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The Zero Meter Diving Team

Author(s): Jim Shepard

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The Zero Meter Diving Team

Jim Shepard

Guilt, Guilt, Guilt

Here's what it's like to bear up under the burden of so much guilt: everywhere you drag yourself you leave a trail. Late at night, you gaze back and view an upsetting record of where you've been. At the medical center where they brought my brothers, I stood banging my head against a corner of a crash cart. When one of the nurses saw me, I said, "There; that's better. That kills the thoughts before they grow."

Hullabaloo

I am Boris Yakovlevich Prushinsky, chief engineer of the Department of Nuclear Energy, and my younger brother, Mikhail Vasilyevich, was a senior turbine engineer serving reactor unit No. 4 at the Chernobyl power station, on duty the night of 26 April 1986. Our half-brother Petya and his friend were that same night outside the reactor's cooling tower on the Pripyat river, fishing, downwind. So you can see that our family was right in the thick of what followed. We were not—how shall we put it?—very *lucky* that way. But then, like their country, the Prushinskys have always been first to protest that no one should waste any pity on *them*. Because the Prushinskys have always made their *own* luck.

The All-Prushinsky Zero Meter Diving Team

My father owns one photo of Mikhail, Petya, and myself together. It was taken by our mother. She was no photographer. The three of us are arranged by height on our dock over the river. We seem to be smelling something unpleasant. It's from the summer our father was determined to teach us proper diving form. He'd followed the Olympics from Mexico City on our radio, and the exploits of the East German Fischer had filled him with ambition for his boys. But our dock had been too low, and so he'd called it the Zero Meter Diving Platform. The bottom where we dove was marshy and shallow and frightened us. "What are you frightened of?" he said to us. "*I'm* not frightened. Boris, are *you* frightened?" "*I'm* not frightened," I told him, though my brothers knew I was. I was ten and imagined myself his ally. Petya was five. Mikhail was seven. Both are weeping in the photo, their hands on their thighs.

Sometimes at night when our mother was still alive our father would walk the ridge above us, to see the moon on the river, he said. He would shout off into the darkness: he was *Victor Grigoryevich Prushinsky, director of the Physico-Energy Institute*. While she was alive, that was the way our mother—Mikhail's and my mother—introduced him.

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Petya's mother didn't introduce him to anyone. Officially,

Petya was our full brother, but at home our father called him Half-life. He said it was a physicist's joke.

"Give your brother your potatoes," he would order Petya. And poor little Petya would shovel his remaining potatoes onto Mikhail's plate. During their fights, Mikhail would say to him things like, "Your hair seems *different* than ours. Don't you think?"

So there was a murderousness to our play. We went on rampages around the dacha, chopping at each other with sticks and clearing swaths in the lilacs and wildflowers in mock battles. And our father would thrash us. He used an ash switch. Four strokes for me, then three for Mikhail, and I was expected to apply the fourth. Then three for Petya, and Mikhail was expected to apply the fourth. Our faces were terrible to behold. We always applied the final stroke as though we wanted to outdo the first three.

When calm, he quoted to us Strugatsky's dictum that *reason* was the ability to use the powers of the surrounding world without ruining that world. Striped with welts and lying on our bellies on our beds, we tinted his formulation with our own colorations of fury and misery. Twenty-five years later, that same formulation would appear in my report to the nuclear power secretary of the Central Committee concerning the catastrophic events at the power station at Chernobyl.

Loss

Our mother died of the flu when I was eleven. Petya lost his only protector and grew more disheveled and strange and full of difference. Mikhail for a full year carried himself as though he'd been petrified by a loud noise. Later we joked that she'd concocted the flu to get away, and that she was off on a beach in the Black Sea. But every night we peeped at one another across the dark floor between our beds, vacant and alone.

In the mornings I took to cupping Mikhail's fist with my palms when he was thumb-sucking, as though I were praying. It brought us nose to nose and made me shudder with an enraged tenderness. Petya sucked his thumb as well, interested.

That Warm Night in April

What is there to say about the power station, or the river on which it sits? The Pripyat just a few kilometers downstream drains into the Dnieper, having snaked through land as level as a soccer pitch with a current the color of tea from the peat bogs nearby. In the deeper parts, it's cold year

round. For long stretches it dips and loops around stands of young pines.

Mikhail was pleased with the area when he settled there. He was a young tyro, the coming thing, at twenty-eight a senior turbine engineer. There were three secondary schools, a young people's club, festive covered markets, a two-screen cinema, and a Children's World department store. Plenty of good walking trails and fishing. Petya followed him. Petya usually followed him from assignment to assignment, getting odd jobs, getting drunk, getting thrown in jail, getting bailed out of trouble by his brother. Or half-brother.

"Why doesn't he ever follow *you*?" Mikhail asked me the night Petya showed up on his doorstep yet again. Mikhail didn't often call. It was a bad connection that sounded like wasps in the telephone line. Petya was already asleep in the dining room. He'd walked the last twenty versts after having hitched a ride on a cement truck.

They found him a little apartment in town and a job on the construction site for the spent fuel depository. As for a residence permit: for that, Mikhail told me on the phone, they'd rely on their big-shot brother.

I was ready to help out. We both treated Petya as though he had to be taught to swallow. "Let *me* do that," we'd tell him, before he'd even commenced what he was going to attempt. Whatever went wrong in our lives, we'd think they *still* weren't as fucked up as Petya's.

Mikhail's shift came on duty at midnight, an hour and twenty-five minutes before the explosion. Most of the shift members did not survive until morning.

Petya, I was told later, was fishing that night with another layabout, a friend. They'd chosen a little sandbar near the feeder channel across from the turbine hall, where the water released from the heat exchangers into the cooling pond was twenty degrees warmer. In spring it filled with hatchlings. There was no moon and it was balmy for April, and starry above the black shapes of the cooling towers.

Earthenware Pots

As Chief Engineer of the Department of Nuclear Energy, I was a mongrel: half technocrat, half bureaucrat. We knew there were problems in both design and operating procedures, but what industry didn't have problems? Our method was to get rid of them by keeping silent. Nepotism ruled the day. "Fat lot of good it's done *me*," Mikhail often joked. If you tried to bring a claim against someone for incompetence or negligence, his allies hectored you, all indignation on his behalf. Everyone ended up shouting, no one got to the bottom of the problem, and you became a saboteur: someone seeking to undermine the achievement of the quotas.

People said I owed my position to my father, and Mikhail owed his position to me. ("More than they know," he said grimly, when I told him that.) At various Congresses, I ran my concerns by my father. In response he gave me that look Mikhail called the Dick Shriveler. "Why's your dick big around him in the first place?" Petya once asked when he'd overheard us.

We all lived under the doctrine of ubiquitous success. Negative information was reserved for the most senior leaders, with censored versions available for those lower down. Nothing instructive about precautions or emergency procedures could be organized, since such initiatives undermined the official position concerning the complete safety of the nuclear industry. For thirty years, accidents went unreported, so the lessons derived from these accidents remained with those who'd experienced them. It was as if no accidents had occurred.

So who gave a shit if the Ministry of Energy was riddled through with incompetents or filled with the finest theorists? Whenever we came across a particular idiocy, in terms of staffing, we quoted to one another the old saying: "It doesn't take gods to bake earthenware pots." The year before, the chief engineer during the start-up procedures at Balakovo had fucked up, and fourteen men had been boiled alive. The bodies had been retrieved and laid before him in a row.

I'd resisted his hiring. That, for me, constituted enough to quiet my conscience. And when Mikhail submitted an official protest about sanctioned shortcuts in one of his unit's training procedures, I forwarded his paperwork on with a separate note of support.

Pastorale

The town slept. The countryside slept. The Chief Engineer of the Department of Nuclear Energy, in his enviable Moscow apartment, slept. It was a clear night in April, one of the most beautiful of the year. Meadows rippled like silvery lakes in the starlight. Pripyat was sleeping, Ukraine was sleeping, the country was sleeping. The Chief Engineer's brother, Mikhail, was awake, hunting sugar for his coffee. His half brother, Petya, was awake, soaking his feet and baiting a hook. In the number 4 reactor the staff, Mikhail included, was running a test to see how long the turbines would keep spinning and producing power in the event of an electrical failure at the plant. It was a dangerous test, but it had been done before. To do it, they had to disable some of the critical control systems, including the automatic shutdown mechanisms.

They shut down the emergency core cooling system. Their thinking apparently had been to prevent cold water from entering the hot reactor after the test and causing a heat shock. But who knows what was going through their minds? Only men with no understanding of what went on inside a reactor could have done such a thing. And once they'd done that, all their standard operating procedures took them even more quickly down the road to disaster.

The test as idea was half standard operating procedure, half seat-of-the-pants initiative. Testimony, perhaps, to the poignancy of their longing to make things safer.

Did Mikhail know better? Even he probably knew better. His main responsibility was the turbines, but even so. Did he suspect his colleagues' imbecility? One night as a boy after a beating he hauled himself off his bed and pissed into our father's boots, already wet from the river. He'd never suspect, Mikhail told us. Mikhail lived a large portion of his life in that state of mind in which you take a risk and

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deny the risk at the same time, out of rage. No one in his control room knew nearly enough, and whose fault was that? "Akimov has your sense of humor," he told me once about his boss. It didn't sound like good news for Akimov's crew.

Minutes after they began, the flow of coolant water dropped and the power began to increase. Akimov and his team moved to shut down the reactor. But they'd waited too long and the design of the control rods was such that, for the first part of the lowering, they actually caused an *increase* in reactivity.

South Seas

On the evening of 1 May 1986 in Clinic No. 6 in Moscow I made the acquaintance of two young people: another senior turbine engineer and an electrical engineer. They had beds on either side of Mikhail's. The ward overflowed with customers. A trainee was collecting watches and wedding rings in plastic bags. Everyone was on some kind of drip but there weren't enough bowls and bins, so people were vomiting onto the floor. The smell was stunning. Nurses with trays skidded around corners.

Mikhail was a dark brown: the color of mahogany. Even his gums. When he saw my face he grinned and croaked, "South Seas!" A doctor changing his intravenous line explained without looking up that they called it a nuclear tan.

I was there partially in an official capacity, to investigate what had happened at the last moments.

Mikhail said, "Are you *weeping*? The investigator is *weeping*!" But his comrades in the nearby beds were unsympathetic. He interrupted his story in order to throw up in a bin between the beds.

He'd been in the information processing complex, a room a few levels below the control room. Two shocks had concussed the entire building and the lights had flashed off. The building had seemed to tip into the air and part of the ceiling had collapsed. Steam in billows and jets had erupted from the floor. He'd heard someone shouting, "This is an emergency!" and had pitched himself out into the hall. There was a strobe effect from the short circuits. The air smelled of ozone and caused a tickling sensation in the throat. The walls immediately above him were gone and he could see a bright purple light crackling between the ends of a broken high-voltage cable. He could see fire, black ash falling in flakes, and red-hot blocks and fragments of something burning into the linoleum of the floor.

He worked his way up to the control room, where everyone was in a panic. Akimov was calling the heads of departments and sections, asking for help. You could see the realization of what he'd helped do hitting him. According to the panels, the control rods were stuck halfway down. Two trainees, kids just out of school, were standing around frightened, and he sent them off to *lower the control rods by hand*.

"The investigator is *weeping*!" my brother said triumphantly, again.

"This is a great tragedy," I told him, as though chiding him. The other engineers gazed over from their beds.

"Oh, yes," he said, as though someone had offered him tea. "Tragedy tragedy tragedy."

When it became clear that he wasn't going to go on, I asked him to tell me more. "We have no protection systems—nothing!" he remembered Perevozchenko saying. Their lungs felt scalded. Their bronchioles and alveoli were being flooded with radionuclides. Akimov had sent him to ascertain the amount of damage to the central hall. He'd made his way to the ventilation center, where he could see that the top of the building had been blown off. From somewhere behind him he could hear radioactive water pouring down the debris. Steel reinforcing beams corkscrewed in various directions. His eyes stung. It felt as though something was being boiled in his chest. There was an acid taste to the steam and a buzz of static on his skin. He learned later that the radiation field was so powerful it was ionizing the air.

"Take that down, investigator," Mikhail said. He tried to drink a little water.

The Maximum Permissible Dose

At 1:23:58, the concentration of hydrogen in the explosive mixture reached the stage of detonation and the two explosions Mikhail had felt in the information processing complex destroyed the reactor and the reactor building of unit No. 4. A radioactive plume extended to an altitude of 36,000 feet. Fifty tons of nuclear fuel evaporated into it. Another seventy tons spewed out onto the reactor grounds, mixing with the structural debris. The radioactivity of the ejected fuel reached 20,000 roentgens per hour. The maximum permissible dose, according to our regulations for a nuclear power plant operator, is 5 roentgens per year.

Some Rich Asshole's Just Lost His Job

Petya said the explosions made the ground shake and the water surface ripple in all directions. Pieces of concrete and steel started landing in the pond around them. They could hear the hissing as the pieces cooled. For a while they watched the cloud billow out and grow above the reactor. By then the fire was above the edge of the building. Through a crack in one of the containment walls they could see a dark blue light. "Some rich asshole's just lost his job," he remembered remarking to his friend. I assume he meant someone other than his eldest brother.

And by then they'd both begun to feel dreadful. Their eyes streamed tears as they reeled about, so sluggish and disoriented it took them an hour to traverse the half-kilometer to the medical station. By the time they arrived, it resembled a war zone.

The Individual Citizen in the Vanguard

How much difference could an individual bureaucrat really make in our system? That was a popular topic for our drinking bouts. For the epic bouts, we seemed to require a Topic. The accepted wisdom, which tempered our cynicism enough to smooth the way for our complacency, was that with clever and persistent and assiduous work and some

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luck, the great creeping hulk that was our society *could* be nudged in this or that direction. But one had to be patient, and work within the system, and respect the system's sheer *size*.

Because, you see, our schools directed all their efforts to inculcating industriousness (somewhat successfully), obedience (fairly successfully), and toadyism (very successfully.) Each graduation produced a new crop of little yes-people. Our children learned criticism from their families, and from the street.

The Individual Citizen Still in the Vanguard

By four in the afternoon the day after the explosion, the members of the Government Commission began to gather, having flown in from everywhere. I'd been telephoned at five that morning by the head of the Party Congress. He was already exhausted. The station managers were assuring him that the reactor itself was largely undamaged and radioactivity levels within normal limits. There was apparently massive damage, however, and they couldn't control the fires. When I told him, rubbing my face and holding the phone, that that made no sense, his response was, "Yes. Well." I was to be on a military transport by 8:30. Mikhail, I knew, would be on duty, but when I phoned up Petya, there was no answer.

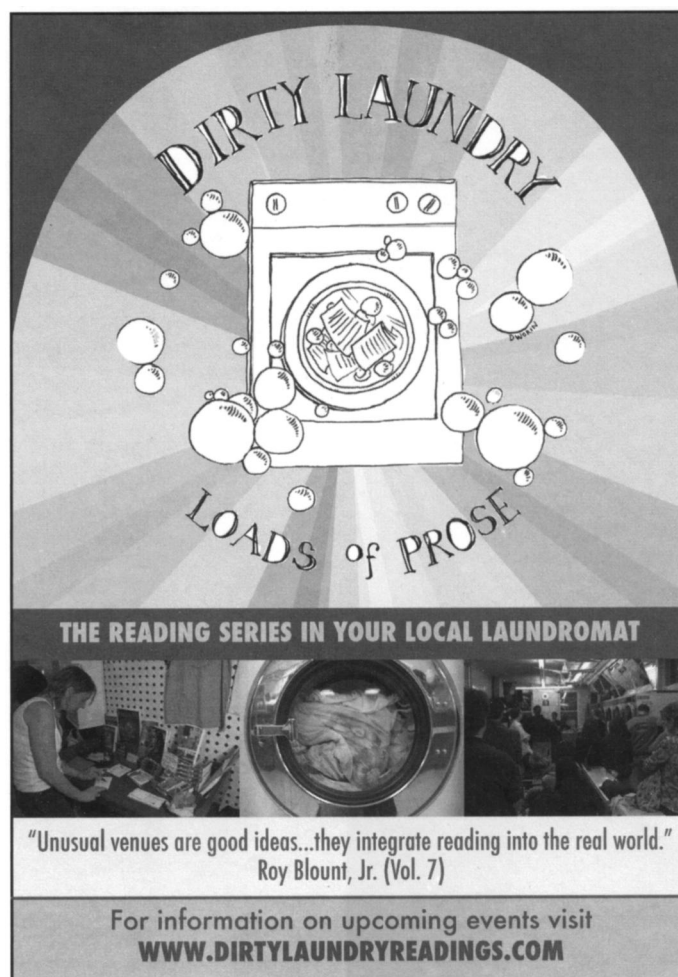
On the drive in from the airport, we slowed to traverse roads flooded with a white foam along the shoulders. The decontamination trucks we passed made us quiet. When we found our voices, we argued about whether the reactor had been exposed. The design people were skeptical, insisting that this variant was so well conceived that even if the idiots in charge had wanted to blow it up, they couldn't have.

But all that talk petered out when we assembled on the roof of the Town Committee office and could see over the apartment buildings to No. 4. Its wall was open and flames were burning straight up from behind it. The air smelled the way metal tastes. We could hear the children down in the courtyard having their hour of physical training. "Which way is the wind blowing?" someone asked, and we all looked at the flags on the young people's club.

We moved back to the Town Committee office and shut the windows and shouted and squabbled for an hour, with contradictory information arriving every moment. *Where was Mikhail?* a voice in my head inquired repetitively. We had no idea what to do. As my mother used to say, it's only thunder when it bangs over your head. It wasn't possible, we were told, to accurately gauge the radiation levels, because no one had dosimeters with the right scales. The ones here went up to 1000 microroentgens per second, which was 3.6 roentgens per hour. So all of the instruments were off the scale wherever you went. But when Moscow demanded the radiation levels, they were told 3.6 roentgens an hour. Since that's what the machines were reading.

The station had had one dosimeter capable of reading higher levels, the assistant to the nuclear power sector reported. But it had been buried by the blast.


Everyone was hoping that the bad news would announce itself. And that the responsibility and blame



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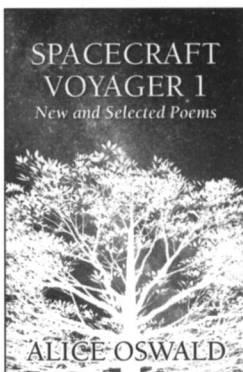


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would somehow be spread imperceptibly over everyone equally. This is the only way to account for our watchmaker's pace, at a time when each minute's delay caused the criminal exposure of all those citizens—all those children—still going about their ordinary day outside.

The deputy chief operational engineer of the No. 4 unit was managing to sustain two mutually exclusive realities in his head: first, the reactor was intact, and we needed to keep feeding water into it to prevent its overheating; and second, there was graphite and fuel all over the ground. Where could it have come from?

No one working at the station, we were told, was wearing protective clothing. The workers were drinking vodka, they said, to decontaminate. Everyone had lost track of everyone. It was the Russian story.

The Game of I Know Nothing Played Long Enough

The teachers in the schools heard about the accident through their relatives, who had heard from friends overseas—routine measurements outside Swedish power stations having already flagged an enormous spike in radioactivity—but when they inquired whether the students should be sent home, or their schedule in any way amended, the Second Secretary of the Regional Committee told them to carry on as planned. The Party's primary concern at that point seemed to be to establish that an accident on such a scale could not happen at such a plant. We had adequate stores of potassium iodide pills, which would at least have prevented thyroid absorption of iodine-131. We were forbidden as of yet to authorize their distribution.

So throughout the afternoon children played in the streets. Mothers hung laundry. It was a beautiful day. Radioactivity collected in the hair and clothes. Groups walked and bicycled to the bridge near the Yanov station to get a close look into the reactor. They watched the beautiful shining cloud over the power plant dissipate in their direction. They were bathed in a flood of deadly x-rays emanating directly from the nuclear core.

The fire brigade which had first responded to the alarm had lasted fifteen minutes on the roof before becoming entirely incapacitated. There followed a round-the-clock rotation of firemen, and by now twelve brigades, pulled from all over the region, had been decimated. The station's roof, where the firefighters stood directing their hoses, was like the door of a blast furnace. We learned later that from there the reactor core was generating 30,000 roentgens per hour.

What about helicopters, someone suggested. What about them? someone else asked. They could be used to dump sand onto the reactor, the first speaker theorized. This idea was ridiculed and then entertained. Lead was proposed. We ended up back with sand. Rope was needed to tie the sacks. None was available. Someone found red calico gathered for the May Day festival, and all sorts of very important people began tearing it into strips. Young people were requisitioned to fill the sacks with sand.

I left, explaining I was going to look at the site myself. I found Mikhail. He was already dark brown by that point.

I was told that he was one of those selected for removal by special flight to the clinic in Moscow. His skin color had been the main criterion, since the doctors had no way at that point of measuring the dose he'd received. He was on morphine and unconscious the entire time I was there. As a boy he'd never slept enough and all of his face's sadness always emerged whenever he finally did doze. There in the hospital bed, he was so still and dark that it looked like someone had carved his life mask from a rich tropical wood. At some point I told an orderly I'd be back and went to find Petya.

While hunting for his apartment address I asked whomever I encountered if they had children. If they did I gave them potassium iodide pills and told them to have their children take them now, with a little water, just in case.

I found Petya's apartment but no Petya. A busybody neighbor with one front tooth hadn't seen him since the day before but asked many questions. By then I had to return to the meeting. The group had barely noticed I was gone. No progress had been made, though outside the building, teenagers were filling sandbags with sand.

All of Them: Heroes of the Soviet Union

By late afternoon the worst of the prevaricators had acknowledged the need to prepare for evacuation. In the meantime untold numbers of workers had been sent into the heart of the radiation field to direct cooling water onto the non-existent reactor. The helicopters had begun their dumping, and the rotors, arriving and departing, stirred up sandstorms of radioactive dust. The crews had to hover for three to five minutes directly over the reactor to drop their loads. Most managed only two trips before becoming unfit for service.

Word finally came through that Petya too had been sent to the medical center. By the time I got over there he'd been delivered to the airport for emergency transport to Moscow. When I asked how he'd gotten such a dose, no one had any idea.

At ten AM on Sunday the town was finally advised to shut its windows and not let its children outside. Four hours later the evacuation began.

Citizens were told to collect their papers and indispensable items, along with food for three days, and to gather at the sites posted. Some may have known they were never coming back. Most didn't even take warm clothes.

The entire town climbed onto buses and was carried away. Many getting on were already intensely radioactive. The buses were washed with decontaminant once they were far enough out of town. Eleven hundred buses: the column stretched for eighteen kilometers. It was a miserable sight. The convoy kicked up rolling billows of dust. In some places it enveloped families still waiting to be picked up, their children groping for their toys at the roadside.

That night when the Commission meeting was over, I went my own way. Even the streetlights were out. I felt my way along with small steps. I was in the middle of town and might as well have been on the dark side of the moon. Naturally, I thought: Petya had somehow been there, on the river. Whenever the shit cart tipped over, there was Petya, underneath.

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The Zero Meter Diving Team

It turned out Petya was installed on the floor below Mikhail's in Moscow's Clinic No. 6. When I asked an administrator if some sort of triage was going on, she said, "Are you a relative?" When I said I was, she said, "Then no."

He was hooked up to two different drips. He didn't look so bad. He was his normal color, maybe a little pale. His hair was in more riot than usual.

"Boris Yakovlevich!" he said. He seemed happy to see me.

At long last he'd gotten his chance to lie down, he joked. His laziness had always been a matter of contention between us.

"Has Father been by to see me?" he asked. "I've been out of it for stretches."

I told him I didn't know.

"Has he been to see Mikhail?" he asked.

I told him I didn't know. He asked how his brother was holding up. I told him I was going to visit Mikhail directly afterwards and would report back.

"Are you feeling sorry for me?" he asked, after a pause. A passing nurse seemed surprised by the question.

"Of course I am," I told him.

"With you sometimes it's hard to tell," he said.

"What can I do for you?" I asked, after another pause.

"I have what they call a 'period of intestinal syndrome,'" he said glumly. "Which means I have the shits thirty times a day." And these things in his mouth and throat, he added, which was why he couldn't eat or drink. He asked after the state of the reactor, as though he was one of the engineers. Then he explained how he'd ended up near the reactor in the first place. He described his new Pripyat apartment and said he hoped to save up for a motorcycle. Then he announced he was going to sleep.

"Get me something to read," he said when I got up to leave. "Except I can't read. Never mind."

The next floor up, the surviving patients were sequestered alone in sterile rooms. Mikhail was naked and covered in a yellow cream. Soaked dressings filled low bins in the hall. Huge lamps surrounded the bed to keep him warm.

"Father's been to see me," he said instead of hello.

He said that four samples of bone marrow had been extracted and no one had told him anything since. Most of the pain was in his mouth and stomach. When he asked for a drink, I offered some mango juice I'd brought with me. He said it was just the thing he wanted. He was fed up with mineral water. He shouted at a passing doctor that the noise of her heels was giving him diarrhea.

"When we got outside, graphite was scattered all around," he said, as if we'd been in the middle of discussing the accident. "Someone touched a piece of it and his arm flew up like he'd been burned."

"So you knew what it was?" I asked.

I assumed I wasn't allowed to touch him because of the cream. He was always the boy I'd most resented and the boy I'd most wanted to be. I'd been the cold one, but he'd been the one who'd made himself, when he'd had to be, solitary and unreachable.

An orderly wheeled in a tray of ointments, tinctures, creams, and gauzes. He performed a counterfeit of patience while he waited for me to leave.

"Have you had enough of everything?" I asked Mikhail. "Is there anything I can bring?"

"I've had the maximum permissible dose of my brother Boris," he said. "Now I need to recuperate." But then he went on to tell me that Akimov had died. "As long as he could talk, he kept saying he did everything right and didn't understand how it had happened." He finished the juice. "That's interesting, isn't it?"

Mikhail had always said about me that I was one of those people who took a purely functional interest in whomever I was talking to. Father had overheard him once when we were adults and had laughed approvingly.

"Someone's going to have to look after Petya," he said, his eyes closed, some minutes later. I'd thought he'd fallen asleep. As far as I knew, he wasn't aware that his brother was on the floor below him.

"I have to get on with this," the orderly finally remarked. When I told him to shut up, he shrugged.

There Is No Return. Farewell. Prip'yat, 28 April 1986

Two years later, at four in the morning, my father and I drove into the Zone. The headlamps dissolved picturesquely into the pre-dawn mist, but my father's driver refused to slow down. It was like being in a road rally. The driver sat on a lead sheet he'd cadged from an x-ray technician. For his balls, he explained when he saw me looking at it. Armored troop carriers with special spotlights were parked here and there working as chemical defense detachments. The soldiers wore black suits and special slippers.

Even through the misty darkness we could see that nature was blooming. The sun rose. We passed pear trees gone to riot and chaotic banks of wildflowers. A crush of lilacs overwhelmed a mile marker.

Mikhail had died after two bone-marrow transplants. He'd lasted three weeks. The attending nurse reported final complaints involving dry mouth, his salivary glands having been destroyed. But I assumed that that was Mikhail being brave, because the condition of his skin had left him in agony for the final two weeks. On some of my visits he couldn't speak at all, but only kept his eyes and mouth tightly closed, and listened. I was in Georgia at the start-up of a new plant the day he died. He was buried, like the others in his condition, in a lead-lined coffin that was soldered shut.

Petya was by then an invalid on a pension Father and I had arranged for him. He was twenty-five. He found it difficult to get up to his floor, since his building had no elevator, but otherwise, he told me when I occasionally called, he was happy. He had his smokes and his tape player and could lay about all day with no one to nag him, no one to tell him that he had better amount to something.

"It's a shame," my father mused on the ride in. "What is?" I asked, wild with rage at the both of us. But he looked at me with disapproval and dropped the subject.

At Prip'yat a sawhorse was set up as a checkpoint, manned by an officer and two soldiers. The soldiers had holes poked in their respirators for cigarettes. They'd been expecting my father, and he was whisked off to be shown

something even I wasn't to be allowed to see. His driver stuck his feet out the car's open window and began snoring, head thrown back. I wandered away from the central square and looked into a building that had been facing away from the reactor. I walked its peeling and echoing hallways and gaped into empty offices at notepads and pens scattered across floors. In one there was a half-unwrapped child's dress in a gift box, the tulle eaten away by age or insects.

Across the street in front of the school, a tree was growing up from beneath the sidewalk. I climbed through an open window and crossed the classroom without touching anything. I passed through a solarium with an empty swimming pool. A kindergarten with little gas masks in a crate. Much had been looted and tossed about, including a surprising number of toys. At the front of one room over the teacher's desk someone had written on a red chalkboard, *There Is No Return. Farewell. Pripyat, 28 April 1986.*

Self-Improvement

The territory exposed to the radioactivity, we now knew, was larger than one hundred thousand square kilometers. Many of those who'd worked at Chernobyl were dead. Many were still alive and suffering. The children in particular suffered from exotic ailments, like cancer of the mouth. The Director of the Institute of Biophysics in Moscow announced that there hadn't been one documented case of radiation sickness among civilians. Citizens who applied to the Ministry of Health for some kind of treatment were accused of radiophobia. Radionuclides in large amounts continued to drain into the reservoirs and aquifers in the contaminated territories. It was estimated that humans could begin repopulating the area in about six hundred years, give or take three hundred years. My father said three hundred years. He was an optimist. Nobody knew, even approximately, how many people had died.

The reactor was encased in a sarcophagus, an immense terraced pyramid of concrete and steel, built under the most lethal possible circumstances and, we'd been informed, already disintegrating. Cracks allowed rain to enter and dust to escape. Small animals and birds passed in and out of the facility.

I left the schoolyard and walked a short way down a lane overhung with young pines. Out in the fields, vehicles had been abandoned as far as the eye could see: fire engines, armored personnel carriers, cranes, backhoes, ambulances, cement mixers, trucks. It was the world's largest junkyard. Most had been scavenged for parts, however radioactive. Each step off the road added 1000 microroentgens to my dosimeter reading.

The week after Mikhail died, I wrote my father a letter. I quoted him other people's moral outrage. I sent him a clipping decrying the abscess of complacency and self-flattery, corruption and protectionism, narrow-mindedness and self-serving privilege that had created the catastrophe. I retyped for him some graffiti I'd seen painted on the side of an abandoned backhoe: that the negligence and incompetence of some should not be concealed by the patriotism of others. I typed it again: *the negligence and*

incompetence of some should not be concealed by the patriotism of others. Whoever had written it was more eloquent than I would ever be. I was writing to myself. I received no better answer from him than I'd received from myself.

Science Requires Victims

My father and I served on the panel charged with appointing the commission set up to investigate the causes of the accident. The roster we put forward was top-heavy with those who designed nuclear plants, neglecting entirely the engineers who operated them. So who was blamed, in the commission's final report? The operators. Nearly all of whom were dead. One was removed from a hospital and imprisoned.

During his arrest it was said he quoted Petrosyant's infamous remark from the Moscow press conference the week after the disaster: "Science requires victims."

"Still feeling like the crusader?" my father had asked the day we turned in our report. It had been the last time I'd seen him. "Why not?" I'd answered. Afterward, I'd gotten drunk for three days. I'd pulled out the original blueprints. I'd sat up nights with the drawings of the control rods, their design flaws like a hidden pattern I could no longer unsee.

But then, such late night sentimentalities always operate more as consolation than insight.

I could still be someone I could live with, I found myself thinking on the third night. All it would take was change.

A red fox, its little jaws agape, sauntered across the road a few meters away. It was said that the animals had lost their skittishness around man, since man was no longer about. There'd been a problem with the dogs left behind going feral and radioactive, until a special detachment of soldiers was bused in to shoot them all.

Around a curve I came upon the highway that had been used for the evacuation. The asphalt was still a powdery blue from the dried decontaminant solution. The sky was sullen and empty. A rail fence ran along the fields to my left. While I stood there, a rumble gathered and approached, and from a stand of poplars a herd of horses burst forth, sweeping by at full gallop. They were followed a few minutes later by a panicked and brindled colt, kicking its legs this way and that, stirring up blue and brown dust.

"Was I ever the brother you hoped I would be?" I asked Mikhail toward the end of my next-to-last visit. His eyes and mouth were squeezed shut. He seemed more repelled by himself than by me, and he nodded. All the way home from the hospital that night, I saw it in my mind's eye: my brother, nodding.

Jim Shepard is the author of six novels, including most recently *Project X* (Knopf, 2004) and two story collections, including most recently *Love and Hydrogen* (Vintage, 2004). A third story collection, *Like You'd Understand, Anyway*, will be published by Knopf this September. "The Zero Meter Diving Team" is included in it.