's face split into an enormous smile. "Ah, I'm forgetting the best part. You can come too! To help melt the ice, yes? We drive up to Jerusalem for the weekend and stay in the youth hostel. On *Shabbat*, we can go to the Temple Mount, see the mosques. After *Shabbat*, we go out somewhere with Ari. Somewhere safe, okay? We eat at a nice cafe. Maybe we go dancing, or we go shopping in the *shuq*, or we look at some art, I don't know. Then the next day, we see some archaeological sites in the Jewish Quarter. You've been to the Temple Mount?"

Rivka nodded. "Once."

"But you'd like to see it again? And the Burnt House? And the Wohl Archaeological Museum?"

"Of course I'd like to see all that," Rivka said. "I haven't had time to visit the Burnt House."

"You'll have lots of time," Dov said. His face broadened into an engaging grin. "So! You'll go?"

Rivka hesitated. She hadn't gone out with any of the guys on the dig, although several had asked. She hadn't come here to meet guys.

Despite what her mother thought. *A girl only goes to Israel to meet men or to meet God, am I right? And you already know God, so you're looking for a man. What's to be ashamed of that?*

Nothing, of course, except that it was wrong -- on both counts. A hundred and eighty degrees wrong, to be exact. One reason Rivka had wanted to leave Berkeley for the summer was to get away from Stefan. After she tried telling him nicely that they weren't a good match, he'd spent most of the spring semester stalking her.

The other reason she'd wanted out of Berkeley was to take a break from God. Or rather, a break from fighting His battles.

Ever since she'd been a teenager growing up in a Messianic synagogue in San Diego, Rivka had been taking her lumps for God. Somehow, she'd never been able to walk away from an argument. Four years of debates in high school, another four as an undergraduate at UC San Diego, and three more in graduate school at Berkeley.

In the last six months, she'd lost her fire. She had heard all the easy answers to all the easy questions once too often. She was tired of giving easy answers, tired of too many battles with too many pseudo-intellectuals, of always being on the defensive. Tired of her own questions.

If God was in control of the universe, then why was her life so out of control? And why had He up and abandoned her for the last six months?

When her father had offered to pay for her summer in Israel, Rivka jumped at the chance, even though she knew there would be strings attached. Her plan was to work hard, play hard, and take a timeout. A timeout from God.

Or maybe she was giving Him the timeout. A timeout for bad behavior. Whatever.

Just for this one summer, she wouldn't tell anyone that she was a Messianic Jew. Why bring it up, when it would just lead to an argument? Why not let somebody else be Supreme Defender of the Faith and First Tiger for a while? Let someone else take the heat. God could get along without her help for a few months, couldn't He?

So far, it was working -- sort of. She had actually gone a whole month without alienating anybody. Nobody had called her a liar, a fool, or a phony since she'd set foot in Israel.

Which made her feel like a liar, a fool, and a phony.

It also made her feel hungry for God. Not hungry for talk *about* God, but hungry for --

"Hey, little sister, which planet are you on?" Dov asked. "*Hallo*, Rivka?" He rapped twice on her skull.

"Sorry," Rivka said. "I was just. . .thinking."

"Okay, fine," Dov said. "So think. You have plenty of time to think, yes? You don't have to decide right away."

Rivka smiled. Of all the guys on this dig, Dov had to be the safest imaginable. Like an older brother. And it would be wonderful to see Jerusalem again, to really take some time, to try to imagine the city two thousand years ago, when Yeshua walked those streets, climbed the steps to the Temple Mount, lit a fire in men's hearts -- a fire that had gone cold among her own people, but had found a home among Gentiles. She wanted fire in her heart again. Real fire. Wanted it bad.

"Okay, I'll go," she said.

Dov's eyes widened in surprise.

"So tell me -- what kind of a girl would your cousin Ari be interested in?"

Dov shrugged elaborately. "She has to be Jewish, or my mother will kill me, yes? And she should be pretty, of course. Maybe blond? And tall -- Ari is a hundred and ninety centimeters."

About six foot three, Rivka calculated. She thought for a moment. "Do you know Jessica Weinberg?"

"Who Weinberg?" Dov asked.

"Jessica. She works in Luke Morgan's area. I think she's what you're looking for. Blond. Jewish American Princess. Adventurous. She's studying at Brown University. And she's a lot taller than I am -- maybe five foot eight."

"How much is that in centimeters?" Dov asked.

"A hundred and seventy-three," Rivka said.

"You're very quick with the numbers, my friend."

"My father's an applied mathematician," Rivka said. Then she clapped her hand to her forehead. "Oops! I just remembered something. Jessica doesn't speak any Hebrew -- well,

hardly any."

"No problem!" Dov spread his hands wide. "Ari speaks very excellent English. He studied at Princeton and MIT."

"Good." Rivka knelt down in the dirt and picked up her trowel. "I'll talk to Jessica at lunchtime. Meanwhile, we have a masterpiece to uncover."

"Very good!" Dov plopped onto his knees beside her. "But *le'at, le'at!*" he said. *Slowly, slowly.*

Chapter 2

Ari

Ari's cellular phone buzzed while he was crossing King George Avenue. He pulled it out of his pocket as he reached the sidewalk. "*Shalom*, Ari speaking."

"*Shalom*, Ari!" said Dov. "The ladies are waiting."

"I'm just turning onto Ben Yehuda Street now," Ari said. "Where are you?"

"Go toward the Hotel Kikar Tzion," Dov said. "We're in a little cafe out on the sidewalk. You can't miss us."

Ari snorted. "Which means I will, certainly. Remember the first time you told me we couldn't miss?"

"And how could I forget, when you keep reminding me?" Dov asked. "Ah, the waiter is here, already. Hurry, Ari."

"*Shalom*." Ari snapped his phone shut and jammed it into his pocket. It was half an hour after sundown. *Shabbat* was over, and the streets had magically filled with people -- tourists, students, families, couples. The night air was cool, with just a hint of a breeze. A good night to be alive.

Except that his meddling *Imma* had pestered Dov's meddling *Imma* into setting him up with this blind date foolishness. Ari sighed. Part of him felt offended by it all.

And part of him felt grateful. After all, you didn't meet many women in the halls of a physics department, and the ones you did meet mostly had something to prove. Either that, or they hadn't yet made acquaintance with a box of cosmetics. But Dov had assured him that both of the "ladies" were friendly and attractive. Ari only hoped he would make it through the evening without doing anything foolish. He hadn't had much of a social life for years -- not since his undergraduate days at Hebrew University.

It was his own fault, he knew. He feared too much to do something wrong, so he usually wound up doing nothing at all. A man almost thirty-two ought to have a wife, or at least a girlfriend. But how did you do that? What was the magic trick? His *Imma* said he was too passive, and she was probably right, and it made him furious, but what could he do? Was it his fault he got all the introversion genes?

After a couple of blocks, a bookstore across the street caught Ari's eye. As he came closer, he wondered if he might have time to glance in the window. This section of Ben Yehuda Street was a pedestrian mall. Ari crossed the street.

"Ho, Ari!" shouted Dov from somewhere very close.

Ari spun around.

Dov sat grinning at him from a table fifteen meters away. "Ari, I bet the ladies dessert that you would walk past without seeing us!"

Ari shrugged his shoulders and smiled. "You're a scoundrel -- parking yourself just across from a bookstore. The ladies should refuse to pay."

Dov and his friends sat at a round glass table on the sidewalk. Ari studied them as he strode up to his chair. The tall one -- that would be Jessica -- was very pretty. Blue eyes and blond hair and the deep tan that Americans seemed to think so desirable. The other one was petite, with braided dark hair and glittering black eyes and honey-colored skin. She looked like a *sabra*, a native Israeli.

"Sit, my friend!" Dov said. "Jessica, Rivka, this is my cousin, Ari Kazan. He is a very great physicist, although he is too modest to admit it."

Ari sat down, his ears burning hot.

"Kazan," Jessica said. "I've been wondering all week if you're related to the director?"

Ari was used to this question. "Regrettably no." He shrugged his right shoulder. "Mr. Kazan was born Kazanjoglu, in Istanbul. Whereas my great-grandfather was a Kazan from Kiev."

Jessica looked a trifle disappointed. Then her face brightened. "Dov was just telling us about your adventure in the Arab Quarter."

Ari took a sip of water. "Which adventure was that?"

"The time you saved my life, you *meshuggener!*" Dov said.

"Ah, well this story gets better every time I hear it," Ari said. He shrugged at the girls. "Really, nothing much happened."

Rivka leaned forward. "Did you really wade all the way through Hezekiah's tunnel?"

Ari nodded. "All the way to the Pool of Siloam."

"Ooooh!" Jessica squealed. "That sounds like fun!"

Fun? Ari hadn't thought of it as fun. He'd simply wanted to see the tunnel. To be Israeli was to be an amateur archaeologist. Hezekiah's tunnel was one of the most ancient unquestionably authentic sites in Jerusalem, a connection to ancestors dead for the last twenty-seven centuries.

"The fun came at the end, mostly," Dov said. "When we reached the Pool of Siloam, a crowd of Palestinians was there. One of them spoke to us in Arabic, and I, being a great *meshuggener* in those days, answered in Hebrew. Five or six of them tried to drown me."

"Then what happened?" Jessica asked in a breathy voice.

Dov grinned broadly. "Ari broke some noses most magnificently."

Ari felt his stomach tighten. He remembered the cold fear in his heart, the sight of Dov's twisted face underwater, the pain in his jaw where one of the Arabs slugged him. Bloody faces, eyes filled with rage, angry shouts. He'd been a fool to go on that expedition with Dov, and a

bigger fool to get into a fight. Sometimes you had to fight, but it was never a good thing. Even if you won.

"We escaped only because Ari could throw stones better than the Arabs." Dov threw an imaginary missile at a phantom Arab. "He never misses."

Ari cleared his throat, embarrassed. That was an exaggeration. And anyway, throwing stones was not a talent a physicist needed.

"Shall we order?" Rivka said.

Ari picked up his menu, grateful for the diversion. "So tell me about your recent discoveries, my archaeologists."

"Rivka found a mosaic this week!" said Jessica. "It's absolutely incredible, at least what she's uncovered so far."

"The find of the season, possibly," Dov said. "As beautiful as the one that was stolen from Beth Shean!"

Ari looked at Rivka. "You'd better watch this cousin of mine, or he'll be claiming credit for it himself."

"He was there when I hit it with my pick," Rivka said. "He deserves half the credit."

Ari felt a little twinge of surprise. Sharing credit -- that was a refreshing attitude to see in an academic.

The waiter arrived and took their orders. Then the three archaeologists began an animated discussion of mosaics, and how important it was to preserve them, and the dangers of theft, and how each one brought new surprises to the art historians. Ari contributed to this conversation mostly by asking questions. He could learn more by listening than by talking. And besides, he felt just a bit tongue-tied.

Jessica looked very pretty -- much more so than any girl he had ever gone out with before. But this wasn't a real date, anyway, so what did it matter?

Finally, halfway through their frozen yogurts, a grin spread across Dov's face. He leaned forward. "Ari, you must tell the ladies about your latest theory, yes?"

Ari shook his head. "I wouldn't want to bore them."

"Try us," Rivka said.

"What kind of physicist are you, exactly?" Jessica asked.

"He's building a time machine!" Dov said.

"A what?" Jessica asked, with a giggle that made it clear she thought Dov was teasing her.

Ari winced. "Not exactly," he said. "I'm a theorist. They don't let me handle experimental apparatus for fear I'll break something."

The girls laughed.

"So your colleague is building the time machine," Dov said. "But he's using your theory, correct?"

"Not even a theory," Ari said. "Just a non-simply connected solution to Einstein's equations. And you should call it a closed timelike loop, not a time machine, please." He cautiously looked at the girls. Jessica was staring at him, her mouth half open, a look of awe in her eyes. Ari hated it when people looked at him like that, as if he were a space alien.

Rivka's eyes glittered with interest. "My father made me read a book last spring vacation when I went to visit him. *Hyperspace*, by Michio Kaku. Do you know of him?"

Ari relaxed. "Oh, Michio's book! Very well written, but no mathematics. Did you like it?"

"Yes, it was awesome," Rivka said. "But you're wrong. There was a bit of math. He kept putting in matrix diagrams without explaining what they meant. For example, on page 102, where he started talking about Kaluza-Klein theory."

Ari stared at her. "You remember the page number?"

Rivka blushed. "Yes. . . I have a fairly good memory."

An understatement. "And did you understand the model?"

"Not really," Rivka said. "I followed the main point, that the universe is supposed to have ten dimensions, or twenty-six, or whatever, but I didn't see what those matrices were all about."

"I can explain." Ari pulled a pen out of his shirt pocket and began scribbling on his napkin.

"Tell us about the time machine," Jessica said.

"It probably won't work," Ari said. "It's based on a little model I cooked up, which nobody took seriously. We have a saying in physics: A theorist writes a paper, and nobody believes it -- except he himself. An experimentalist writes a paper, and everybody believes it -- except he himself."

"That American friend of yours believes in your theory," Dov said. "He has a very strange name."

"Damien West," Ari said. "He's an experimentalist from Northwestern University. I don't quite understand why he has so much faith in my model. Dr. West is a bit weird, as are all physicists, but he is a very fine pulsed-power experimentalist."

"And he's building a time machine?" Jessica asked.

"A closed timelike loop," Ari said. "He thinks he is building one. As I said, it probably won't work, and he'll go home at the end of the summer."

"But what if it does work?" Dov said. "Then you will very certainly get the Nobel prize, yes?"

"We might have a problem in *proving* it works," Ari said.

"Won't it be obvious?" Rivka asked. "Just take the Nobel committee on a guided tour of the twenty-fifth century. Wouldn't that do it?"

"Oh, no, no, no," Ari said. "Now you've been misled by Michio's book. To go forward in time is a hugely expensive project. You need near-light-speed rockets and other technology we don't have."

"So what are you going to try?" Rivka asked. "To go backward in time? I thought the book said that was impossible."

"It probably is," Ari said. "But I worked out a model last year, really very simple. It's based on the Casimir effect in a strong oscillating electric field. You create a resonant shell of so-called 'negative-energy matter,' and it forms a condensate of quantum-mechanically created wormholes as a macroscopic object. The very strange thing is that it allows you to go *backward* in time, but not forward. There might be some dangers in going through the device. Also, it would have some stability problems."

"What kind of problems?" Rivka asked.

"If you passed through the device and it then collapsed, you couldn't return."

"No problem," Dov said. "Make two! Then you'll have a down escalator and an up escalator, yes?"

Ari shook his head. "That won't work. The zero-point fluctuations in a volume the size of the earth are only enough to make one wormhole. If my calculations are correct, you can't make two."

"So you might send the Nobel committee back a hundred years, but they might regrettably not return to give you your prize," Dov said.

"And what if they accidentally killed Mr. Nobel before he set up his prize?" Jessica giggled. "Wouldn't that be funny?"

"That can't happen," Ari said. "You can't change the past."

"How do you know?" Jessica asked. "In every time travel novel I've ever read, you *can* change the past. Otherwise, there wouldn't be much to the plot, right?"

Ari drummed his fingers on the table. He found most science fiction boring or silly. "God is not a novelist," he said shortly. "You can prove mathematically that the past cannot be changed -- not even with a closed timelike loop."

Jessica looked annoyed. Ari wished he hadn't said anything. Wasn't he here to have a good time? Why did he always have to talk about physics? It only ended with people getting angry at him for spoiling their delusions.

"Look!" Rivka pointed down Ben Yehuda Street. "They're going to do some folk dancing. Let's pay our bill and go watch!"

Five minutes later, they joined in the applause as the first dance came to an end. The lead musician, a short, bearded bear of a man with a guitar that looked much too big for him, stepped forward. "Who wants to join in?" he shouted in Hebrew.

Rivka stepped forward immediately and joined the women in the center circle. Dov poked Ari. "Let's go! You are coming, Jessica?"

"Can you teach me, Ari?" Jessica asked.

The last thing Ari wanted was to make a fool of himself trying to dance. He shook his head. "I don't know how."

Dov took Jessica's hand. "I'll show you," he said. "It's not so hard."

Ari folded his arms across his chest and leaned against a lamp post. Why couldn't he be an extrovert like Dov?

The musicians started playing a slow, traditional folk song, *Oseh Shalom Bimromav*. Ari doubted that Dov had ever danced this song before, but after a few missteps, he picked up the simple rhythm, moving fluidly to the music, if not gracefully. Jessica looked to be hopeless. When the others turned right, she turned left. She watched Dov, trying to imitate his movements, but she kept getting her feet tangled. Ari was glad he hadn't bothered to try.

Rivka obviously knew this dance, and also the Hebrew words. She glided lightly around the circle, her hands and feet moving in perfect unity, her face lit up with a smile. Where had she learned to dance like that? Ari found that he could not stop watching her. There was something strange about Rivka. No, not strange. Different. She was intelligent without being arrogant, nice-looking without being a prima donna. But there was something else, too. Ari couldn't quite put his finger on it.

The music ended. Ari joined in the applause. Dov and Jessica stepped out of the circle. As Rivka followed them, one of the musicians stopped her and said something. Rivka nodded and went back into the circle.

"Hey, Dov!" Ari said. "They're stealing your lady."

Dov grinned. "She's good, did you see it? Maybe she was a gypsy in a previous life, yes?"

Jessica laughed.

"Ari, you should have tried," Dov said. "It was easy, mostly."

"Easy!" Jessica fanned herself. "I'm hot. I could use a beer."

"Me too," Dov said. "Hey Ari, why don't you stay here and keep an eye on Rivka while we go buy some drinks? Don't let one of those lustful musicians touch her, okay? She's a nice girl."

Ari nodded. "I'll stay."

A moment later, Dov and Jessica had disappeared into the human beehive of Ben Yehuda street. The next dance was very fast and very complicated. Ari didn't know the words or the melody. But Rivka did. She spun. She clapped. She whirled. She stomped. She sang. And all the while, her face seemed lit up with an other-worldly serenity.

The song ended with a shout. The onlookers burst into applause. Ari clapped loudly.

Rivka came out of the circle, shaking her head to the musicians' pleas that she stay for

another dance. She scanned the crowd. Ari waved at her and she glided toward him, smiling.

"Where's Dov and Jessica?" she asked.

"They went to get some drinks," Ari said. "Are you hot?"

Rivka shook her head. "That was fun!"

"Where did you learn to dance like that?" Ari said. "You're very good."

"In San Diego," Rivka said. "My. . .synagogue had some classes. You ought to try it sometime."

"Maybe I will," Ari said. Which was crazy of course. He stood there awkwardly for a moment, wondering what to say next. Finally, he asked, "Which synagogue do you go to in San Diego?"

She hesitated for a moment. "Beth Simcha."

"Is that Reform?" he asked. "Or Conservative?" She was obviously not Orthodox.

Again, a strange little hesitation. "Actually, I don't go there anymore since I went off to graduate school in Berkeley."

Ari suddenly realized that they were both speaking Hebrew. He hadn't noticed, because she was so fluent. "How long have you been here in Israel?" he asked. "You speak like a *sabra*."

"That's sweet of you to say so," Rivka said. "I've only been here three weeks, but I try to get Dov to speak Hebrew to me as much as possible. Of course, he wants to practice his English."

"But you've been speaking Hebrew a lot longer than three weeks," Ari said.

Rivka nodded. "I had to learn biblical Hebrew for my Bat Mitzvah. That's when I discovered I had a little knack for languages. I got some tapes on modern Hebrew and that helped with my accent."

"How many languages do you know?" Ari asked.

"I forget," Rivka said. "English, of course. And Hebrew. German in high school. Then I took Latin and *koine* Greek at community colleges, also while I was in high school. French in college, and a little bit of Russian. Then the weird ones -- Aramaic, Ugaritic, Syriac, Ethiopic. One of these days, I'll get around to Coptic. I've also picked up a little Arabic on the dig from one of the Jordanian students."

"That's amazing," Ari said. "Besides Hebrew, I know only English and Arabic and a little German. That's enough."

"Maybe enough in physics," Rivka said. "But if you study archaeology or the Ancient Near East or the classics, you've got to know a lot of languages. It's not that bad, really. Ancient languages only have a few thousand words. You learn those, and a little grammar, and you've got it."

"No thanks," Ari said. "Mathematics -- now that's a language I can understand."

"That's what my father says," said Rivka. "He's an applied mathematician at AT&T. He wanted me to go into computers."

"So why didn't you?" Ari asked.

"Sometimes I wish I had," Rivka said. "It pays a lot better than archaeology, and you don't have to swing a pick in the hot sun."

"What's wrong with a little exercise?" Ari asked. "I happen to like digging."

"Really?" Rivka studied him, her eyebrows high.

"Yes, really," Ari said. "There's a place southeast of Jerusalem where you can go and plant trees. It's a tourist trap, but I have an arrangement with one of the managers. I like to go there when I get stuck with my equations, and he lets me plant trees until I find a solution."

"Oh, I wish I could do that," Rivka said. "When I go back home, I'd love to leave behind some trees that I'd planted."

"It's hard work, planting trees," Ari said.

"So is digging up old ruins," Rivka said. "I'm tough. Will you take me tree-planting sometime?"

Ari swallowed. Had he heard right? Had she just asked him for a date? Or whatever? "Sure," he heard himself saying. "When would you want to do that?"

"I'm free tomorrow morning," Rivka said. "Dov and Jessica and I are going to some museums in the afternoon."

Ari felt his head buzzing with a strange mixture of fear and warmth and excitement. He clenched his fists tightly to maintain control. *Stay calm, Ari, you fool. Stay calm.* "Very good, then."

"There they are!" Jessica's voice, shrill, piercing.

Ari turned and saw Dov and Jessica pressing through the crowd toward them. "You would like a Maccabees, yes?" Dov held up a can of beer.

Ari suddenly felt thirsty. He took a can and popped the tab.

Dov pressed one into Rivka's hands. "And now where shall we go?" He punched Ari's arm. "I see you eyeing that bookstore! Not tonight."

"Oh, couldn't we just step in for a minute?" Rivka said. "I hate going past a bookstore without peeking inside."

Jessica took a long pull from her beer. "I'm game."

Dov shrugged. "If the ladies insist. But just a few minutes, yes? There is an art gallery up the street, very, very excellent -- not to be missed."

The four headed toward the bookstore. Ari felt as if his head had detached from his shoulders and was now gliding several meters above the street. A warm glow of well-being had settled over him, a glow not due to the Maccabees.

On its heels came fear.

Don't ruin things Ari. Don't do anything stupid. Don't make a fool of yourself.

He would, sooner or later. He always did.

It was as certain as any law of physics.

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