

WINTER RULES

By Daniel Marcus

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I WAS WALKING THROUGH the lobby toward the gambling tables and I noticed that some of the letters had fallen off the sign near the registration desk. BALLY'S RENO WELCOME EROS ACE SCIENCE INSTITUTE OF AMERICA

Eros Aces. Not bad. It could have been the name of a sleazy lounge band at one of the brothels on the edge of town. Reno is a cross between Disneyland and Gomorrah — a living shrine to every obsessive-compulsive character disorder known to Homo americanus. A few of us had been pushing to get the conference site changed — New Orleans maybe, even Houston — but money had changed hands in some smoky board room somewhere, and we were hooked into “The Biggest Little City in the World” for another two years. It wasn't all bad. I liked hanging around late at night in the card room near the main entrance. One to three poker, pretty relaxed, and it was a perfect vantage point for watching the nation's top aerospace executives filter in from their night on the town. You could tell the ones who had been out to the Mustang Ranch. They scuttled across the lobby like great, blue-suited crabs, heads down, hands stiffly at their sides, projecting a studied air of intense concentration, like they were preparing for that big presentation tomorrow. What they were really thinking was probably more like, How am I going to act normal with June, Wally, and the Beaver when I get back to Mayfield?

I sat down at one of the five-dollar blackjack tables, gave the dealer a fifty-dollar bill, and she gave me ten red chips. There were two other men at the table, both from the conference. They were still wearing their name tags, clipped to the lapels of identical charcoal-gray suits. General Dynamics. I almost laughed out loud. Back at Berkeley, whenever they did a recruiting pitch on campus, we'd make up hundreds of posters and plaster them all over the place. It was a picture of a mushroom cloud. Above the picture -GENERAL DEMONICS, and below — ARMAGEDDON. WHY NOT MAKE A CAREER OUT OF IT? There was always some angry looking suit with an ice scraper stalking from one poster to the next, ripping down what he could. We'd follow about fifty feet behind him, putting up new ones.

I put a chip in the circle inscribed on the felt in front of me and the dealer dealt out two cards to each of us. I looked at my hand. An ace and a ten. Blackjack. I flipped my cards over and the dealer gave me a red chip, two silvers, and a fifty-cent piece.

“That was my blackjack!” the suit next to me said.

“You an engineer?” I asked.

“Yeah, how did you know?”

“Well, you’re no physicist.”

He looked confused, opened his mouth, then shook his head and looked own at his hand. Fifteen. The dealer was showing a king.

“You gotta hit that,” I said.

“Yeah, yeah, I know.”

He hit, busted, his friend hit, busted, and the dealer flipped a seven. They both glared at me. I smiled and shrugged my shoulders. It went on like that for a while; me, winning slightly more often than not, the two of them getting completely hosed almost every time. After a few more hands, they gathered up their remaining chips and stalked off

“You from around here ?” the dealer asked me. There was a black plastic badge clipped to her white shirt that said she was Darlene from Barstow. Something about the way she carried herself told me that it had been a long time since Barstow, and that she had been around the block once or twice since then.

“No, Santa Fe. I’m here for the conference.”

She raised her eyebrows. “You seem sorta different.”

“Thanks,” I said. “I guess.”

She dealt me another blackjack and paid me off.

“Dan?” I felt a hand on my shoulder and turned around. Dave Lerner. It took me a second to recognize him in the uniform — neat haircut, Italian wool pinstripe. I stood up and we embraced. I hadn’t seen him since grad school. Last I heard he was at Hughes Aircraft. I fingered the lapel of his suit.

“Jesus, you too?” I asked.

“Yeah, well, I’m glad to see you’re still flying the flag of the People’s Republic of Berkeley,” he said, taking in the rumpled corduroy jacket, the beard, the earring.

“How are things at Huge Aircrash?”

“Not too bad. They made me a group leader about six months ago, so there’s a lot of management ratshit and not enough technical work, but that’s about par for the course.”

“Sandy still at Caltech?”

“Oh year. Tenure track— it’s like feeding time in the shark tank at the aquarium. We have dinner together about once a week. I think she wears her hair differently now, but I’m not sure.”

I laughed. “I was going to ask how’s married life, but I guess I know.”

“We’re doing pretty well, actually. Bought a house.”

“Wow. You guys go down to Orchard Supply on Saturdays and look at lawnmowers? You gotta get a Toro . . . “

“No, we ripped out the lawn and put in a rock garden. Nice smooth stones, little bonsai trees. The neighbors freaked. They actually had a block meeting — we’re getting the silent treatment right now. It’s pretty funny.”

I laughed again, remembering the apartment he had in grad school. Two basement rooms in the shadow of a larger building, so there was never any sun. It was on Telegraph, right next door to a martial arts school. All day long you heard the screams, the sound of bodies slamming into the mats.

“You’re at Los Alamos, right?” he asked. “I remember you had a few offers . . . “

“Yeah, an applied math group. Algorithm development for Navier-Stokes equations. Projection methods with some new wrinkles. We do special, um — stuff — for the nonlinear advective terms.”

“Stuff?”

“Stuff. It’s a technical term. Unbelievable resolution. We’re just starting to get some recognition out in the community, but that’s kind of a mixed thing. Remember Olaf?”

He laughed. “Who ever forgets Olaf? I haven’t seen him since that asymptotics seminar. How’s he doing?”

“I think he was about to get arrested for impersonating a scientist, so they made him a bureaucrat. N.D.A.”

“N.D.A.?”

“Nuclear Deterrence Agency. He saw a simulation I did of convection cells in storm clouds and got a tent in his pants you wouldn’t believe. Wanted to see if I

could adapt it to fireball rise, dust entertainment, that sort of thing.”

“Jesus, that’s some scary shit.”

“Yeah, those loopy motherfuckers still think the Cold War’s going on. I asked him if he wanted me to name the density array for the dust component Moscow or Kiev. ‘Those are integer declarations,’ he says. What an asshole.” “You gambling?” Darlene asked.

I nodded and she dealt out the cards. I got a seven and a four— a double down hand. Darlene was showing a six. I flipped my cards, added three chips to the three already up, and she gave me another card, tucking it face-down under the pile of chips. I peeked under the edge—a seven. Still alive. Darlene flipped a jack, and dealt a four from the top of the deck. Twenty. She swept up my cards and chips in a single fluid motion, making a clucking sound with her tongue.

“Tough break,” Dave said. “You gonna do the calculations?” I shook my head.

“I don’t know. He wants to give us a couple hundred K. We need the scratch to keep the other programs alive, but I don’t like dealing with those people. I don’t know.”

“Funding’s pretty tight right now.”

“Yeah, the big peace scare. It’s like you picked up an ant farm, shook it up, and put it back down again. Everybody’s wondering what’s going to get cut out from under them next. The level of cynicism is pretty high.”

Darlene dealt me a jack and a ten. I showed it to Dave and elbowed him in the ribs. She dealt herself a king and flipped her hole card. Ace. “God damn it,” I said. Darlene shook her head, smiling.

“You’re not very good at this,” Dave said.

“I was doing fine until you showed up”

“You were talking about a level of cynicism,” he said, smiling.

“Yeah,” I said. “It’s especially funky in Comp Physics. We sort of do a dual function. One is leading edge research, blue sky stuff, that’s my group. The other is, um — service — to the other divisions. If you’ll pardon the expression.”

“Maintaining bomb codes.”

“Very astute. So things could go one of two ways in the next few years. Get

some people with vision and courage, aggressively pursue outside funding and start to shift the primary focus of the labs away from the military-industrial circle jerk . . .

“ . . . or you can bend over and hand the bomb geeks a jar of Vaseline.”

“Exactly.”

A couple of other players sat down. Darlene made change and started shuffling up a new deck.

“You talking or gambling?” she asked me again. “Drive it or park it.” She was smiling her tone not unfriendly.

“Talking I guess.” I gathered up my chips. “Take it easy, Darlene.”

“C’mon, deal already,” one of the players said. “You’re gonna wear off the numbers.” The smile disappeared and she went back to work.

“You still play golf?” Dave asked me.

“Jesus, not for a long time. Why?”

“You’re not gonna believe this. Follow me.”

We made our way through the maze of slot machines and gambling tables. There was an atmosphere of barely controlled pandemonium in the place —flashing lights, ringing bells, a constant murmur of voices, shouts raised in victory and disappointment. At the far end of the casino stood a hologram of Barry Manilow, fifteen feet high, grinning like a fool. There was probably enough collagen in his face to smooth out the Himalayas. Marquee-style wraparound lettering floated in a circle above his head, like a halo, announcing show times. “Persistent vegetative state,” I muttered.

“Huh ?”

“It’s a medical term . . . “ I said. “Never mind.”

He shrugged his shoulders. “You see any good talks yet.?” he asked.

“Not really,” I said. “The abstracts are supposed to be refereed but that’s kind of a joke. This is really a schmoozing conference for me anyway, see who’s doing what, find out where the bodies are buried. Besides, it really cuts into the gambling.”

Just ahead, a fat woman in a purple wig and a shapeless green polyester shift

began screaming. A river of plastic Nixon dollars poured from the snout of the slot machine in front of her and she jammed a cardboard bucket underneath it to catch the flow.

“You’re giving one tomorrow, aren’t you?” Dave asked, raising his voice above the din. “I thought I saw your name on the program.”

“Yeah, but I can’t go to it,” I shouted back.

“What?” Dave asked.

I shook my head. “It’s in a classified session and my clearance hasn’t come through yet.”

He chuckled. “I’ll let you know how it turns out,” he said.

“I appreciate that.”

I turned to look at the woman as we walked past. The flow of dollars had stopped. She leaned against the machine, panting, her arms wrapped around its black, shiny sides. Twin patches of red stood out on her cheeks. I looked at her eyes and I had to look away.

We took an escalator downstairs, walked past a bowling alley and an arcade of cheesy little boutiques, rounded a corner, and there it was. BALLY’S RENO VIRTUAL GOLF, the sign read.

“You gotta be kidding,” I said.

“No,” he said. “This is great. I played yesterday.”

We went inside. There were about ten wide booths, equally spaced around the perimeter of the room. The far end of each booth consisted of a screen, onto which was projected from the rear a picture of a lush, green fairway. Half of the booths were occupied and most of the people were dressed for golf — baggy purple, blue, or salmon trousers, polyester knit shirts. They wore large, bulky helmets that covered their heads entirely. Wires trailed from the helmets to a console on the wall of the booth. They stood on raggy patches of Astroturf, slamming golf balls into the screens. I walked over and stood behind one of the booths. The guy was just teeing off. He assumed the position, shifted his weight, wiggled his hips once, and swung. He connected nicely; the ball hit the canvas with a solid slap and fell to the floor. He just stood there. I could see the movement of his headgear tracing the trajectory of an imaginary golf ball. Suddenly, he stomped his foot. “Shit!” he said, his voice muffled by the helmet.

“There’s something vaguely autoerotic about this,” I said to Dave.

“Whatever you say, Dan. You wanna try it?”

“Sure . . . “

We walked over to the “Pro Shop,” a counter manned by a pimply-faced adolescent in a “Bally’s Reno Virtual Golf” sweatshirt. There were more shirts on the wall behind him, in a sort of semaphore-sign display, and an assortment of gold clubs, woods and irons arranged in overlapping fans.

“Set us up,” I said.

“Okay, you want Spyglass Hill, Pebble Beach, or Cypress Creek?”

I looked at Dave and shrugged.

“I don’t know,” I said. “Pebble Beach, I guess.”

“Good choice,” the kid said. “That’s our best course.”

I thought he was trying to be funny, but he wasn’t smiling. He gave us a set of dubs, a bucket of balls, and led us to an empty booth. He made an elaborate show of logging in to the console.

“You ever do this before?” he asked.

“I played Spyglass Hill yesterday,” Dave said.

“Okay, so you know what to do. Good luck.”

“Wait a minute,” I said. “This is all simulation, right?”

The kid nodded, looking at me suspiciously.

“Then what’s with the balls and clubs? Why bother?”

The kid took a deep breath and closed his eyes.

“The — uh — kinesthetic experience is enhanced by the — uh —”

It was a stock answer and the kid clearly hadn’t learned his lines. Imagine President Quayle lecturing on quantum field theory. I patted him on the shoulder. “Never mind,” I said. “Don’t worry about it.”

He looked relieved. He placed the helmet on Dave’s head and flicked a couple

of toggle switches on its side. Then he did me. I closed my eyes as he lowered the helmet over my head.

I opened my eyes and I was — there. The illusion was perfect. The emerald green of the fairway was so bright it seemed to fluoresce in the midday sun. A few lazy clouds drifted across a sky of brilliant blue. Off to the right, the fairway was bounded by a sheer drop to the ocean. A seagull skimmed above the surf and I could hear its sharp, distant call. I looked over at Dave. He was wearing baggy orange trousers and a lime-green polo shirt. His eyes were shaded by a blue visor the size of a Frisbee.

“Nice outfit,” I said.

“You should take a look at yourself,” he said. I looked down. Plaid knickers. Argyle socks. Black and white wingtips. Christ on rollerskates.

The first hole was a par four, dogleg left. Ocean to the right of the fairway and dense woods all along the left. Dave went first. He made it look easy. With a graceful, unhurried swing he sent the simulacmm golf ball sailing into the clear blue. A display flashed in the lower right corner of my field of vision. Two-sixty out and ten to the left of center. Not bad.

I hadn't even thought about golf for over five years, but my body seemed to remember. I walked up to the tee and took my stance. I took a deep breath and closed my eyes for a minute, trying to concentrate and relax at the same time. I opened them in time to see a large seagull swoop down and pick the golf ball off the tee in its curved, yellow beak. It headed straight as an arrow down the middle of the fairway and dropped the ball about two hundred fifty yards out.

Dave looked at me with a disgusted expression on his face. “Will you quit fucking around and play golf?” he said.

“Jesus, did I do that?” I asked. “Sorry.”

“This system is very literal-minded,” he said. “If you don't concentrate, it translates small, involuntary movements of the muscles in your face and neck into visual imagery.” He frowned. “They're doing research on just how all that connects with your unconscious. I'm skeptical about that, but it can be pretty trippy sometimes. Anyway, I'll let you have this one. Call it a mulligan.” He snapped his fingers and we were out in the middle of the fairway next to our tee shots. “You're away,” he said.

“Wow,” I said, looking around. “Beats walking.”

We were about a hundred and fifty yards out from the green. I selected a six iron, walked up to the ball, exhaled, wiggled my hips and let fly. The heel of the club

caught the ball a glancing blow and it spun off into the woods. The readout displayed 110 YARDS 60 LEFT— IN THE ROUGH. The last phrase flashed on and off at about two beats per second.

“Fuck me,” I said. “Fuck my dog.”

Dave looked over at me like he wanted to say something.

I sighed. “I know, I know. Keep my head down. Left arm straight.”

He shook his head. “I don’t know,” he said. “I just never would’ve thought you’d wind up at a shop like Los Alamos.”

I paused for a minute, mentally shifting gears. I had a sharp sense of dislocation, like I had suddenly lost all points of reference. Was this conversation real? Where was I? I looked around at the bright green fairway, felt the breeze from the ocean ruffle my hair, smelled the salt tang it brought.

What the hell, I thought. “I know what you mean,” I said finally, nodding. “Trying to do mainstream science at the national labs can be pretty weird. It’s not clear if we serve as a moderating influence to balance the weapons programs, or if we just legitimize that stuff by setting a good P.R. example.” I shook my head. “There’s an interesting sociology between the two factions, though. We think the weapons people are a moral scum and not particularly bright and they think we’re dilettantes and parasites.”

“You’re probably both right,” he said, smiling.

“Thanks a lot,” I said. “We’ve got a good group, though, and we’re doing some of the sexiest stuff that’s being done in computational physics anywhere. I don’t know if the work would exist without the infrastructure of the labs, and the work’s just too important. It goes way beyond what piss-ant little bean counters like Olaf have in mind.”

A cloud passed in front of the sun and I shivered with the sudden chill. “Meanwhile, you have to sleep at night,” he said.

“Yeah, that’s it. You try to call things case by case and keep good boundaries. Hughes gets a lot of military contracts. What do you do?”

“Well, my situation is kind of like yours. My group does spacecraft design, thermal analysis. Recon satellites mostly, so the applications cut both ways.”

“Malignant and benign.”

“Yeah. So what do you do? I don’t know . . . you do the right thing.”

As we were talking he had been sizing up his shot. He pulled back the club and swung. There was the whoosh of displaced air, the soft click of compression and release as the club met the ball and followed through.

“You’re pretty good at this.”

“Yeah, well . . . “

“Hey, how did you do that before —”

“You mean this?” He snapped his fingers and we were in the woods. “You’re away,” he said. My ball lay on a soft carpet of pine needles. The sun made a stippled pattern of gold and shadow through the trees.

“Jesus Christ, I’m in Sherwood Forest. Where’s the green?”

“Just off to the right there through the trees. See the flag?”

I could just make out a tiny flash of red where he was pointing.

“I’m gonna have to chip out onto the fairway . . . “

“No, just blast right through. The simulation’s pretty stupid about trees. You’ll be fine.”

I approached the ball, breathed in slowly, then out, pulled the club back and swung, remembering to keep my head down and follow through. I missed it completely.

“Nice practice swing,” Dave said.

“Thanks a lot, shithead. Shut up and let me concentrate.”

“It’s a Zen kind of thing, Dan. Be the ball.”

WHEN I GOT back to my room, there was a message on the videophone. Short, not particularly sweet. “Dan, Olaf. Call me.” There was no visual.

That was pretty much his style. He was a strange one, all right. Second-generation Soviet emigre. Not a great physicist, but he had the political acumen of a barracuda and he rose quickly in the ranks of the D.O.D. techno-sleazeball food chain. He was always into something murky, the kind of guy you figured must have racked up a lot of Frequent Flyer miles on Southern Air Transport during the eighties. It was rumored that he once gave an AK-47 to a

colleague as a wedding present.

I knew what he wanted. He still had a hard-on for my codes and lots more taxpayer dollars than he knew what to do with. And he loved explosions. Particularly thermonuclear explosions. Since he couldn't make them for real anymore, not even underground since the Comprehensive Test Ban went into effect, he figured simulation was the next best thing.

I didn't want to deal with him just then. I patched my palmtop to the vidphone, got a pipe open to the Cube at Los Alamos, and tried to get some work done. I was studying the eigenvalue spectrum of the Taylor-Goldstein equation, trying to develop a new methodology for examining the stability of a particular class of fluid flows. An eigenvalue is a number that tells you something about how a system responds when you disturb its equilibrium. The discretized Taylor-Goldstein system yields hundreds of them, only one of which corresponded to the situation of interest.

Eigenvalue spectrum. Taylor-Goldstein equation. I said the words aloud, feeling their shape and weight on my tongue. It felt important to contextualize them somehow, to give them meaning and substance apart from abstract self-consistency. It is a political act, the naming of a thing.

The work went poorly; I was just skating on the surface of the mathematics, blind to the wholeness of it. I kept making stupid mistakes that got through the compiler somehow and showed up at run time as mysterious error messages. After two hours I decided to bag it, logged off, and went to bed.

I woke up early the next morning and went down to the breakfast buffet. The casino was still open, of course, but it was nearly empty, and without the white-noise background sound of human voices and the random Brownian-like movement of bodies crowded around the gambling tables, the glitz seemed hollow and frayed around the edges. As I walked past the blackjack tables I noticed that there were worn spots in the carpet, and the ad-holos had a high-frequency flicker that hurt my eyes.

I entered the buffet room and loaded up my plate with fruit, avoiding the steam table trays of pressed soybacon and stacks of leathery flapjacks. I found a table off in the corner of the room. I didn't want to talk to anybody. The previous day's conversation with Dave was playing itself over in my head, and the call from Olaf was sitting on my consciousness like a weight. I felt like I needed some quiet time to let it all percolate. So I sat there, sipping weak coffee and nibbling on pieces of melon, watching the room fill up as the conference attendees drifted down from their rooms. I saw a few people I knew, but just nodded, and nobody came to join me.

If I was expecting some sort of revelation, I was disappointed. I couldn't

concentrate on anything for very long. My mind drifted to the talk I was supposed to give later that day, skittered over to a new card-counting strategy I had simulated on my palmtop but hadn't tried yet in the casino. Before I knew it was time to hit the sessions. The first one I planned to attend was called "Physics of High-Temperature Hydrodynamics."

When I got to the auditorium the session was just starting. There was a man standing at the podium in front of the room. He looked vaguely familiar, and I realized I had seen him on television on several occasions -a famous astrophysicist. He also enjoyed, I recalled, a somewhat less public career as one of the country's leading designers of advanced thermonuclear devices. He was a few years older than I and seemed to have a relaxed, accessible air about him. I could imagine him working in his garage, playing with his children, taking long, quiet walks with his wife. He went through some preliminaries and began the lecture.

"Let's start with a model problem. We have a block of aluminum, room temperature, and we suddenly raise its energy to two kilovolts by some nearby . . . um . . . event."

There was a chorus of laughter from the audience. I did a quick mental calculation and realized that this corresponded to temperatures one might find in the interior of the sun.

"So what happens? First of all, before we go any farther, let me just say, particularly for those of you without security clearances, that this in no way corresponds to any specific . . . um . . . scenario. This is strictly an academic exercise. So what happens?"

There was another chorus of laughter, and people began calling out answers.

"It explodes!"

"It melts!"

"No, it vaporizes!"

"It gets gobbled up by rarefaction waves!"

The speaker was delighted.

"Who said that? Good. Excellent. It gets eaten away from all sides by rarefaction waves."

He paused for a moment and looked around the auditorium.

"This is a beautiful problem," he said. "A beautiful problem. And what makes

it beautiful is this. It has . . . “

He paused again. The room was quiet.

“ . . . an exact solution.”

My head was spinning. Suddenly, the air in the room felt too thick to breathe. I got up, knocking over the chair in front of me. The speaker paused and looked at me, his face expressionless. I could see heads in the audience turning toward me. I made my way to the aisle and walked quickly out of the room. About thirty seconds passed before I realized that I had been holding my breath. I stopped and leaned against a post, inhaled deeply, exhaled. I felt numb and shaken, and in some way I didn't quite understand yet, deeply ashamed. In front of me, next to the roulette table, a holo-loop of a busty blonde woman in a see-through cocktail dress smiled and held out her hand in a beckoning gesture. It was a short loop, only about three seconds, and the mechanical repetition of the movement seemed jerky and grotesque. I noticed one of the pit bosses giving me the hairy eyeball and I began to walk.

I'd like to say I hit some kind of moral high ground then and there, that I made a Commitment to Truth and World Peace, but it wasn't like that at all. I just walked. After a while I found myself in front of BALLY'S RENO VIRTUAL GOLF. I didn't feel much like swinging a golf club, but the idea of being out in the sun and resting my eyes on the spartan beauty of the California coast was very appealing. The same kid was sitting behind the counter and I nodded to him. He didn't bother with the rap this time, but led me to an empty booth and set me up. I closed my eyes, put the helmet on my head, and flicked the toggle switch.

It was the same place all right — I recognized the curving slope of the fairway and the steep dropoff to the ocean. But it was dark this time, a twilight so thick and purple it appeared almost luminous. Fat, greasy drops of black rain fell from a low, menacing overcast, and there was a sullen, red glow flickering on the bottom of the clouds off to the north. The cold wind ripping in off the ocean brought with it not only the smell of salt but something else, a sickly sweet miasma that made my gullet clench. Death, I thought. I don't know how I knew that, but I knew that it was true.

There was a squawk overhead and a flapping sound, and a large seagull landed heavily at my feet. The feathers on one side of its body were singed and blackened, and there were open sores showing through. Its eye on the burned side was an oozing wrinkle of raw flesh. It lay there in the wet grass, twitching feebly and flapping its wings.

I have to get out of here, I thought. I reached up to the side of my head and found the toggle switch, felt that peculiar sense of dislocation, like I was straddling a fence between two worlds. I pulled the switch. The rain-veiled twilight coast collapsed to a thin wavering line that curved around my entire field of vision and

disappeared. The roar of wind and ocean faded to a hollow, velvet absence of sound. I pulled the helmet off and staggered up to the counter. The kid said something but it didn't register. I handed him the helmet and stumbled out into the corridor.

The next thing I knew I was in my room, sitting at my desk. I still have no memory of how I got there. My heart was pounding in my chest. I felt like I had been running all morning. It was time to stop. My hand hovered over the vidphone keypad, and the flat gray screen seemed to suck all the light from the room into itself. Almost of their own volition, my fingers punched out the code. In a few seconds, Olaf's face appeared on the screen. He smiled when he saw me, and in that instant I could see with incandescent clarity, held within the lines of his craggy, Slavic face, the soft, vulnerable features of a child. There was a sudden tightness in my mouth and throat, and for a moment, I could not speak.

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"Winter Rules" is an odd sf story that manages to combine virtual reality, golf, blackjack and nuclear war.