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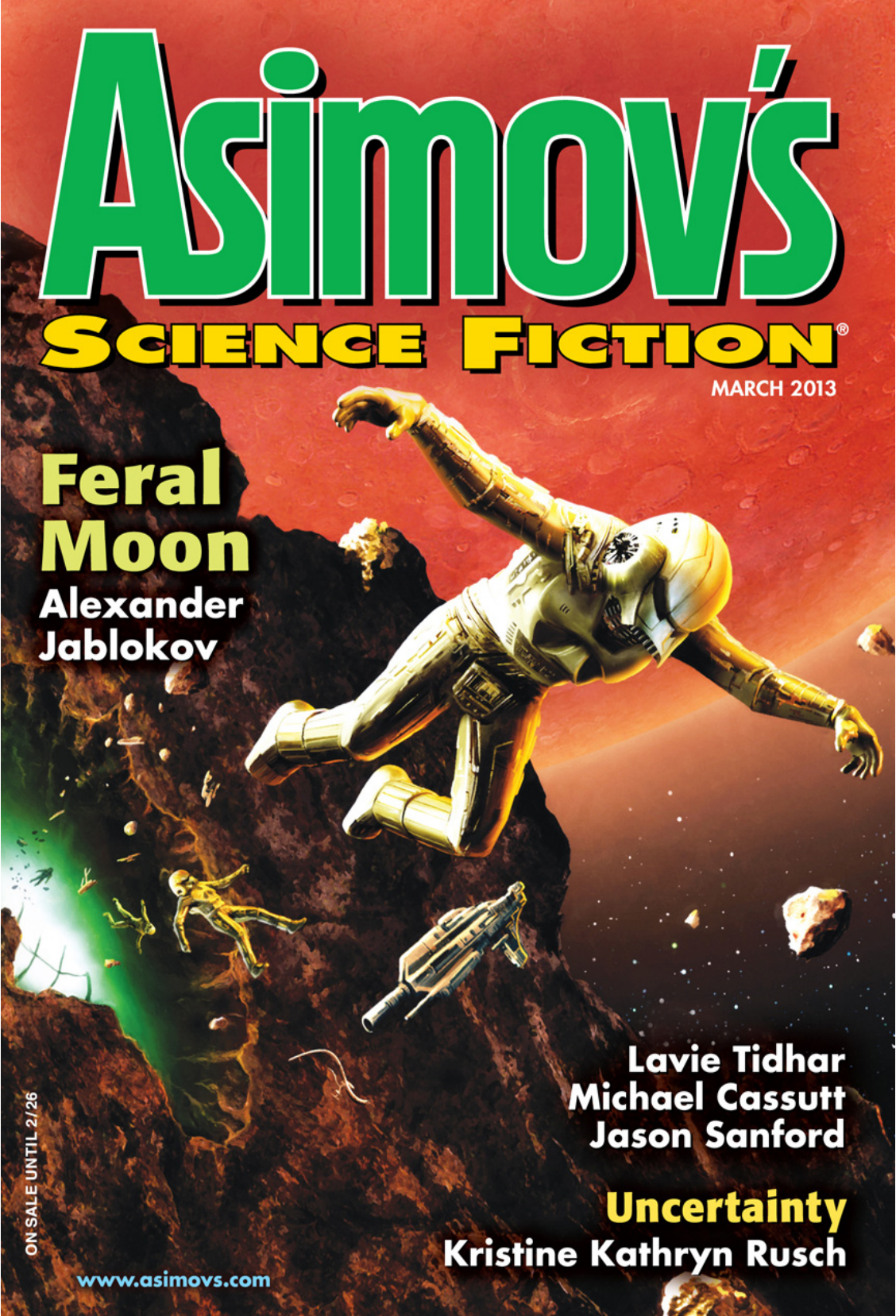

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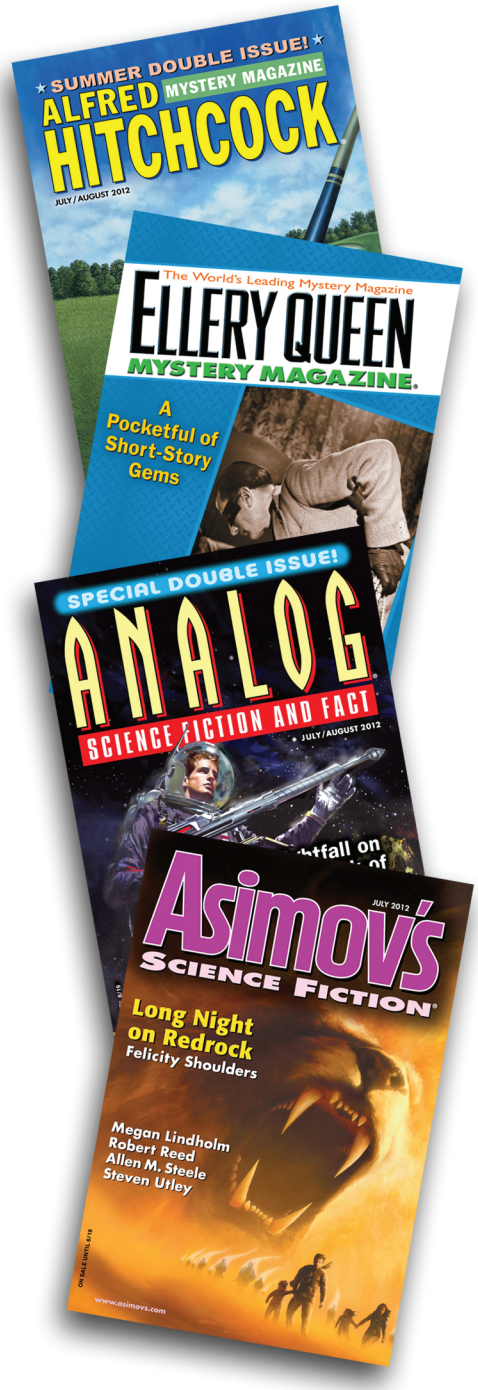

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MARCH 2013

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Novellas

Novellettes

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Departments

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EDITORIAL

Sheila Williams

THE DISTAFF STUFF

As a child during the Mercury and Gemini Space Programs, with stars in my eyes from the works of Isaac Asimov and Robert Heinlein and from watching episodes of *Star Trek,* I would have told you that I wanted to be an astronaut when I grew up. This was a bit of wishful thinking that I shared with my father. In his youth, he had desperately wanted to be a fighter pilot, but myopia put that dream forever out of his reach. In the earliest days of the space program, President Eisenhower determined that astronaut candidates had to be military test pilots. They also had to be in superb physical shape, hold college degrees, and possess "genius-level" IQs. My dad had a college degree, though, perhaps not in the right subjects, but even if his vision had been perfect, I'm not sure how well he would have met the other qualifications.

I share my father's nearsightedness, and no one has ever accused me of being either perfectly fit or a genius. Unlike my dad, I was also missing the seemingly essential Y chromosome. The United States Naval and Air Force Academies did not accept women until after my freshman year at college. Trust me, even if I'd been a couple of years younger, I would not have possessed the "right stuff" needed for entrance into either of those esteemed institutions. A career in space seemed so utterly unobtainable that it never became a serious adult objective. That was fine with me because my early love of science fiction led me to the perfect career, but I have always remained in awe of the people who really do the daring job that SF writers only make up stories about.

Fortunately, there were brave and intelligent (and exceptionally physically fit) young women, some of them almost exactly my age, who were not put off by the space program's initial insistence on male-only astronauts. By the mid-sixties, NASA had stopped insisting that all astronauts had to have previous military flight experience. Once the space agency began looking for chemical engineers, medical doctors, astrophysicists, and computer scientists, it was only a matter of time before America's astronauts corps became a diverse body of men and women.

There were at least three women born within a few weeks of me who did not let a silly thing like the closed doors of a military academy stop them from making their dreams reality. The youngest of these women (by a month), Eileen Marie Collins, actually was a test pilot. She was born in Elmira, New York, the same town where I attended college. After graduating from Syracuse University, she received pilot training at Vance Air Force Base in Oklahoma. She eventually became an assistant professor of mathematics and a flight instructor *at* the USAF Academy before being selected for astronaut training in 1990. Colonel Collins, now retired, became the first female shuttle pilot in 1995 and the first female commander in 1999.

Born less than a month after me, Mae Carol Jemison, the first woman of color in space, never let her dreams be deterred by NASA's early preference for white male candidates. Mae Jemison entered Stanford at sixteen and earned a degree in chemical engineering. Later, she received a doctor of medicine from Cornell. Dr. Jemison read science fiction growing up. A career in space seemed imaginable because of role models like Nichelle Nichols—*Star Trek's* Lt. Uhura. According to the New York *Times,* Dr. Jemison, together with Icarus Interstellar—a nonprofit foundation—recently won a $500,000 government grant "to set up 100 Year Starship, an organization that is to come up with a business plan for interstellar travel."

When I began researching this editori-

al, I had a fantasy that Janice E. Voss and I could have been classmates. Our birthdays were less than two weeks apart and we'd both spent our high school years in Western Massachusetts. When my parents decided to leave rural Holland, Mass., for a Springfield suburb, they were torn between two towns—Wilbraham and Longmeadow. Eventually, they decided on Longmeadow. Dr. Voss was born in South Bend, Indiana, but her family eventually moved to Wilbraham. I was about to bemoan my parents' poor judgment when I realized that, like Mae Jemison, Janice Voss was out of high school by the time I was a junior. In addition to a host of other degrees, she received a Ph.D. in aeronautics/astronautics from MIT in 1987. Dr. Voss took her first journey into space in 1993 and shortly after that she sent a letter to *Asimov's*. She let us know about how much her love for science fiction had inspired her and she enclosed a photograph of herself reading *Foundation* by Earthlight on the *Endeavor*. Isaac Asimov had died a few months earlier, but I know that he would have been profoundly moved by her acknowledgment of his influence on her career. Janice Voss flew on four more shuttle missions and later became the science director for NASA's Kepler Space Observatory.

I was heartbroken to learn of the death of Dr. Voss from cancer last February. Little did I know that she would be the first of three astronauts to pass away in 2012. The lives of the others, Neil Armstrong and Sally Ride, touched me in no small way, and I will reflect upon those two giants in another editorial. Still, Janice Voss was the only astronaut in that trio with whom I had had personal contact. While we never shared the same career trajectory, reading the works of Isaac Asimov and other SF authors had a huge impact on both of our lives. That link to Dr. Voss makes me stop and wonder about the inspirational effect some of today's writers must be having at this very moment on the astronauts, scientists, and, even, editors of tomorrow. ❍

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THE YEAR'S BEST SCIENCE FICTION

This is the time of year when the annual Best Science Fiction of the Year anthologies start coming out—what used to be an exciting time for me, since I often had stories reprinted in those anthologies and I was eager to see what the editors of those books had had to say about them. Now that I'm no longer very active as a science fiction writer, I'm not likely to be a candidate for inclusion in the best-of-the-year anthologies—you have to write something if you want somebody to be able to reprint it—and so I look at the new year's books purely with the interest of an observer who wants to know who the hot new writers of the field might be and what sort of thing they may be writing.

There are four, or maybe five, best-of-the-year anthologies currently being published. The patriarch of them all is Gardner Dozois' *The Year's Best Science Fiction,* now approaching its thirtieth huge volume and in its totality constituting an encyclopedia of all that was memorable about the science fiction short story in the past generation. *Year's Best SF,* edited by David G. Hartwell and Kathryn Cramer, has been running well over a decade now. More recently, two more best-of-the-year anthologies edited by Jonathan Strahan and Rich Horton have joined them, and I believe there is a fifth such annual collection now, edited by Allen Kaster, available only in Kindle and audio editions. These present-day volumes stand at the head of a long and glorious tradition, for it has been the custom in the science fiction world for many decades now to assemble such collections and thus give a measure of permanence to what would otherwise be the ephemeral existence of magazine fiction.

One of the earliest such series was the work of Judith Merril, who edited twelve annual volumes between 1957 and 1968, beginning under the title of *SF: The Year's Greatest Science-Fiction and Fantasy* and finishing as *SF 12.* The Merril series was distinguished by a wider reach than that of most similar collections, for she went beyond the standard science fiction magazines of the day and sought relevant material in the mainstream world: her contents pages are studded not only with the names of Asimov, Sturgeon, and Leiber but with those of John Updike, Shirley Jackson, William Burroughs, and Jorge Luis Borges. No other anthology editor, past or present, has done so much to expand the boundaries of our field.

Far more conservative in taste, but just as memorable and still just as valuable, was the *World's Best Science Fiction* series edited by the SF pioneer Donald A. Wollheim and his younger associate, Terry Carr, between 1965 and 1971. Wollheim's knowledge of science fiction went back to the almost prehistoric Hugo Gernsback days; Carr was a key editorial figure in the New Wave revolution of the 1960s. Between them, they covered almost the entire creative range of modern SF to produce a series of landmark volumes that ended only when Wollheim and Carr went their separate editorial ways in 1971. Carr continued a series of his own from 1972 until his death in 1987, Wollheim a parallel series from 1974 to 1990. Such people as Lester del Rey, Frederik Pohl, Harry Harrison, and Brian W. Aldiss edited Year's Bests for briefer periods. I even took a turn at it myself, in association with my wife Karen, for a couple of years early in the present century. And Isaac Asimov edited a long series of retro-Year's-Bests beginning in 1979 with the top stories of 1939.

Ancestral to all of these, the first of all the Year's Bests, is a superb set of books produced between 1949 and 1958 by a knowledgeable team of editors whose names mean nothing to modern readers. I have before me at the moment the very first volume of this series—*The Best Science-Fiction Stories: 1949,* edited by Everett F. Bleiler and T.D. Dikty. I never

met Bleiler, who lived to a great old age and died a few years ago, but I did exchange a few letters with him, and with his son, still an active scholar in the field. Bleiler was an anthropologist, with a deep background in SF, who compiled a number of important bibliographical works. His collaborator, Ted Dikty, whom I did know fairly well in the SF world of thirty or forty years ago, was a stocky, jovial man, also a bibliographer and collector, a prime expert on science fiction.

That groundbreaking 1949 Bleiler-Dikty volume covers the best SF stories of 1948. It happens that 1948 was the year I began reading the science fiction magazines: sixty-five years ago, that is, a number that I find astonishing and that many of you will find incomprehensible. What was it like, that world of 1948 that produced the dozen stories (by ten different writers) that Bleiler and Dikty considered the best science fiction of the year? And how do those stories stand up in comparison with those being written today?

It was three years after the most destructive war in history. Much of Europe still lay in ruins. The U.S., though, was enjoying the first rush of post-war prosperity. The soldiers were home from the battlefields and they and their wives were busily engendering millions of babies, the biggest new generation in history, the very same multitude of baby boomers who today, on the threshold of old age, are signing up in droves for Medicare. The Soviet Union, so recently our ally in the great war, had turned hostile and had extended its malign power over much of Europe. Harry S. Truman was president, having inherited the job upon the death of Franklin D. Roosevelt in April 1945, but Truman was unpopular and was widely expected to be defeated in that fall's presidential elections by Governor Thomas E. Dewey of New York. There were no personal computers, no smartphones, no jet airliners. Even television, then in its earliest days of commercial broadcasting, was a luxury enjoyed only by a few.

Seven science fiction magazines were being published that year, but for the anthologists' purposes only four really mattered. *Astounding Science Fiction,* the ancestor of today's *Analog,* had been the undisputed leader in the field since 1934, the only magazine consistently interested in publishing stories that adult readers might enjoy. *Thrilling Wonder Stories* and its companion *Startling Stories,* after a decade of specializing largely in juvenile pulp fiction, had cautiously begun to impinge on *Astounding's* more mature audience. *Planet Stories,* a pulp magazine joyously devoted to the wildest fringes of space opera, also occasionally ran a more serious story. Of the other three, *Famous Fantastic Mysteries* was an all-reprint magazine concentrating largely on classic fantasy novels, and *Amazing Stories* and *Fantastic Adventures* were staff-written pulp magazines aimed exclusively at teenage boys.

Most of the earliest anthologists—Groff Conklin, J. Francis McComas, and Raymond J. Healy—had perforce chosen a majority of their material from *Astounding.* Another, Donald A. Wollheim, had gone farther afield for his 1943 *Pocket Book of Science Fiction,* using some stories from mainstream sources by writers such as H.G. Wells, Ambrose Bierce, and John Collier, but even he took a third of his material from *Astounding.* Half of Bleiler and Dikty's dozen 1948 stories came from that dominant magazine also, but, because Ray Bradbury was being published in such pulps as *Planet* and *Thrilling Wonder* then, they were able to include fiction from those magazines in their book (and two other *Thrilling Wonder* pieces as well). And, showing a longer reach, they found one story in *Blue Book,* a general-fiction magazine then of wide circulation, and one very brief one in a magazine called *Comment.*

I wonder how many of the ten contributors to that first Year's Best anthology would be familiar to today's readers. Ray Bradbury, of course: his two contributions, "Mars is Heaven" and "And the Moon Be Still as Bright," became segments of his classic *The Martian Chronicles,* which still has a strong readership.

Nor are Isaac Asimov ("No Connection") and Poul Anderson ("Genius") unknown names today, and some of the stories of Murray Leinster ("The Strange Case of John Kingman") are still being reprinted.

The others, though? The prolific Henry Kuttner, represented here by "Happy Ending" under his own name and "Ex Machina" under his "Lewis Padgett" pseudonym, drifts in and out of print, but is something less than a household name to today's readers. Fredric Brown ("Knock"), once considered one of SF's masters, is even more obscure, though his work too is occasionally reprinted, notably this very story. Martin Gardner ("Thang") was a mathematician who wrote just a few science fiction stories; J.J. Coupling, under his real name of John R. Pierce, was an electronics engineer who dabbled in SF as a hobby. Erik Fennel ("Doughnut Jockey") was a reliable pulp craftsman who is, I suspect, altogether forgotten. The remaining author, Wilmar H. Shiras, was something of a mystery even in her own day, but the story used here, "In Hiding," has kept her name alive over the decades, still to be found in many modern anthologies.

Which brings me to a fundamental point: how many of these twelve stories, justifiably chosen as the best work of 1948, would have been published at all, let alone nominated for a Year's Best anthology, if they were submitted to editors today? (Making allowances, of course, for the fact that they reflect the technology and culture of what has already become a bygone world.) How much evolution has the science fiction short story undergone in the past sixty-five years?

I conclude, after re-reading this anthology of my boyhood, that not all that much has changed. The two Bradbury stories are masterpieces, even though they depict a Mars that we know never existed. No editor would refuse them if Bradbury were just beginning his great Martian parable today. (Though that does create the wrenching prerequisite that the editor live in an alternative contemporary world unmarked by the impact Bradbury's Martian stories had in our real one sixty-five years ago. Our hypothetical 2013 editor must be imagined as seeing the thing done for the first time.)

Shiras' "In Hiding," surely, would fit nicely into the next issue of this magazine. So would Kuttner's cleverly plotted "Happy Ending," and, probably, his lighter but deftly done "Ex Machina." And if I were editing a magazine these days I would not turn down Leinster's "John Kingman."

Neither the Asimov or the Anderson is representative of the best work that those important writers would do later in their careers, but neither story is bad, either, and I would be hard put to find reasons for rejecting them. Martin Gardner's "Thang" is a one-page filler, but fillers are often useful to editors, and its twist ending is still good fun today. J.J. Coupling's "Period Piece" is another story that drives nicely onward toward a snapper ending: nothing extraordinary here, but certainly still publishable. And Brown's "Knock" is a third twist-ending story with rather more substance than twist-ending stories usually have.

That's eleven of the twelve stories that I think have something to offer, and often a good deal more than "something," to modern readers. The lone exception is Fennel's "Doughnut Jockey," a space story that veers between outmoded pulp tropes and outmoded slick-magazine tropes. But eleven out of twelve is a startlingly high percentage. No one would mistake them for recently written stories, but they are very far from being antiques.

Would they, though, if published in one of today's magazines, qualify for one or more of next year's Year's Best books? The Bradburys would, I'm certain. Probably the Shiras. Perhaps Kuttner's "Happy Ending." Whether any of the remaining seven would be picked is a question I'd rather leave to Messrs. Dozois, Strahan, and the other current Year's Best selectors. But the interesting thing for me is how shrewdly Bleiler and Dikty selected their stories, back there in 1949, and how readable most of them remain, six and a half decades later. Or so it seems to this particular survivor of those ancient days. ❍

It's amazing how strange our own corner of the multiverse can be. Last year, just after I put the April/May issue to bed, but before the printer went to press, we received this absorbing tale from Kristine Kathryn Rusch. It was almost as if a Kris in another universe had already read the April/May issue and decided to fashion her own response to Rick Wilber's "Something Real." I was intrigued by the similarities and the substantial differences and since both stories are excellent and since our Kris assures me she doesn't have a universe side-stepping machine, I decided it would be fun to publish another look at Moe Berg and the multiverse. What all of this means about the nature of reality is probably as confusing as it is an . . .

UNCERTAINTY

Kristine Kathryn Rusch

"'When we know the present precisely, we can predict the future,' is not the conclusion but the assumption. Even in principle, we cannot know the present in all detail. . . ."

—Werner Heisenberg
quoted in *The Quantum Story: A History in 40 Moments*
by Jim Baggott

Position One

December 18, 1944
Physics Department
Eidgenössische Technische Hochschule
Zürich, Switzerland

The winter cold bit through Moe Berg's coat. He walked silently with fellow agent Leo Martinuzzi, their shoes crunching on the icy sidewalks. The sky overhead was gray, the entire world seemed gray, from the buildings around him to the mountains beyond.

Some of that was the light. Zürich had banned most outdoor lights—and many indoor lights as well—terrified of being an Allied bombing target, even though Switzerland remained carefully neutral.

It didn't feel neutral. Zürich in particular felt like the center of the war itself, with spies and expatriates from everywhere. Germans could travel freely here, as could Americans, and what was more, they could mingle without causing too much difficulty.

Although Berg had hidden his American identity for this little venture. This afternoon, he was a student, although how anyone thought him a student at forty-two

still boggled his mind. Berg guessed it was simply because so many post-doctoral students at Eidgenössische Technische Hochschule had aged before their time.

Paul Scherrer claimed the aging had nothing to do with the war, but with the stress of the work. He should know. He was the director of the Physics Institute at ETH, which was sponsoring this lecture.

More to the point, Scherrer had sponsored Berg.

Berg had the invitation in his coat pocket. He resisted the urge to finger the paper. He was nervous for the first time in years.

The last time he remembered being nervous was standing at home plate in Shibe Park in Philadelphia, on his very first at bat for the Brooklyn Dodgers, twenty-one years and an entire lifetime ago. That day, he'd been happy to hit a single, thinking it a miracle that the ball, which bounced left, had stayed in bounds.

A miracle. Back then he had such small expectations of miracles. Back then he had actually believed the Great War was the War to End All Wars, and he never imagined himself undercover for the United States government—not military, but more than a spy.

When (if) he carried out the worst part of this afternoon's mission, he would not only be an assassin, but he would be a dead assassin. And the headlines all over the world would confuse baseball lovers everywhere:

Former Major League Catcher Moe Berg Dead in Assassination Plot.

Or, more accurately:

German Scientist Werner Heisenberg Assassinated! And then, the smaller headline: *Swiss Authorities Claim Scientist Assassinated by Former Major League Catcher Moe Berg*.

Berg chuckled dryly. Martinuzzi looked at him, frowning. Berg shrugged. It didn't matter. If he assassinated Heisenberg, he wouldn't live to see the headlines. His family would, and they would wonder. They probably had no idea he was capable of killing a man in cold blood.

He wasn't sure he was capable of killing a man in cold blood, but he was here, pistol in a shoulder holster underneath his suit coat, cyanide tablet in his breast pocket.

Ahead of him, the ETH looked foreboding in the fading daylight. Perhaps it was the police presence outside the huge neo-classical building, calling attention to the fact that the guest inside was someone who needed protection.

Entering the building was the key. Berg had to stay calm, act like this was any other day. Martinuzzi was nervous enough for the both of them.

Berg didn't ask why, just like he hadn't asked what Martinuzzi's mission was. He suspected Martinuzzi was there either to finish the job should Berg bungle it or simply to disappear into the crowd and report back to headquarters when he got a chance.

They both worked for the Office of Strategic Services, and technically, they reported to the same man. But Berg was a favorite of Wild Bill Donovan, head of the OSS, who, everyone said, had President Roosevelt's ear. Sometimes Berg liked to imagine that the things he told Donovan found their way to the president himself.

This mission certainly would. Success or failure, the president would learn of it all.

And that made Berg's heart pound harder.

He took a deep breath, then let it out slowly. He and Martinuzzi turned toward the front of the building. One of the police guards, a slender man in an ill-fitting uniform, asked the reason for their appearance so late in the day.

Berg answered for both of them. He spoke excellent high German, thanks to a number of visits to Switzerland throughout the war. His Swiss German, as so many called it, was much better than Martinuzzi's, but Berg could still hear errors in his own speech. He tried not to talk much when he was on a mission; he was always better at listening anyway. It was one of his best skills.

He produced his invitation and Martinuzzi did the same. The policeman glanced at the papers, then handed them back and nodded toward the doors. Berg climbed the stone steps, Martinuzzi beside him, one hurdle conquered.

Martinuzzi reached the intricately carved wooden door before Berg, and pushed it open. They stepped inside. A flood of warm air mixed with the scents of chalk and tobacco almost overwhelmed him.

More police ahead, and some men who still wore their coats—open as if they had forgotten to remove them. Nazis, probably, sent either to guard Heisenberg or watch him or both.

Berg removed his own hat, and tucked it under his right arm, opposite the shoulder holster. He held the invitation. He wasn't shaking. In fact, now that he was inside the EHT, he was calm, as calm as he got in the middle of a ballgame, crouched behind home, sending signals to the pitcher as he listened to the rustle of the crowd, and the inevitable loose talk of the batter in front of him.

Loose talk. That had been his job when he started catching for the White Sox, collecting loose talk. And that was his job now.

Or it had been, until this mission. This mission in which he was supposed to murder a scientist to prevent the creation of the ultimate weapon, a weapon the scientist had once said would only have to be the size of a pineapple to destroy an entire city.

If a city got destroyed, the Allies wanted it to be a German city, not an American one. A small weapon like that—a bomb of unbelievable power—could be smuggled into the United States and take out Washington D.C. without much thought at all. A sneak attack, like Pearl Harbor. Only this time, Americans would all know what the city was. They would all know what had been lost: they wouldn't need it explained to them by fast-talking announcers interrupting a Giants football game.

This policeman didn't even look at Berg, just waved him forward. Berg went to the anteroom near the small lecture hall and carefully removed his winter coat.

He resisted the urge to pat his pockets and check his gun. Instead, he smiled at the student who exchanged a small beige ticket for the coats and hats, and went into the lecture hall alone.

It wasn't fair to call the room a lecture hall, even a small lecture hall. In the United States, it would simply be called a classroom. Up front stood a table covered with a coat and some papers. A lectern had been moved to one side. Beside it, a standalone blackboard tilted at an odd angle.

Twenty students and professors filled the chairs. Except for Scherrer, who sat near the front and looked eager, most clumped near the middle. The students seemed less than enthusiastic. They had exams within the week and probably wanted to study, rather than listen to a German scientist, even if this German scientist had made one of the most significant discoveries in physics in the past twenty years.

Werner Heisenberg's controversial uncertainty principle was one of the cornerstones of quantum physics. Heisenberg postulated that it was possible to know a particle's position or that it was possible to know how fast the particle moved, but no one could know both the position and movement of the particle at the same time. Berg had spent quite a bit of time in Oxford, talking with leading scientists as he prepared for this job, and one of them used a description that moved away from particles into theory, which Berg appreciated.

That scientist had told Berg that at its core, Heisenberg's principle meant this: The act of observing changes the thing being observed.

Berg wasn't sure how he felt about that, or even if he believed it. He'd spent his career—both as a catcher and now as a spy—as an observer, and it had been his job to remain unnoticed. Funny how that particular skill was what got him into this room.

He then would become part of the experiment. And as such, he would not get out alive.

* * *

Leah Hammerschmidt huddled inside her coat. She sat in the last chair of the last row. She wanted to stand in the back, but Paul Scherrer had guided her to a chair himself, saying she would be more comfortable, asking—sideways—what she was doing here.

She had come with Herr Doctor Heisenberg, she had said in her best Bavarian German—which, of all the German dialects she spoke, was her best German of all. She had spoken softly, however. She didn't want Heisenberg to overhear her, and contradict her.

Better to let the other physicists think that Heisenberg had finally vacated his principles and spent time with a woman other than his wife than to have them question who Leah was.

She was a last-minute addition to the team. And this lecture was a test of her field ops abilities, and it made her uncomfortable. Or maybe the clothing did.

She wasn't dressed for it. She wore a wool skirt, and a sweater too thin to keep her warm. Her wool socks had holes in them, just like her shoes. In that sense, her clothing made her fit right in: Germans no longer had the luxury of nice clothing. Even Heisenberg wore an obviously worn suit. It hung on him, and looked frayed even from this distance.

He was frailer and older than she'd expected. She did a quick computation: he had to be in his mid-forties. She would have guessed he was in his fifties. But the bombings inside Germany, the loss of friends, and the pressure of his work had taken an obvious toll.

He tinkered with the free-standing blackboard, then about fifteen minutes after the lecture was due to start, he gave up and went to the lectern.

She held her breath as he started, uncertain what he would say this time. But he launched into a safe lecture on S-Matrix theory, covering topics he'd covered time and time again.

He paced as he warmed to his topic, and Leah let out a small sigh of relief. She surveyed the room, German physicist Carl Friedrich von Weizsäcker sitting on his hands, trying to pay attention. He had the unwelcome duty of reporting back to the German High Command any missteps that Heisenberg made.

Moe Berg watched Weizsäcker too. Berg had glanced at Weizsäcker twice. Martinuzzi didn't seem to notice at all, but Leah had learned that Martinuzzi was subtler than anyone gave him credit for. Quiet, competent, and smart. She wondered why the OSS even bothered with Berg, who was so famous among Americans that she had seen GIs recognize him on the street.

No one could explain the ways of Donovan's crew, or what Donovan himself was thinking. She certainly wasn't here to figure that out.

She recognized some of the other physicists, and a few of the students. The students were hard to miss. They earnestly took notes, as if they would be quizzed on this—and for all she knew, they would.

Only one person didn't quite fit, yet he looked familiar. Tall, blond, high cheekbones, and that kind of off-hand beauty that came naturally to every third Swiss. His blue eyes were hard, and his lips thin. His clothing caught her: it looked new.

Scherrer looked sharp as well, but she expected that of him. He was the director of the Physics Institute, with an honored guest in his room. One of the great minds in physics, whom all expected to continue to do great things.

And right now—December 1944—everyone who understood physics believed that "great things" meant building a great weapon, one that would harness the power of the atom itself.

She shuddered. And as she did, a movement caught her eye.

Berg, reaching into his suit coat.

"Oh, shit," she said out loud, but she wasn't certain if she spoke German or English.

She launched herself across the room, knowing it was already too late.

* * *

The lecture was innocent; he knew that much. Berg couldn't follow all of the equations that Heisenberg put on the board (hell, he couldn't follow most of them; math had never been his strong suit), but he had learned enough physics in the past year to understand that this topic was an older one. The student beside him had written *boring!!!* in his notes, something he would not have done had Heisenberg inexplicably started talking about current German research or, more to the point, the bomb itself.

But orders were orders. Berg had sat through fifteen minutes of the lecture, arguing with himself about that very thing, about orders being orders. But his handler in Paris, when relaying those orders, had said one simple sentence, one Berg couldn't get out of his mind.

We must deny them his brain.

Berg had seen what such brains could do. He'd actually spoken to Colonel Leslie Groves about the work being done in the United States. Berg knew this was a race. And he knew the Germans couldn't be allowed to win it.

He slowly, unobtrusively, pulled the pistol out of his jacket. Then he leaned a bit to the left. He would have to stand. If he didn't, he might hit one of the students, and he couldn't bear that.

So he waited until Heisenberg went to the board again and picked up a piece of chalk. As Heisenberg turned his back on the group, Berg rose, pistol out. People around him gasped.

He pulled the trigger quickly, hoping his aim was true. He would only have one real chance at this.

The shot boomed in the small space. Students screamed and ducked. Scherrer turned toward Berg with a frown on his face.

But Heisenberg dropped, blood spattered against the board.

That was all Berg needed.

The Nazi guards ran toward him, as did several other men. Martinuzzi got in their way just long enough for Berg to pull the cyanide capsule out of his pocket and place it in his mouth. He had to bite the damn thing for it to work, and he hoped he wouldn't have to.

But no one shot him. One of the police from outside had come in here, holding handcuffs.

Berg couldn't be caught. He knew he didn't dare be caught. He was one of the few operatives who knew about the atomic weapons program in the United States. He also knew that no man could hold up against all interrogation procedures, no matter how strong that man was.

He bit down and winced at the bitter taste.

The other men had reached him. They tackled him. He went down backward, his mouth flooding with saliva, his eyes watering.

Heisenberg was down too.

Berg closed his eyes, imagined a high fly ball disappearing into the sunlight, and pretended he couldn't feel a thing.

* * *

Leah had the advantage of a head start. She reached Heisenberg as he slammed into the chalkboard on the way down. She crouched beside him, waving the others away.

"Get him!" she shouted in German. "Get the assassin!"

Others didn't have to be told twice. The Germans around Heisenberg ran for Berg. There was a scuffle behind her, chairs falling, cursing, but no more shooting.

Some of the students had hit the ground. Others fled in panic. Some screamed, although fewer than she wanted.

She knelt beside Heisenberg. The shot was high, the exit wound near his left shoulder.

Berg had missed the heart then. Heisenberg would live.

Although his breathing was ragged. Blood in the lungs, perhaps? Or just the shock of the wound?

His blue eyes met hers. "Why?"

"The bomb," she said. "They want you to stop working on the bomb."

He frowned, as if he didn't understand her.

"The atomic weapon," she said. "You once said it need be no bigger than a pineapple."

He groaned and looked away. "We stopped," he said. "We stopped long ago."

"They don't believe it," she said.

"No money," he said. "No materiel. We are *losing,* for God's sake. How can we build such a thing when we cannot stay in our homes?"

The last sounded watery, and he coughed.

She glanced around. Still no one beside her, except one male student, looking pale and frightened.

"Get a doctor," she said to him. "Quickly, before we lose the professor."

The boy didn't have to be told twice. He scampered away.

"Will I be all right?" Heisenberg asked her.

She shushed him gently, then she leaned on his good arm, and pinched his nose shut. She placed the heel of her hand on his chin, forcing his mouth closed, and pulled downward with her fingers for good measure.

His eyes bulged, first with fear, and then with lack of oxygen. He tried to buck her off, but didn't have the strength.

Someone else approached. She didn't look up.

"May I help?" he asked.

She blocked his view with her body, maintaining her grip, wishing Heisenberg was dying faster. "I sent someone for a doctor. Now I need something to staunch the blood."

"Consider it done," the man said and moved away.

Heisenberg stopped struggling. She knew that no one could lose that much oxygen and remain still, yet her training made her hold for another minute, just to make sure he was not faking.

His eyes were fixed and dilated. She let out a small sigh and moved her hand, placing it on the shoulder wound as if she were trying to stop the bleeding.

She hadn't moved her body.

"Allow me, Miss," said a man with a Berlin accent. She looked up, trying to seem tired and discouraged.

She didn't have to fake the tired. She wasn't sure about the discouraged.

The man behind her was the same man she had noticed before, the handsome blond man with the new clothes.

"I don't want to remove the pressure on his wound," she said in a deliberately flat voice.

"Here," he said. "I will put my hands down first, and then you remove yours."

He did so as he spoke. She wasn't sure if he even noticed that Heisenberg had not moved, that his chest wasn't moving, that his eyes were glazing over.

"You have done so much," the man said.

"I don't think it was enough," she said, her voice shaking.

But he didn't seem to hear that either. He was looking at Heisenberg and frowning. He had finally realized that the man was dead.

She staggered away, not really play-acting any longer as the adrenaline flowed

through her. There was still a cluster of people around Berg, but they weren't touching him.

He was sprawled on the floor, his skin an odd color, foam around his mouth. Martinuzzi was nowhere to be seen, but, unless she missed her guess, some of the Germans were missing too. A chase was probably underway. The two men had come together, and others were bound to have noticed.

She sank into a nearby chair, hands coated in blood. The coat was ruined. The skirt too. And her knees were bruised.

She let out a small sigh. She hoped it worked this time, but it was impossible to know, at least from her position. Here. Now. In this room, where time seemed to have stopped.

Position Two

Early winter 1943
Observation Post
About 100 Miles East of Moscow

It didn't matter where she went; every place in Europe was cold. This time Leah wore a wool coat over a heavy man's shirt and an even thicker sweater. She also wore long johns underneath the pair of black wool trousers she'd managed to snag before she left. The wool cap covered her blond hair, keeping her ears warm, but the two sets of wool mittens did little for her hands.

She was freezing. The small wood stove in the corner did little against the depth of a Russian winter.

No wonder Hitler got bogged down in Russia. How did anyone survive this place?

Her handler, Albert Dehrs, stood near the door of the tiny cabin. Someone had stuffed blankets against the door. The windows were covered with more blankets to keep the cold out, yet Dehrs had shed his coat and his mittens, either used to the chill or one of those people blessedly impervious to it. Or maybe the two tablet computers on the small wooden table created a tiny heat source that Leah couldn't feel so far away.

"New wrinkle," he said in English. "We just found this time branch. I thought it would be better for you to see this here, rather than watch it at home base."

Home base, at least, was warm. And very far away, both in time and in space. The central point for the breaking of branches. Those 1944 physicists she had rubbed elbows with on her previous job, the job she privately called the Heisenberg Waste of Time, since everyone knew the man had no impact on the war effort in 1944, those scientists had worried about the future they were creating, not the past.

Yet she was concerned with the past. Very concerned.

Heisenberg himself had said it was impossible to know all of the present, so a man could not understand the future. But what he failed to acknowledge was that a person could not completely know the past either. It had branches and eddies and complications, complications that got worse with each tinker.

The irony hadn't escaped her: the machine her people had used to "fix" time had become a weapon. It was a weapon born of the research the historic physicists had done, a weapon they could not have imagined but a weapon that would not exist without them.

She tucked her mittened hands underneath her armpits, and walked over to Dehrs.

"What am I here to see?" she asked. And more importantly, how was she supposed to see it, with the windows blocked?

At that moment, he wrapped an arm around her and pulled her down, holding her head down against his thigh. Light hit them, light so bright that for a brief, rather frightening moment, she saw his bones through his skin.

Her stomach flipped, and she cursed as the light dimmed. She tried to move, but he held her. Then the ground shook, bouncing the table, the chairs, the pans on one side of the wall, banging and thumping. One of the tablets landed on her back and slid down her side, and somehow she managed to catch the slick thing, made of polymers not even invented yet.

After a few minutes, the ground's shaking stopped, but she didn't.

Dehrs let go of her head, and she raised it.

"Son of a bitch," she said. "That was a goddamn bomb. What the hell? How close are we?"

Dehrs looked pale. "More than a hundred miles. We should be all right."

"If there's no wind," she said. "If we get out in time. If, if, if."

He put a hand on her arm.

"We'll be all right," he said softly. His eyes met hers. He seemed calm enough, although she could see his pulse racing in the hollow of his throat.

"What the hell did you bring me here for? We're—"

And then her brain caught up with her mouth, or maybe the panic subsided, the shock, the fear, the anger, all set aside for the wonder filling her.

Not good wonder either, but the kind that brought with it kind of a stunned sickness, a sense of awe, yes, but awe tinged with fear.

"This is 1943, right?" she asked. "Winter." As if that part wasn't obvious. "Where did it hit?"

"Moscow," he said quietly.

"Moscow." She blinked. Her eyes still had an afterburn. If she shut them, the world still looked bright, almost blinding. "Why would the U.S. bomb Moscow? Or was it some kind of accident?"

"No accident," Dehrs said. "And it wasn't the U.S."

She let out a small breath of air. She was still clutching that tablet, but it had shut off. She handed it to Dehrs because she didn't know what else to do.

"Germany?" she asked. "They got a bomb?"

He nodded.

"This makes no sense." She tried to process this new change. A "wrinkle," Dehrs had called it. This was more than a wrinkle. It was a disaster. "Why now? I mean, it makes no tactical sense. If they're going to bomb Moscow, then they need to do it in June or July, some time when they can follow with men and materiel. Tactically, this is stupid."

He shook his head. "They have two more bombs. One will hit Leningrad in three days. The other will hit Archangel at the same time."

Leningrad, known as St. Petersburg before and after the end of the Soviet Union. On the Baltic Sea. And Archangel, the port the Allies used to help the Russian people. Three hits in four days would effectively end the war on the Eastern Front as quickly as the A-bomb ended the war with Japan in the original timeline. The one they (*we*, she corrected herself) broke.

"Germany," she said softly. If Germany no longer had to fight on the Eastern Front, they could possibly (probably?) win the war. And in 1943. Hitler was still alive, still uninjured, raving mad yes, but not totally crazy. He was never totally crazy, until the end.

Dehrs was watching her. He could tell that she was beginning to understand. His eyes were filled with compassion.

But she wasn't in the mood for compassion. She had to shut off all emotion. She had to *think*.

"What happened after Leningrad, then? After Archangel?" She sounded panicked. She didn't want to sound panicked. "What's the world look like?"

Dehrs shrugged. "That's the odd thing. We don't know. We can't access any of it."

"Why not?"

He let out a small sigh. He was the scientist, not her. And he wasn't even a top-tier scientist. He was just in charge of her wing of the operation, an operation that was probably too small and too blind to do everything it should do.

Or at least that was how she felt. Sometimes she thought of that little boy from the old story, the one with his finger in the leaking dike. He saved his town. But he could see the whole dike. She could only see a tiny portion of her dike, and she was supposed to plug a leak. Or at least, the organization was.

She hadn't really been assigned a leak. That first, the Heisenberg Waste of Time, was a test. She knew it and they knew it. They wanted to see if she could let a man die—if she could *help* a man die—if it meant saving the world.

She'd gotten kudos for that. She'd arrived back at home base, blood on her hands, and skirt and knees (she still had bruised knees) to praise, a good meal and a hot shower, a little sleep, and the real assignment.

That's what they called this. The real assignment. But she didn't know what they wanted her to do.

Dehrs would tell her, they said. Dehrs was in charge.

And he had brought her here. To this tiny building, covered in snow, one hundred miles away from a goddamn nuclear blast that had to have been stronger than the Hiroshima blast. She had seen Dehrs' bones, for godssake. She thought that only happened a few miles away, not a hundred miles.

But then, she was no expert. She wasn't supposed to be an expert. She was an expert on details—the 1940s, the clothing, a dozen languages, guns and poisons and physical combat. Not on atoms and radiation and Uranium 235.

She only knew enough to carry out her mission. Like Berg. Berg, who had died on that lecture hall floor.

Berg, who was alive somewhere in 1943 America, chafing because he still hadn't received an overseas assignment.

Or maybe in this world, where an atomic bomb had just obliterated Moscow, Berg had left the United States. Maybe he was already on a mission somewhere.

Or maybe he wasn't a spy at all.

Her brain hurt. She wasn't supposed to think about all the branches. She was only supposed to think about the one she was in.

"Why can't we access what happened after Leningrad?" Dehrs asked as he reached up for the edge of the table, using it to leverage himself to his feet. Once he got up, he extended a hand to her. "I don't know. We've been trying. What the guys in charge think—"

And by guys, he meant the scientists, male and female, the idiots who had gotten them all into this mess. (*Think of what we can do*, they said at the final briefing before activating the big device for the first time. *We can fix history.*)

"—is a little complicated." Dehrs finished the sentence as if he had meant to say something else and changed his mind.

"Try me," she said.

He sighed just a bit. "To travel in time, we need to know where we're going. We need to know the exact position we want."

"We don't know that?" she asked.

"Not after Leningrad," he said. "Not with any certainty."

She let out a tiny half-laugh. The uncertainty principle, haunting her. To travel back to a point, they needed to know where they were going—position—and when they needed to get there—momentum. And Heisenberg postulated that you can know one with certainty, but not both. And certainly not in a world that they didn't understand, a world where Hitler had somehow gotten the bomb, and decided to use it, in Russia, in the winter of 1943.

"You could have told me this." She was standing. She didn't remember taking his hand or pulling herself to her feet. She was a bit wobbly, a headache blinking behind her eyes. "You didn't have to bring me here."

"You needed to understand what was at stake," he said.

"I'm not stupid," she snapped. "I understand."

He looked at her. "Intellectual understanding is one thing. You have to feel it."

And that was why he was running the team, and not running experiments. His emphasis on emotion and intellect. Maybe if he had run the experiments in the first place, nothing would have gone wrong.

Of course, he would have been too afraid to try the machine. And now they had used it dozens (hundreds?) of times, tinkering in ways she couldn't entirely imagine. A smaller version of that same machine had gotten her here. A tactical machine, not the great machine of the original vision. That was in mothballs, at least metaphorically, deemed too powerful to ever use again.

"I felt it," she said. "My bones will probably feel it forever."

He set the tablet back in its cradle on the table. "Radiation exposure isn't as severe as you think, not that it matters."

She bristled at the phrase, *not that it matters*. It mattered to her. But she got his point. She was expendable. She had known that when she signed on. But she hadn't felt it, not until now.

"So," she said, not willing to talk any more about radiation or expendability, "I suppose you want me to prevent this."

He gave her a sideways smile. "You make it sound so simple. A flick of the wrist, a little change here or there, and all will be better."

She shrugged. "That's how it was explained to me. The small things matter most."

"On this path, nothing is small." He tapped the tablet, but it didn't come back to life. So much for a small amount of radiation. Or had there been an electromagnetic pulse that had reached all the way here?

"So what am I supposed to do?" she asked, not wanting to think about this any more.

"We're not exactly sure," Derhs said. "But we have a hunch."

Position Two (Again)

September 19, 1941
German Embassy
Copenhagen, Denmark

Sunshine and the smell of the sea. For the first time since she started traveling in the past, Leah was warm. She had been to Copenhagen years ago — years from now? — after its lovely buildings had become a UNESCO site. She had practiced her Danish, visited the Museum of the Danish Resistance, and done little else. She had been training then, for what she thought would be an assignment in the future, not assignments in the past.

When her training began, her instructors had told her spy work was spy work, no

matter where she was, and they had cautioned her against close relationships. Which wasn't hard for her, considering her parents were dead and she had been raised in dreadful British boarding schools. She hadn't chosen the profession; the profession had chosen her. She had been drafted because of her linguistic skill, and her coldness.

Ironic that she was complaining about the cold now.

A different kind of cold, which she was not encountering here. It was a surprisingly lovely day, the kind only coastal cities could achieve—light off the water illuminating everything, even though she wasn't on the water's edge.

She didn't dare enjoy the weather. She had a mission. And in some ways, this one was trickier. She was working alone, off someone else's hunch.

Cursory research after the discovery of the Moscow bombing turned up a difference in this time branch, a subtle difference, one that most might not have noticed.

Werner Heisenberg came to Copenhagen in 1941 to give lecture at the German Cultural Institute. He had arrived early and, in the original timeline, had had a controversial discussion with physicist Niels Bohr. Someone had even written an award-winning play about it, so critical did some believe the discussion.

That discussion with Bohr had happened in this branch as well. Then Heisenberg had given his lecture, had lunch at the German embassy, and vanished. He was supposed to have had dinner with Bohr's family that night. They were supposed to have negotiated an uneasy truce, and then played the piano together. The next day, Heisenberg was supposed to go home.

He hadn't. The German authorities believed he slipped away, leaving his wife and children behind, heading to America with the other physicists. He never turned up in America. Or England. Or anywhere. Theories abounded about his disappearance, but no one had acted on them in the two years that her researchers scanned.

Two years, between Heisenberg's disappearance and the destruction of Moscow. She liked to think that was not a coincidence, because if it was, her mission here was completely wasted. At least, she comforted herself, she would find out what happened to Heisenberg.

He had been inside the embassy for more than an hour now. She had decided not to figure out a way in. It was simply too complicated. The Nazis occupied Denmark, and the occupation was an uneasy one. The Danish resistance movement was very strong, and the Danes were angry at the German subjugation.

Despite the beautiful sunlight, the warmer temperatures, it felt tense here, as if one wrong action would set off an entire city. She couldn't put her finger on exactly what caused the feeling, but she knew that some of it was simply the presence of German soldiers everywhere. Whenever she turned around, she saw someone in a German uniform or someone else giving that hated *Heil Hitler* salute.

The friendliness she associated with this city in a different time was simply not here now. People watched her suspiciously as she moved from place to place. When she bought bread and cheese for lunch, no one smiled at her or commented on her accent. She spoke Danish with a British accent, because that was where she had learned the language. She hadn't quite been able to pick up all the nuances that made her sound like a native.

She couldn't hover outside the embassy: that made her look even more suspicious. No German guard had stopped her yet, but some watched her. She had even explained to one that she was waiting for her uncle who was inside.

Of course, she had explained that in her best Bavarian German, which she knew made her sound like a native of Munich.

She was nervous, because she wasn't quite sure how to behave here. In Zürich, she had known what to do. Her mission—her practice mission, her Heisenberg Waste of

Time mission—had been explained to her. She had known what was expected, in all possible variations.

This mission was not like the Heisenberg Waste of Time. This one was essential. The problem was that no one knew if her part of the mission was essential or if something else had made this branch veer toward a destroyed Soviet Union.

She ducked into a bakery and pretended to look at the meager goods. Almost no bread remained this late in the day, along with a few sweet pastries, which surprised her, given the shortage of sugar. From here, she could see the embassy without being seen. But she didn't dare stay long. She had already gone around the fence too many times.

Had Heisenberg disappeared inside the embassy? Had the Germans lied all along? After all, the SS had opposed him strongly a few years ago, calling him a "white Jew" for his association with the famous German physicists like Einstein, physicists who now all resided in the United States. Heisenberg had lost a prestigious job because of those accusations.

Had something changed in this branch, something that caused him to run afoul with the German embassy? His meeting with Bohr, perhaps? Bohr was, after all, a Jew.

She didn't like how being in this time period made her think. Not just the paranoia, but learning how to see people differently. Not for who they were but for their affiliations, their ethnicity, their religion, their race. She had never noticed those things before her training, before she went back. And backward.

Then she saw him. Not Heisenberg, but the handsome Swiss man with the new clothes from Zürich. How was that possible? She had been assured that she had been the only agent in that lecture hall.

Did he belong here?

If so, he had never seen her before, and she had the advantage.

She slipped back outside, keeping her gaze on the man. He had a German Army coat slung over his arm, the arm pressed against his stomach. His shirt was brown, his pants regulation.

He was military? *German* military? Or SS?

She tried to recall what he had said to her in Zürich, then realized it didn't matter. In that branch, he might never have seen her before. Or he might have known her. The branches got confusing as the timelines themselves diverged.

He stood just outside the gates and joked with one of the guards. The other guard laughed, then moved closer to the conversation. She couldn't hear it from where she was, but the nerves she'd been feeling on this entire trip rose.

She moved around one of the big Mercedes parked across the street from the embassy, then froze.

Heisenberg came out, talking with Carl von Weizsäcker. So Weizsäcker *had* seen him after the luncheon. They talked earnestly for a moment, then walked past the guards at the gate. The guards had returned to their posts as if they hadn't been laughing and joking with the strange man.

Heisenberg and Weizsäcker stepped outside the embassy and went in different directions, saying their good-byes as they did so. They had raised their voices. She could hear them promising to talk at dinner later that evening.

Her mouth was dry. She had to follow them like a woman on her way home, perhaps discouraged from being unable to find the right thing to feed her family.

As she was deciding on a role, she realized that the strange man had fallen in behind Heisenberg. Her heart started to pound. She didn't like how this looked—Heisenberg walking blithely down a Copenhagen street, and the strange man tailing him.

Tailing him, with a German army coat still covering his right arm. Like she would do if she were carrying a weapon on a sunny day.

She walked behind them, moving quickly now, not quite sure what she would do. Heisenberg turned on a narrow side street, heading toward the harbor, probably to take some time from the stresses of the morning. The man followed. He sped up, so Leah did as well.

The side street was dark. The sun barely penetrated. And the street was empty. No cars, only one parked motorbike, and lots of closed doors. No shops that she could see.

The man had pulled his coat back and, as she suspected, he was carrying a pistol. He had only a few yards to complete his mission, or Heisenberg would emerge on another busy street.

She ran as the strange man stopped. She reached him just as he raised his arm. She grabbed him, spun him left as he fired. The gunshot echoed in the small space, making Heisenberg turn in panic. He saw them struggling and instead of running toward them to save her, like most men she knew, he ran away.

Probably good. He might have figured out he was the target.

Or maybe he had lived in Nazi Germany so long that he scurried away from all unpleasantness that did not involve him.

She didn't have more time to speculate. She still clung to the strange man. He tried to shake her off, but she wouldn't let go.

"Release me," he said in German. His Berlin accent sounded a bit modern to her ear, although she did not know why.

"No," she said.

"We have to catch him," he said. "We must stop him."

And then she knew: this man remembered her. Remembered her from the future. Remembered her from the future, from a time branch that they were no longer on.

"Why must we stop him?" she said.

"Because you did before," he said. "Come on."

He started to move, dragging her. But she kept her feet planted. She was small, but she was strong. She held him in place.

"Not this time," she said.

Something changed in his eyes. He moved the pistol, aiming at her.

Her heartbeat slowed as the training kicked in. Calm, ready.

"You don't want to do that," she said.

"I don't?" he asked.

She shook her head. "What will it get you to shoot me? It won't get you Heisenberg. He's gone now."

"I know where he'll be. I can get him."

"Not as easily," she said. "There'll be too many people. He'll be with friends. There are families, children. There's no impersonal place to kill him, not like here."

His look became measuring. "Who are you?"

"I could ask the same," she said.

"I thought we were working together," he said.

"Oddly, we're not," she said. "It seems we're on opposite sides. In Zürich, you wanted to save him, didn't you?"

A little smile. "You saw that."

She nodded.

He lowered his gun. She thought of going for it, but she didn't. That would tip him off, make him realize that she actually wanted to escape. The secret to not dying, or so she had been taught, was to act like you didn't care if you lived. Because if you didn't care, then the person trying to kill you would think you unimportant.

And she *was* unimportant. No one would come back and prevent her death. No one at all. Dead in the line of duty, barely mourned, and eventually, not remembered.

"I suppose I'll be seeing you tonight," he said.

"No, you won't," she said. Because they both knew he wouldn't be there. Nor would he be at Heisenberg's hotel or at the train station in the morning.

He knew she would be there, and she would stop him. So his people would send someone else.

Just like hers would.

Only she was confident: it wouldn't matter if they sent someone else or if that someone else saw her guarding Heisenberg. She would wait until Heisenberg was safely on the train, heading back to Germany. Then she would return to base.

He slid the pistol back under his coat. Then he nodded at her, as if this were something more than a chance meeting, as if they hadn't squabbled over a man's life—or more importantly, over millions of lives.

"Until the next time," he said and walked back the way they had come.

"There won't be a next time," she said. But she didn't know that.

She couldn't know anything for sure.

Home Base

March, Day & Year Irrelevant, Unknown, or Too Difficult to Calculate
Center For Advanced Studies
Geneva, Switzerland or what had been Geneva, Switzerland
or what might be Geneva, Switzerland or what remained of Geneva, Switzerland

Leah got back to home base on a rainy afternoon—at least that was what the floor-to-ceiling windows in the commissary showed her. Those windows still overlooked a small wooded area, but it was no longer fenced off. She had stopped going outside on her return trips, just like she had stopped asking questions about "now" when she got back.

Too many times, she had hated the answers.

She had learned in her training that time was fluid, but to see it proven bothered her more than she could say. And as one of her handlers told her, time wasn't fluid. It was a river with branches and eddies and currents. And sometimes, when you were in the middle of a river, you couldn't see the shore. You thought you were heading east, when an eddy had turned you around and you were heading south. Or west. Or you were simply stuck in the eddy itself, unable to move at all.

She didn't like any of those analogies. She tried not to think about them, even though every time she came back there were people she didn't recognize in the public areas, people she didn't recognize working as support staff in the commissary or in janitorial or, hell, as an assistant to the machine staff. All people who had gone home one night, and the next day hadn't returned. Or someone else had returned, because that someone else now had the job.

She tried to think of it as her own personal war. If she had been on a spy mission in World War II, and had left Dresden in March 1940, returning in March 1945, she would have found half the city gone. Or if she had lived in Poland after the Nazis arrived, all of her Jewish friends would have vanished. Or been in theater in Berlin in the late 1930s, and one day, she'd show up and anyone with an alternative lifestyle—which was most everyone—would have disappeared overnight.

She tried to pretend this was no different, but in her heart, she knew it was. Or

was it? She had nowhere to go now. What she had known was destroyed, altered or on some other damn time branch.

If she brought the world to a better branch, then she could quit. She needed to quit. Her brain (no, really, her heart) had trouble with the changes, and she knew that trouble would someday make it impossible for her to work.

One thing that hadn't changed (yet): the machine always brought her back to an area just across from the commissary, and each time, she realized how hungry she was, how pitiful the food had been in each place she had gone, and how she hadn't wanted to take much on her travels for fear of depriving someone else, someone important, someone she hadn't even met yet.

She didn't exactly use The Machine. No one did, not after that first occasion, where everything had gone wrong. She had been visiting Home Base that day, interviewing for long-term work in the past, spying on historical figures, seeing if things happened the way that the history books—or even the books published at the time—said they had.

She hadn't even realized The Machine was in the building or that she was protected (more or less) from its effects—at least, everyone inside the building thought they were, and they couldn't prove otherwise.

They were the point at which the channels branched, the eddies began, time forked, or so Willem Havers told her. Havers was one of the experimental scientists who had become their own Bill Donovan, heading their own odd version of the OSS. He understood the science and he understood the action. More than that, he understood (and secretly loved) the risks.

She half expected him to show up at various points with her, like Donovan himself had during the War, carrying the secrets with him, daring the enemy to capture him.

But there wasn't an obvious enemy, and the risks here were even greater than they had been in Donovan's day. Donovan might have died behind enemy lines, but Havers might never return to Home Base, if something went horribly, drastically wrong.

If, somehow, he ended up on the time stream past the nuclear bombings of Leningrad and Archangel, into that place no one could access or see.

She hadn't been back long. She had already gone to wardrobe and given her clothing back, taken a shower, and was dressed in pants (thank God for pants!) and a sweatshirt that had the Institute's logo on it. She had gone to the commissary first, as she always did, because she wanted food she was familiar with.

The food here was not cafeteria food, even though some of it was served cafeteria style. Actual chefs were employed, and those who hadn't gone home after the Event (as some were calling it) or worse, those who had returned brokenhearted, lived on site like everyone else. They sent other members of the staff out to buy food, and after they hit one branch that they particularly hated (no one would tell her what happened), they started their own indoor fruit and vegetable garden, just in case.

Right now, they seemed to be in a good period. Baked goods covered one entire area, with a dozen kinds of bread. She went there first, probably because of that pathetic bakery she had seen in Copenhagen.

"You said in your debrief that you wanted to talk to me?" Havers stood beside her, an orange tray clutched in his hands. He wore the same suit that he'd worn the last time she saw him, only now it looked shiny with wear. His hair seemed thinner; his face certainly was thinner. And he had huge shadows under his eyes.

Had he known she would be here or was this merely coincidence?

"Yes, sir," she said. "Should we go to your office?"

"I don't think it's necessary," he said. "Even if someone wants to tell someone else something classified, it probably won't matter fifteen minutes from now."

He sounded as tired as she felt. He was probably more tired. He was chasing elusive branches and the tiniest of trickles. She had a straight mission wherever she went.

She took two freshly baked croissants, one glistening with butter and the other covered with chocolate. Then she moved to the main dish area, going for that heavily scented beef, gravy, and mashed potatoes. Comfort food. She'd probably even allow herself two desserts (in addition to the croissants). That, and a lot of coffee.

He was already at a table by the time she had chosen her entire meal. He was picking at a salad loaded with vegetables and cheese. A slice of rye bread sat to one side, and so did a fruit plate that looked surprisingly good.

"You figured it out," he said. "We've run the modeling. The branch in which we lose Moscow in 1943 is gone."

"It wasn't my hunch," she said. "It was Dehrs'."

"But you acted on it," Havers said. "And then you told us to guard Heisenberg through early 1942. I think that was the determining factor. I have no idea how many people we've sent back, but they've deflected everything, and Moscow is saved."

For the moment, she thought, but didn't say. And she wasn't even sure it was safe at this moment. At this moment, another branch could be forming in which Moscow got obliterated all over again.

He stabbed at some arugula with his fork. "You ever have a cat, Hammerschmidt?"

"No, sir."

"Too bad. You missed out. We need one here." He stabbed at more arugula, but didn't bring the fork to his lips.

"Why did you ask, sir?" she said as she cut the slice of beef she'd taken.

He smiled a little, and kept watching the salad, as if it was planning an attack. "Because I feel a bit like a cat right now. Some cats, when they see dabs of sunlight on the wall, attack those dabs, not realizing the dabs are reflections from something else."

"You think we're chasing an illusion, sir?"

He shook his head. "I think we're playing with something we don't understand, and we don't understand it on the same fundamental level that cats fail to understand dabs of sunlight."

She sighed. She wasn't so sure about the analogy, but she knew what he was alluding to. There was only one reason for him to be so tired, so discouraged, even after her small success.

"There's a new branch," she said.

"Yes." He finally ate the bit of salad he'd been playing with. He took a moment to chew it, then chased it down with water. "Only this one won't let us past September of 1940."

She felt cold. "Not at all?"

"No," he said.

"What goes wrong?"

He shrugged. "Nothing so far as we can tell. Everything seems to be on the same track that it was in our main timeline. *Everything*. And then, we hit some kind of wall. We can't even see what went wrong."

"You want me to investigate that?" she asked.

"I'm not sure what we'd send you to investigate," he said. "We can't tell where the ripple is, only that it changes everything so drastically that we can't find the branch. The timeline is a complete mystery to us."

Her hunger had faded. Or maybe it was just that she had a crisis mode, and he hit it again. And in that mode, she didn't need to eat as much.

She forced herself to take a bite of the beef. It was succulent and rich, and reminded her that she was here—Home Base—and not anywhere else. She had promised herself that she would enjoy Home Base when she visited, and she now had to make herself live up to that promise.

Even if the enjoyment only meant food.

"So," he said, giving her a half-smile. "What did you want to tell me?"

She wanted to ask him where his exuberance had gone. He had been the excited head of the team, the man everyone enjoyed working with, the man who was relentlessly upbeat in the face of everything. She had actually thought of that optimism whenever she looked forward to this conversation. She had wanted him to reassure her.

But now, this man in front of her, this exhausted, discouraged man, wasn't going to reassure her about anything.

She took a deep breath, set down her fork, and said, "I met a man in Copenhagen. I'd seen him before—later, really—when I was in Zürich on that last training mission, watching Heisenberg. The thing was, this man when I saw him in Copenhagen, he remembered me from Zürich. And he shouldn't have. This last visit predated the first one by three years."

Havers frowned. "You met him in 1944 and he remembered you when you went back to 1941?"

"Yes, sir," she said. "And it gets more confusing. I think he was supposed to kill Heisenberg in Copenhagen, and I stopped that. But in Zürich, he tried to save Heisenberg."

"You're sure?"

"Yes." She picked up her coffee mug. It was warm, and the coffee looked inviting. She took a sip. Smooth and wonderful and oh, how she had missed it. The little things.

Havers seemed to be having trouble following her point. "You think he works for us and is screwing up?"

"No, sir," she said. "I think the reason we're encountering so many branches is because someone else is trying to change them. I think we're repairing damage."

He frowned. "We're repairing damage we've done. We keep making mistakes."

"Oh, I think maybe the first time, yes, sir," she said. "When we thought we could prevent the atomic bombings of Hiroshima and Nagasaki, we started on this path. I think we could have repaired the damage with one or two visits. To use your branches, eddies and currents metaphor, sir, I think we were on a relatively placid side branch and it would have taken very little to get back to the original river."

That half smile was back. "That's what I thought once."

"What if you were right? If we had been the only ones tampering with the branches, then we could've easily gotten back to our original timeline."

He stirred up his salad like it was a cup of soup. "You're expecting me to believe that someone else came up with the same technology at the same time?"

"Yes, sir, I am," she said. "I've been studying the history of science for a while now, and it's pretty clear that ideas are in the air. From the way mathematics developed in different parts of the world to the very atomic scientists we're pursuing now, we see over and over again that two or more people can put similar concepts together in startlingly similar ways."

Havers rested his chin on his fork and stared at her, looking remarkably like the boy he must once have been.

"I mean," she said, "even one man makes a different kind of difference at different points in his life. If you kill Werner Heisenberg in 1938, Germany has no atomic program at all—either for energy or for a bomb. If you kill him in late 1941, then Germany has a relatively clear path toward building a weapon within two years."

Havers started to speak, but she talked over him, knowing what he was going to say.

"We can argue, sir, about whether that was because he was a theoretical physicist and was more comfortable with theory instead of practice, or we can argue that he was being deliberately obstructionist." She shrugged. "The point is why doesn't mat-

ter. What matters are his actions, and in 1941, they got in the way of the German program. By 1944, he was irrelevant. Things were going the way they were going to go."

And she would have the memory of killing a man for no reason at all the rest of her life. No, that wasn't correct. It wasn't no reason at all. The death had nothing to do with the man and everything to do with her.

The fact that it didn't bother her as much as it probably should have told people like Havers she belonged in this job. It told her that she had a part missing, something that made her just a little less human than everyone around her.

"The man I encountered wanted Heisenberg to die in Copenhagen and didn't want him to die in Zürich three years later," she said. "I have no idea what that timeline was like, what Heisenberg could have done after the war, and what changed, and I don't really care. What matters to me is this: someone else is out there, and they're trying to do what we're trying to do. They're trying to divert the river, sir."

Havers didn't move for a long moment, then he let his fork fall forward. It clattered on the plate, a surprisingly loud sound. It made her realize that no one had turned on the Muzak or the overhead music that usually filled this place.

"I have no idea how we'd find them," he said almost to himself, "unless they're operating out of this home base."

"I think you can check for that," she said, "but I don't think they are. That man was as surprised by me as I was by him."

Havers nodded.

"But you say that something has gone wrong again, right? Something even earlier." She should have stopped talking a few minutes ago, but she didn't. She had the idea, so she needed to express it. Even if it cost her.

She had a hunch it *would* cost her, only she didn't know *what* it would cost her.

"We can't go past September 1940," Havers said. "We can't access any records at all."

"You said there was a ripple," she said. "Is that like an eddy? A strange current?"

"It's hard to explain," he said. "We noticed something off, but we're not sure what."

She was going to regret this question. She knew it. "Where?"

Or perhaps the better question was where-when. She was asking for the position of the ripple, and Havers seemed to understand that.

"London," he said.

"The Blitz," she said. "Isn't that September 1940?"

"Yes," he said.

"Is there a Blitz?" she asked.

"The beginning of one, at any rate," he said. "And that's all I can tell you."

She sighed. She didn't want to travel again, but what else could she do? Sit here and watch the pieces of Home Base that came from outside the building change into unrecognizability? She didn't like that option either.

"Then send me there, sir," she said.

He looked at her sideways. "Why?"

"It's a long shot," she said. "Maybe he'll be there. Maybe he's the ripple. I know what he looks like."

"But you said he's trying to kill Heisenberg. Heisenberg wasn't in London in 1940."

"In our timeline," she said. "And this man, he might not be after Heisenberg. He might be doing something else."

"It seems like a waste of resources to send you there," Havers said.

She gave him a smile. She hoped it seemed sincere. "Think of it this way, sir. Even if I don't see what causes the ripple, I'll at least be able to report back as to what went sideways."

"How do you figure?" he asked.

"We don't know the position of that branch after September 1940. But we do know

where this home base is. I can get back." She sounded so confident. But she wasn't confident, and he probably knew it.

"We don't know that for certain," he said.

"We know nothing for certain," she said. "And right now, much of what we did know, much of what we were certain of, no longer exists."

"If it ever did," he muttered.

"I don't believe in the shared hallucination theory," she said.

He smiled. "And that's why you're volunteering."

"Yes, sir," she said. "I believe I can at least help us figure out where this strange new branch turns."

"And you think that might be worth your life?" he asked.

You ask that as if my life is worth something, she thought. But she said, "Yes, sir. I do. I am, at least, certain of that."

Position Three

September 6, 1940
Waterloo Station
London, England

Waterloo Station looked the same. That startled Leah more than anything. The ancient train station clung to Central London like a life raft on a stormy sea. Or maybe that was how she felt about it. Parts of London looked very familiar to her, but next to a historic building, one she remembered, was an even older building that she didn't remember, making her feel more out of time than usual.

High windows, soot-covered stone, people milling all around it, the smell of exhaust in the air. And that was the thing: the station shouldn't have looked the same. She knew—in her time (if, indeed, she could call that original timeline hers), the station had been refurbished, remodeled, and redesigned a dozen times. But the essence of the building remained, and somehow she found that comforting.

She needed comfort. London in the fall of 1940 was not a place anyone should have gone voluntarily. The worst of the bombings that would be called The Blitz were just beginning, and they would culminate in the destruction near St. Paul's Cathedral in December. She knew that, but she hadn't *known* it until she arrived.

The first bombs hit a week ago, and she realized something else she should have known: bombs didn't hit something and then go away. Bombs *destroyed* something—property, lives—and left an aftertaste, not just the rubble, but smoke in the air, *ash* in the air, a haze that became a miasma as more bombs fell.

And no matter what the history books said about the courage of Londoners, their stiff upper lips and their stoicism, the history books missed the sheer terror beneath it all. The disbelief that coated the terror, the shock.

Londoners (like her, in some ways) had known intellectually that they were vulnerable to the same bombing attacks that had spread all over England in August, but they hadn't *known*. Not really. They had thought they were immune.

Which meant that every person she encountered had a tension running through them as they tried to cope with the raw newness of their circumstance, and that horrible out of control feeling, the one that let them know that everything they had, everything they understood, everything they *were*, could disappear with the roar of a plane, the shriek of a bomb, and a red fiery light rising in the night sky.

She could disappear too. There were no good records on what got hit when or how, and besides, those records didn't matter.

Supposedly, she was in the land of time ripples.

The ripples should have started on September first, but she didn't see them. She didn't even know what a time ripple looked like, or what she was searching for. She wandered the streets of London in the areas that Havers pointed her to, and hoped she saw something out of the ordinary.

The problem was that everything was out of the ordinary, and nothing was. She wasn't a local, so she didn't know what differed from the norm, and she wasn't really an expert in the London of 1940. She hadn't studied it deeply, figuring other native English speakers could handle the easy country; she would go where her linguistic skills were the best.

Now her lack of knowledge on the simplest things made her feel severely handicapped.

She was looking for a needle in a haystack, and she wasn't even sure she would recognize the haystack, let alone the needle.

This morning, the ripples were strongest here—whatever that meant. She walked toward the station, carrying a purse with her devices carefully hidden, her trusty black skirt swishing at her knees. It wasn't cold here, but it was damp, and she wished more than anything she could wear some kind of leggings and some comfortable shoes.

Maybe when she got back.

If she got back.

She sighed heavily, and wove in and out of the traffic that was trying to park near the station's side door. One Aston Martin went around some cars unloading passengers, and sped up. She saw it out of the corner of her eye, and ran toward the parked cars as the driver hit his horn and hurried around her.

Her heart pounded. She took a deep breath, thinking she could get killed any old way. It didn't have to be from a time ripple at all, or because she was here in the Blitz and a bomb landed on or near her. She could get hit by a car or die in a mugging gone wrong or catch some kind of disease that no one here had a treatment for.

And that was when she realized that the driver of the car she had stopped in front of had gotten out. His passengers were filing into the station, and he should have driven off, but he hadn't.

Instead he was coming toward her. She blinked, and realized that she knew him, just as he wrapped his arms around her like a lover. He smelled faintly of cologne and tobacco.

"What the hell are you doing here?" he said into her ear. In English. Beautiful, upper-class British English.

It was the strange man who nearly killed her in Copenhagen, the man who had worn inappropriately new clothes to the lecture in Zürich.

"I could say the same thing to you," she said as she stomped on his foot—hard—with her uncomfortable heels.

He didn't move. It was as if she hadn't touched him at all.

"You can't kill me here," she said softly, in French, because she didn't want everyone around them to hear her words

"I don't want to kill you," he replied in that same language. "I need to get you out of here."

She laughed, thinking of the delicious irony. So she had come here to track one of their own after all. "I thought we were on opposite sides."

"We still are," he said, "but God help me, I don't think you should die this way."

That caught her attention, and for a brief moment, she thought of fighting him off and heading back. She had found the ripple: it had its arms around her and it had done something. And, to paraphrase him, God help her, she wanted to know what that something was.

She let him bundle her into the backseat of his car. She could have slid out, run, as he got into the driver's side, but she didn't. She sat docilely, waiting for him to tell her what happened.

But he didn't talk. Instead, he peeled out of the parking area like a crazy man. He pulled into traffic and onto the Waterloo Bridge as if the demons of hell were after him.

"When do you go back?" he asked as the traffic stalled toward the end of the bridge. He was speaking English again.

"What do you mean?" she asked.

"You know what I mean," he said.

She let out a small sigh. "When I figure out what the hell has changed."

He let out a small sigh, and rested his head on the steering wheel for a brief moment. "You can leave now, then," he said.

"And tell them what? I don't know what you're doing or what's about to happen."

He raised his head. The traffic had started to move again. He negotiated it with a clear path in mind. She couldn't tell what his destination was. Except for the landmarks on the horizon—Big Ben, St. Paul's, but no London Eye—pointing out their various neighborhoods, she had no real idea exactly where she was.

As soon as they got off the bridge, he pulled over and squeezed into a parking spot. Then he turned around, putting an arm on the seat as he looked at her. He was older than she realized, older than he had been in Copenhagen by a few years or perhaps by a few tragedies.

"You're staying at Claridge's, right?" he asked.

"I'm not telling you where I'm staying," she said. She and Havers had debated Claridge's, but she was at the Savoy, a bit more dangerous, but closer to the government action. Winston Churchill used to—would?—take meetings there.

"Look," the man said. "Let me take you back to your hotel or whomever you're staying with. You activate your device and get the hell out of here. Twenty-four hours from now, London is not the place to be."

She felt cold. "The raids tomorrow night are no different from the raids earlier in the week."

"Oh, yes they are," he said. "They have a payload we shouldn't see for five years."

It took her a minute. Or maybe longer. Her breath caught. "An A-bomb?" she asked, using the term from this time period.

"Not *an* A-bomb," he said, his voice shaking. "Not just one."

"What the hell?" she asked. "That's not possible. No one had the technology in 1940."

"No," he said. "No one did. Not in our world. Not in many worlds. But in this one."

"What did you do?" she asked.

His eyes filled with tears. A man like that, he shouldn't have tears in his eyes. He shouldn't have been capable of tears. "We kept Leo Szilard in Hungary. *I* kept Leo Szilard in Hungary."

Whatever she had expected to hear, it hadn't been that. It took a moment for her to register who Leo Szilard was. And then she remembered.

Szilard had been an extremely influential scientist, but not all that famous outside of scientific communities. When Hitler came to power in 1933, Szilard left Hungary. He settled in Oxford, and was instrumental in developing a fund that brought exiled scientists to Britain. By the end of the 1930s, he had moved to the United States, where he made some discoveries with Enrico Fermi, established a lab at Columbia University, and, perhaps most importantly of all, convinced Edward Teller that it was better for the US to have the bomb than Hitler.

Without the so-called Hungarian conspiracy in the US, their willingness to build a

bomb (instead of remaining theoretical or only direct their research toward energy), and their determination to beat Hitler to that bomb, the US would never have had a bomb in the first place.

In fact, Leah's people had initially thought of stopping that group to prevent the bombing of Hiroshima, and then decided the risk was too great. The atomic genie was terrifying and had impact on all future generations, but no one wanted to risk a German victory in the Second World War.

No one except, apparently, this man's people.

"I don't understand," she said. "You don't want to lose London?"

He swallowed hard. "That's right."

"But you were willing to kill me to let a nuclear bomb destroy Moscow," she said. "Did the loss of Hiroshima bother you?"

"The war was already lost," he said.

She felt cold. Colder. So cold she could barely control a shiver. "Let me get this straight: destroying Moscow with a nuclear weapon doesn't bother you, nor does the destruction in Japan. But the destruction of London upsets you? Or is it the timing? If the bomb falls here in 1940, then Hitler wins."

"Yes," he said. "Hitler wins. And in my timeline—which I think is probably yours—Hitler never wanted to destroy London. He expected England to join him. He saw a kinship between England and Germany, one he expected England to recognize."

"You don't?" she asked.

"Oh, I do," he said. "If you lived here, then you know. We are not so different, our peoples."

She started. He recognized that she was English. She wondered what had given her background away. He couldn't know her name. She had never told him—and besides, the name made her sound German.

"You're not German," she said.

"I am," he said, proudly.

"But you're not," she said again. "You're Nazi."

"That is no different," he said.

It was very different—the Nazis were an aberration, a movement, a philosophy that started in Germany and nearly destroyed the world. But she didn't argue with him. He was giving up too much information to antagonize him now.

"So you see no difference between the Russians and the Japanese," she said softly.

"They are not us. They are not strong people such as we are. They are barely human," he said. "Some would say they are not."

He meant *he* would say they were not. She had to focus on not moving, on not showing her shock. She had heard countless people say similar things in her time travels, but she had never heard anyone from her own time period (if indeed he was) express such views. That shocked her deeply. She found the view almost inexplicable. She knew humans had prejudices, but she figured someone educated, someone who had lived in the twenty-first century, someone who had visited this awful old time period, with its disgusting attitudes on plain view, would never ever believe in anything that Hitler believed. Ever.

"But . . . the destruction of London," she said in a shaking voice, mostly because she knew she had to say something, and if she said anything about his bigotry, she would lose control of this conversation.

"I cannot believe we would do it," he said. "But we are. So let me take you to your hotel. Go home."

So their technology was a bit different—*his* technology was different. He didn't carry it with him, but kept it back where he started. Or maybe he had to return to the place he had left from in order to escape this time period. She didn't ask.

"Tell me who you are," she said.

"So you can kill me as a boy?" he asked. "That will do no good. If I don't keep Szilard in Hungary, someone else will."

She suspected as much. Just like she knew that if she went back, as he insisted, this branch would end. London would be spared. England would be spared—and, most likely, the Allied victory would be spared.

He knew it too. Yet he was letting her go.

"You're saving my life," she said. "At least tell me your name."

He waited one beat, almost too long. Then his face softened. "I am Henry," he said.

One of those names both cultures shared.

"Leah," she said.

They shook hands as if they had just met, which in some ways, they had.

"You're leaving too?" she asked.

He shook his head. "I only just found out about this, and I'm saving as many important people as I can."

"The timeline will reset," she said, accidentally saying aloud what they both knew, that her return would repair this timeline.

"We can't be certain of that," he said. "If the alternate timelines continue to exist, then this timeline will lose so very, very much. I cannot be responsible for that. I'm already going to be responsible for the loss of all this."

He waved his hand toward the city itself, the tears lining his eyes.

"Please," he said. "Go."

He was a bigot and, if his theory was true, responsible for the loss of millions of lives. And yet, despite herself, she felt for him.

"You can't go wherever you're needed to stop the plane?"

"There is more than one bomb, more than one plane," he said, "leaving from more than one airbase. I cannot stop them all. No one can, because no one knows where they all are. History does not—cannot—say."

She touched his hand as she opened the door to get out of the car.

"Thank you," she said.

"Please," he said, turning away from her. "Do not thank me. You do not thank a man who has succeeded in destroying the world."

Position Four

December 18, 1944
Physics Department
Eidgenössische Technische Hochschule
Zürich, Switzerland

Leah sat in the back of the cold lecture room, dressed properly this time, tights beneath her long wool skirt and shoes that did not pinch her feet. She had her hands tucked inside an oversize sweater.

Heisenberg had stopped fiddling with the free-standing blackboard. He was writing equations on it, the squeak of the chalk sending small shivers down her back.

In the center of the room sat Moe Berg, an empty chair on one side of him, OSS agent Leo Martinuzzi on the other. The Nazi guards were in the same position, minus one. Henry, the man in the out-of-place new clothing, was not here this time, and she saw no one who could be taking his place.

Her stomach clenched, and she made herself take a deep breath. Havers had sent dozens of agents back to protect all of the nuclear scientists who emigrated to the

West. Afterward, he reassured her that the branch she had traveled along, the one in which Henry died along with all of London, was gone.

She mentioned Henry's theory that the alternate timelines continued to exist, and Havers said to her with great confidence that only the strong alternates existed. He extended the river metaphor, saying that some branches were only caused by one storm and could be obliterated in the next.

But she didn't believe him. In her travels to the past, she had learned that most scientists spoke with great confidence, even—especially—about things they did not entirely understand.

She was listening to such a scientist now. Heisenberg was beginning the lecture on the S-Matrix, which he did understand, but with a nervousness in his voice, letting her know that he wasn't sure if he could be in trouble for things he said in Zürich.

She did not know what would happen to him. If his theories were correct, then her presence here observing everything could change history, even if she interacted with no one, even if she did not move.

So far the information they had gathered at Home Base told them that they had rejoined the main path of the time river. Not that it was the best path. It wasn't. Millions still died, both on the path to 1945, and in the atomic bombings of that summer.

But it was the path her people were most familiar with, the path they wanted to return to, although (she suspected) some of them were still looking for the path that had no atomic explosions at all. Havers didn't believe such a path existed. He thought that the genie escaped the bottle no matter what.

Even if we kill everyone from Einstein to Teller, he said, *the genie would still escape. Some other scientist, someone we've never heard of, would come up with this information. We know that ideas have their time. And this idea belonged to the twentieth century, whether we like it or not.*

Leah didn't quite believe him, mostly because she was the one who had reminded him that ideas had their time. She had a hunch he was simply convincing himself that they couldn't kill the scientists. Because destroying the scientists from Einstein to Teller would be a modified grandfather paradox. Without those people, there would be no time travel, no Home Base, and no way to know if their experiment succeeded or caused an unforeseen consequence more horrible than the last.

She knew one thing: After this trip, she was done. She would live in Home Base, advise other travelers, maybe write her memoirs. She was done.

She had to be.

She could barely stomach watching the man in the front of the room, the man whose life she had stolen the last time she was here with just the pinch of her fingers and the pressure from her hand. She couldn't look him in the eye, not remembering how confused he sounded that day so long ago and yet right now, the same except for the past preceding this moment.

Her heart was pounding.

She had asked to be here, to confirm that they were on the right path. She had known, deep down, that she would not believe in this path, until she saw Heisenberg walk out the door with Scherrer, until Moe Berg walked away with Leo Martinuzzi, until the guards shut off the lights.

Berg still had his weapon. She had seen it outlined against his suit coat. She supposed he had his cyanide capsule as well.

And as long as those were here, she could not rest.

In her old timeline—supposedly this timeline—he was supposed to evaluate the lecture, to determine if Germany was making an atomic bomb. If Heisenberg made any indication that the country was making a bomb, then Berg would kill him. But—in this timeline, unlike the last one she had visited in Zürich—Heisenberg would

give no indication. In fact, later, at dinner, he would state that he did not believe Germany could win the war at all.

That statement would save his life many times over. In this timeline. If, indeed, this was the timeline.

She fervently hoped it was.

She was ready to go back home.

* * *

The shoulder holster dug into the skin under Moe Berg's arm. Sweat ran down his back. He struggled to understand the lecture. He told people he was fluent in more than a dozen languages and truthfully, he could understand all of them. But he couldn't speak most of them fluently. Although if someone had asked him, he would have said he had excellent German.

Or he would have said so until now.

He didn't understand the intricacies of scientific German. He didn't know the jargon. It was an oversight, an egotistical oversight, and he didn't know how to correct it.

He had to keep an eye on the others, particularly Paul Scherrer, the director of the Institute. Berg's handler had told him that Scherrer was invaluable in providing information to the OSS. Berg had to hope that Scherrer would help him now.

Even though Berg wasn't sure how. So he watched, and he took notes, like a student. He wrote in English, feeling uncomfortable, *As I listen, I am uncertain—see: Heisenberg's uncertainty principle—what to do to H.*

What to do to H.

It would have consequences for Berg, for the OSS, for everyone. What to do to H.

Berg did not know.

A woman moved beside him, clearly wanting a better seat. She was thin and blond, and seemed too nervous to be at a lecture. But who was he to judge? Perhaps the lecture was part of her grade. Science and women did not get along, not because women were dumb—they were not—but because men gave them such hurdles to overcome.

She glanced at his notes, and he resisted the urge to cover them with his left hand. Even if she could read English, and the notes she had written in perfect German script told him she probably could not, she would only see some blatherings that made no sense to anyone but him.

Still, she smiled at him, and the smile had such joy that he was taken aback. Then applause started all around him. He looked up. Heisenberg took a small bow, clearly finished.

This moment had passed.

Berg looked over to the woman, to ask her what she had been smiling about, but he did not see her.

Had he imagined her?

He was even uncertain about that.

He stood with the rest of the audience, and returned his attention to the conversation around him, hoping to hear something incriminating or at least something that would negate his uncertainty.

The uncertainty itself brought more stress than he could ever imagine. He wanted this moment to end, this assignment to end.

He wanted to know how everything would resolve.

But, of course, no one could know that. The future was unwritten, the past ephemeral.

Only the present was real. Only this moment

Only now. ❍

EXPERIMENTAL

The machines are cathedrals of
magnets and mile-long vacuum
lines. Silicon eyes count quarks
when particles decay. I recite

mathematical justifications, but,
really, I am a boy who throws
a frog against a stone wall to see
what leaks out. And I am a frog,

a spirochete, a baryon beneath
the ponderous lens of the cyclotron.
Above some angel pokes a button
and watches us squirm. We say

it's noble when a woman steps
before the bullet for her friend;
tragic when cancer gobbles up
a child; a relief when torment stops

breathing. But these angels, or aliens,
or empiricist gods as empty as
the space between stars—they hope
seeing how we die can answer

the mystery of how they live.

—C.W. Johnson

BROTHER SWINE

Garrett Ashley

The author, a native of Brookhaven, Mississippi, is currently a master's student in the Center for Writers at the University of Southern Mississippi. His first story for *Asimov's* contains a fascinating worldview that results in a new spin on an ancient concept.

"I see something," Namwali told me. She sat at the edge of our dying snap bean patch watching the Returned crawl, gallop, and run down the hill towards our village. It had been a slow week for new arrivals, but for the past several months my stepmother and I had taken turns looking through a pair of naval binoculars, always naming the animals like children debating the shapes of clouds.

"What do you think?" I said, uninterested.

"A pig, maybe." She adjusted the eyepiece with dirty fingertips. The purple feathers woven into her brown hair were ruffled from a restless night's sleep. I had sat with her and Donna the night before and confessed I was nervous, too. Nobody in our village sleeps well awaiting a loved one. I didn't like thinking about Etgar's return, either—whether his journey had even begun, or if anything had gone wrong—it had been more than a year since we received word of his death.

"Won't be him," I said, running my hands through the dry vines for a handful of pods. Of course, I doubted my stepbrother would return as a pig; people—especially young men who die fighting anarchy in the west, like Etgar—return as more desirable creatures, like birds.

Humans who deserve death return as lowly creatures. Murderers, cannibals, and rapists. We often use these animals for meat when necessary, and we can only assume that by doing so, we're giving them a chance to die in the name of something good and maybe return as something more venerable.

"Even if Etgar was a pig, he'd know better than to come home to a village full of hungry folk," I said. It had been weeks since the government trucks rolled into our village to deliver food and supplies, even longer since our gardens had tasted a drop of rain. But it occurred to me that Etgar wouldn't know our village had fallen to hard times, that its people were growing more impatient and thin every day.

I thought of little Donna's skin. The night before, her ankles and wrists had looked tightened and pale in the candlelight. I knew, sadly, she needed meat. The whole village needed it.

Namwali's mercury blue wolf eyes lit at me. She turned and glassed the hill again, watched as the pig grew closer. I yanked out a handful of leathery pods that still had life in them, tried to avoid seeing the hill.

"I see a horse," she said. "And a deer, I think. And something big is flying down towards the school."

Of course the eagle would become the center of the village's attention. I didn't need the binoculars to see it swoop down over the old schoolhouse. The eagle spiraled over the bare flagpole and caught the top, extended its wings and gave a cry like a siren.

From the other side of the village, the tower bell rang. The bell rings once when food trucks are within sight, constantly when there is danger, and like a song when the Returned clear the pine stumps leading down the hill into the village.

I dropped the handful of pods into the bucket. "Should we get Donna and head up to the square?"

"Let your sister sleep," she said. "We have too much work to do, anyway." She referred to our desperate hunt for food. "If Etgar does come," she continued, "we will pretend we couldn't hear the bells. If he is able, he will come to us on his own." Our going to the square almost weekly had become a fruitless routine. We had started to believe that Etgar, like my father, would never come home, not even for Helen.

I set the bucket down. It was too late to worry with the matter, for the spotted pig had already made a beeline for our garden, grunting as it broke through the hawthorns my father had set out a year before his passing. The pig stopped in the weeds at the edge of our yard. Namwali abandoned the naval binoculars, used the stand to hold herself up, and I could tell she was frightened. Her breathing quickened. She let go of the stand and dropped to her knees and held her stomach like something wanted to claw its way out. I stepped into the grass, and the pig waved its head and moaned, as though it was saying hello.

Namwali once asked, when we were young and jealous of the animals that came to become underworked pets: "How often do I have to tell you the story of the man and the wolf?"

The wolf in the story was Namwali, who lived alone in the forest, ran into chicken coops at night and stole poultry from their owners.

"Tell us again how you were caught," I would say, because I liked the lowness of her voice when she spoke of the man who had captured her.

"A man set a trap for me, in one chicken coop. He laid old carcasses on the floor and when I came to steal a chicken, he released the wire door and I was caught inside. The man said I had a begging look, and he had pity on me. He told me that if I would live with him and keep the other predators away, then he would spare me. He held a shotgun to my nose as he told me this. The very same gun we keep for a time when we may need it."

Donna, mine and Etgar's infant sister, kicked in her mother's dark arms, interrupting the story. I thought that Donna had once been a field mouse because of the shape of her ears. Namwali fed her milk and continued:

"The man Socrates took me in, and I loved him, even as a wolf. We hunted vermin together. This was before it was illegal to harm little vermin. He kept my stomach full and my fur dry during the winter. I still remember the feel of his fingertips scratching over my cranium, how my vision of the world and the heat of the fireplace all spun and became distorted when he did this. I slept at the foot of his bed. I longed to warm myself beside him, but the man wouldn't allow it."

Namwali's wolf eyes drifted to the floor as she grew near the end of her story.

"Eventually I died as a wolf and came back as a girl. When I was old enough, I left home and went to find Socrates. I was sixteen when I gave birth to you, Etgar." Namwali looked glaze-eyed at her son when she came to the part about his birth. "When you were four and I was twenty, Socrates died fighting a pack of vengeful wolves. I had you in my arms, and the wolves smelled my flesh and I looked into

their eyes. They let us live. I took the gun from your father's hands and headed south. A month later Benjamin took me in. He already had Straub," she said, looking at me. "That is all there is to say."

As years passed, Namwali's story disintegrated into a polished version of a broken summary: Wolves attacked, the man shot, Namwali and Etgar lived, the end. It became a story she was no longer willing to tell. At the time, she had Etgar and me and my father, and eventually Donna. And after Donna, my father died, never returned to us, and there was only the four of us to fend for ourselves. Eventually the fig tree, which Namwali firmly believed was my father reincarnated, no longer made fruit. During the winter, when she was curled beneath a blanket with Donna, no fire to keep them warm, Etgar and I contemplated going out to cut the tree down for firewood.

"He was your father," Etgar had snapped, passing me the axe. "Your decision."

I thought of my stepmother's hands, her feet, how she had always worried they might turn to ice and fall away. But when I considered how much she missed my father—how often she went out to sit beneath his branches, look up at his leaves and dwindling fruit and pray and talk and laugh—I knew cutting down the tree would destroy her.

I had to do it. Limb by limb, my father came down. I thought—maybe—he could have been made a tree to provide us warmth.

We nearly froze the winter after Donna was born. And when Etgar traveled west to fight and die and came home as a pig, it was the year of our village's starvation.

I could tell by the way Helen stumbled out of the car that she hadn't had anything good to eat in days. She caught herself on the door handle. There were dark circles under her eyes. Maybe she had felt long nights, like us, imagining her fiancé's return. Any form of return, she had said, would have satisfied her.

She didn't speak to us, not even to Donna, who said hello and approached her with a typical child's nervous smile. Namwali jerked Donna back, gave her to me and I put my hands on her shoulders and watched.

Helen squatted down on her haunches and looked under the boards of the house, as though she expected to find him in the dirt rooting. "Etgar," she called, her plastic bracelets jingling.

He ran around the house, squealing.

Helen took him by the cheeks and pecked his forehead with cracked lips. "Still have it," she said, throwing out her hand to show the pig a ring Etgar had given her before leaving. Her nose turned red and her eyes watered. The pig grunted and crawled into her embrace.

Namwali crossed her arms and shook her head. We had joked that Helen had been a well-groomed cocker spaniel before anything else. Now, Helen's dirty hair and broken nails were the opposite of groomed. And I couldn't watch her kiss the pig again, my brother or not.

Namwali and Donna followed me inside. The screen door slapped behind Donna, and she just stood there waiting for someone to speak.

"Be happy for Etgar," Namwali said, finally.

She never approved of my seeing Helen, after Etgar died fighting Californians. I took Helen to the movies, first. Both of us were awkward by nature, with hardly anything to say to the other. And of course we were both ashamed. Sometimes, we held hands and I would rub my thumb across her index finger. I never pushed for more.

When she came to the house to eat dinner, Donna would look at us across the plates of boiled potatoes and greens and she would sneer, like she suspected something unspeakable was happening between us. Helen did touch my leg once, in front of Namwali. Under the table, her hand had slipped to my upper leg and squeezed.

Eventually Helen really started to miss Etgar. She stopped pretending, stopped avoiding. She talked about him. Mostly about the good things—how they had floated in tubes down McCall Creek, how when her car had engine trouble Etgar would have it rumbling to life in no time. Helen thought he would find out about us if or when he returned. I felt her pain.

Through the window, I could hear his drum-like grunts. I cracked open blinds. Helen opened the car door for Etgar and he hopped in like a fat spotted dog, crossed over to the passenger side and waited for her to join him before reaching his pig-nose up and wetting her sandy elbow.

I tried to convince myself that it was not my brother. That it was someone else—a lonely con returned from the dead to take advantage of a random neighbor's generosity.

Donna watched out the window beside me, smiling.

"What's with the grin?" I asked, trying to sound complacent.

"I'm happy," she said. Her face had a weak stiffness to it.

Namwali came and rubbed my back after the car was halfway down the drive. I kept my nose to the blinds.

"You are my son, too, Straub."

I nodded, wondered if it would be safe to let Etgar ride the roads for hungry villagers to see.

"I don't know what to tell you," she said.

"We knew it would happen," I said, letting the blinds flop back against the windowpane.

"We knew, yes."

"Maybe they can work it out," I said, not wanting to argue. My thoughts irresponsibly returned to the way Helen's lips bent when she smiled, how one side was nearly always lopsided. Her closed, wet eyes. I hadn't seen that smile in a long time. Not even before Etgar went to fight anarchists in California. Regardless of how happy she may have seemed to have him back, I didn't think the woman I adored would get on very well with a pig. Even if it really was Etgar.

My brother once said he began as a mole. It was the earliest thing he could remember—the warmth of wet soil, the quiet, sightless beginning not much different than a human child wrapped in its mother's womb. And eventually he was Etgar, a fat child in the arms of Namwali. On their own, for a while. When we were kids, he would mispronounce my name—called me "Straw," even up until the days when Helen came into the picture. He would grow to love girls, baseball, things that flew. Said one day, he'd be an eagle, and we all believed him because he was such a good kid, had led a good life.

"If I'm lucky, I'll be an albatross or a hawk," he said. Eagles were apparently hard to come by, and Etgar was a rationalist. Plus his mother never much believed in luck. She taught the three of us, after father died, that life was random and inconsistent.

"You could be a fox one life, an insect the next," was Namwali's eventually inevitable motto, and it stayed as such.

I began to wonder whether regression to animalhood was really regression. Maybe it was ascension. Creatures that have never been human don't have much reason to worry, except for being eaten. Etgar seemed to want animalhood enough. He never asked to be a leader. So I assumed being reborn as an albatross could have been a wonderful thing. But in my opinion, life was never random and inconsistent. I wonder if he wept when he realized he would be stuck to the ground in the form of a pig.

Etgar grunted, rutting his nose over the potato shavings Donna tossed into the dirt. "What else do you feed a pig?" she asked.

"Scraps from the market," Namwali said matter-of-factly, kneeling beside Etgar. She stroked his back. It was the first time she had been intimate with her son since his return. She must have had her doubts, too. But the pig did at least act like Etgar. And it seemed to like Helen, who had volunteered to go to the market and beg for scraps so we could spend time alone with our newly returned kin. Some venders kept their spoiled produce in buckets for donations to returned loved ones. I wasn't sure that there would be scraps to spare, anymore.

Donna tossed out another handful of peelings. Etgar looked tired of the dry, wrinkled skins.

"I hope she doesn't let it slip," I said irritably, referring to Etgar's condition. Helen had agreed, before leaving, that she wouldn't confide information to those who were generous enough to hand over scraps.

Namwali stopped stroking Etgar. He grunted. Namwali stood up with me and crossed her arms and looked down at the scrawny pig burrowing its nose in the dirt. "The trucks will come, and things will progress," she said assuredly, wiping the dust from her son's back onto her skirt. She stuck a finger between her lips and chewed the nail. She was never one to resort to begging.

"It's been two months," I said. I didn't want Donna to hear. Obviously, my sister knew she was hungry and that a nine-year-old should weigh more than she weighed, but I didn't want Donna to suspect that anyone might attempt to butcher Etgar for meat. "You know they'll turn on pigs quicker than anything else."

"Do you know of anyone who keeps a pig?"

I thought about it. I couldn't remember any of the neighbors ever keeping a pig. Pigs hardly ever returned to our village for fear of being held for food. The droves who wandered into nearby fields with no direction were captured and never identified. If anything were to ever happen to our supplies, to the trucks or the little patches of gardens dotting the countryside, swine would be the first to go. Their bodies simply had more to offer.

Donna ran out of peelings. She bent over Etgar and gave him a squeeze. The pig reached up and pressed its nose against her collar. Etgar rarely showed affection when he was human.

Namwali drew water into a pot and went inside to boil the snap beans. Helen appeared down the road, a bucket of scraps in one hand, a sack in the other. She set the bucket on the porch and showed me the bag full of green apples. I didn't ask how she got them.

"I was followed," she said.

I glanced over her shoulder. Halfway down the path, a chimpanzee with arms as long as it was tall stopped and looked towards us.

Namwali yelled out the kitchen window. She ran out onto the porch, iron skillet in hand, wolf eyes blazing. "Go on," she yelled, waving the skillet. "Shoo!"

"What do you think he wants?" Helen said.

"Probably just some food. We need to be more careful." I pressed the bag of apples against her stomach. "Put them in the cooler. We'll need them more than Etgar."

"You remember me," Donna said, scratching Etgar's wrinkly cranium. "D-O-N-N-A. Spell it in the dirt, like this—" she got down on her haunches with a stick and scratched the letters into the dust. "—now you try," she said, shoving the stick into his mouth.

Etgar dropped the stick and put his nose into the dust instead. He rooted and produced what seemed more like an ampersand than Donna's name.

"He'll learn," I said, noting how Donna's wrists had begun to resemble twigs. Communication with Etgar seemed trivial compared to keeping my sister alive and human.

Donna shoved Etgar's face in my direction. He squealed. "Straub," she said. "S-T-R-A-U-B. You try—" she carved my name into the dust, this time with her middle finger. Etgar rooted his nose, making a circular pattern, and gave up.

"It's fine," I said.

He took off towards the shed and returned with a mouthful of straw from a withered pine sapling and sat it at my feet. He touched his nose to my ankle and I bent over and picked the straw up, squeezed it, remembered the way he would mispronounce my name. No doubt in my mind, then. I knew this was my brother.

I gave Donna an apple, told her to eat as much as she could. "Don't get sick," I warned. "Eat. Don't look at me like that."

Etgar ate a mouthful of scraps from the bucket and started for the house where Helen had prepared a pan of water to bathe him. "We'll need to keep him in, nights," she said. "The least we can do is keep him clean." I sat on the porch steps, let the straw fall from my fingers into the wind.

After our first kiss, I asked Helen what kind of bird she had been, how it had felt to fly.

"Wonderful," she had said. "I lived wherever I wanted. But I don't remember what kind of bird I was. If I was big or small. It didn't really matter to me at the time."

"Do you miss it?"

"I wanted to be human," she said, tapping a cigarette out on a rusted oil drum. She tossed the butt into a pile of empty water jugs, beer cans, cereal boxes. "People have it wrong, about being a bird. It's nothing special after you've been one a while. It's cold at night. You get tired of living in a tree and eating bugs. You have the whole sky to yourself but there's never anywhere really to go." A pause. "And I couldn't find a mate, as a bird. I was bad at finding a mate."

I felt sweat beading on my hairline.

"What had you been?" she asked, which was a tough question because in truth I don't remember too much about my past-self.

"I think I was someone else," I said. "I recall being very old. I kept a lot of books with me." But that was all. I was always so envious of those who could recall their pasts so vividly, though I learned to be thankful for the life I had now. But I kept a love for the smell of pages. That sensation stayed with me, I guess.

The chimpanzee made me think. I went into Namwali's closet and pulled the shotgun out from the corner, loaded it with the three shells hidden beneath the underwear in her top drawer. If the chimp came back—if anyone tried anything—we would be ready.

Helen was on the porch knocking dust off Donna's skinny back.

"If you don't eat more, you'll dry up and blow away," Namwali scolded. They were all eating apples. Donna nibbled. Helen took small, slow bites. Namwali, smelling her apple, looked hungrily at Etgar.

He was tucked away by Helen's feet, his head wrapped around her bare toes. He didn't make a sound when he saw me, just stuck his ears up and blinked. I went inside to the cooler and spooned a handful of slop into a bowl and dropped it on the porch. He grunted and ate meticulously, as if he didn't want to offend Helen.

She looked wearily at me. I reached down and touched her hand, the one vein that bulged and turned blue, especially when she was afraid. She snatched her hand back and looked down at Etgar. Shook her head, "no."

Namwali took the shotgun from me and aimed down the path. "It's heavy," she said. "Much heavier than I remember." Donna covered her ears, expecting a shot.

I wrapped my arms around Namwali, rubbed her back. Felt the edge of her shoul-

der blades, counted her ribs. "We can't live off apples and water alone," she said, her eyes drifting again toward her son the pig.

"It's the wolf in her," I said. Etgar was asleep under Helen's cot in the living room. He hadn't tried to crawl into the cot with Helen, but lay curled beneath, guarding her like a dog. "I'm afraid Namwali will snap if we're not careful. Just like a wolf. It's in her."

Helen leaned forward in the chair. Staring at the car, maybe, the moon reflecting onto the windshield above the wipers. She was probably thinking about getting away and taking Etgar with her.

"I don't think we should jump to conclusions." Her stomach rolled. "People think crazy when they're hungry."

"Etgar could have been anything but a pig," I said.

"Don't mention it."

Our voices were too low to wake anyone. I could hear Namwali snoring from her and Donna's bedroom. Donna always slept peacefully, curled under the thick cowhide blanket Etgar had bought with the money he earned hammering t-posts into the ground around our village. He did this before people stopped using money, started trading items instead. That world, surprisingly, hadn't been long ago.

"What do you think he did to deserve being a pig?" I asked.

Helen shook her head.

"Be honest."

"It's nothing," she said.

Prying information from Helen was the same as pulling the lid off a cement tomb. There was little doubt in my mind that Etgar had been good to her. I just wanted to be sure. If he had done anything questionable out west, we could never know. And Etgar would never be able to spell it out in the dust, not with the shape of his nose or the lack of attention he paid to Donna's attempts at re-teaching him the English language.

I put my hand on Helen's knee. It was exposed and dirty, poked out of her cutoff shorts like rocks covered in wax paper. She touched my hand then pulled hers back, got up and went inside. I sat watching the empty chair rock, listened to the cot pressing beneath her weight, Etgar grunting and his trotters clicking the floorboards, imagined him reaching up and touching his nose to her lips, *"Goodnight."*

I crept into the house a few minutes later and saw a light flickering from Namwali and Donna's room. Donna's bony chest rose up and down beneath her cowhide, her breath rattling. Namwali was sitting up in bed, staring at the floor, a candle burning on the nightstand. Her purple feathers littered the floor. The feeling of wolfhood never truly left her, she had told us before. I had always assumed the feathers were an attempt to forget what she had been. She must have yanked them out in her sleep. Now her hair was a strewn, greasy mess.

"I can draw you some water."

She shook her head.

I picked up the feathers and put them in her nightstand drawer, put her legs beneath the covers and touched her forehead, half-expecting a fever. "Try to sleep," I urged. Her skin felt normal. I blew the candle out, kissed her on the cheek and went out in the hall and stood. Thirty minutes later, she hadn't moved.

I went to my bedroom—which had once been my father and Namwali's—threw off the blanket so I wouldn't be tangled in it when I heard the sound of Etgar squealing. I felt it coming, that night. But there was no way around it. Etgar would be our only way to survive, but the thought of Namwali eating her own son made me ill.

I lay awake as long as I could, listening to the sound of Helen moving around, muttering, probably looking in on Donna. I drifted off.

Early the next morning Namwali stood in the doorway with Donna, who looked skinnier than ever, her face dry, dirty and pale like Helen's knees.

"The snaps are gone. And the apples."

I got up to check. The beans we had poached and bagged and thrown into the bottom of the cooler were definitely gone. There hadn't been many, but they would have been enough for a few meals, maybe enough to wait on the trucks to come with more food.

Donna stood on her toes and shined a light down into the empty cooler. I walked out on the porch and went to the garden where Helen was fumbling through the snap vines, cursing and tripping over hardened clods of dirt, Etgar rooting by her ankles, looking up at Helen, back at me, back at Helen. The sound of locus, a toad, a mockingbird waking and singing somewhere in the bushes down the path.

She looked at me and stopped. Yanked at the vines. Nothing. "That monkey was on the porch," she said, her voice hollow.

I shook my head, told her there was nothing we could do, now.

"How long had that monkey been there," she mumbled.

I wondered whether the chimpanzee had seen Etgar. Maybe not—it had come only for the apples, found the beans as well.

Helen ran her fingers through her hair. "Can't believe a fucking monkey came in the house."

I went to her and put my hand on her elbow, my forehead on her shoulder. She stopped. Etgar was looking at me, watching us, and I wonder what he was thinking, what he suspected. I kissed Helen's neck, touched her face. She blushed and gently shrugged me away.

Etgar was her comfort. He watched, brushing against her bare calves. Embarrassed, I went back inside to Namwali.

Donna picked at the ants crawling in and out of a split in the window frame. "They taste like peppermint," she said. Nobody stopped her from eating the ants. Namwali was especially past the taboo of eating self-aware beings for survival—Namwali, in fact, had recently left to inquire about the nature of the food truck's lateness. Later she would inform us that other people and animals had gone to inquire too. Some had even set up tents outside the courthouse to wait.

Etgar watched us, his spotted flesh turning gray. Helen sat on the floor beside him, stroking his back. She still wore the engagement ring.

And I stroked Donna's back. Really, I was checking to see that she was not on a fast dive to deterioration. I knew ants wouldn't hold her. And one should not spend too much energy eating so little. My stomach rolled. I hated Etgar. For starving Donna and claiming Helen. He became to me the tree that was my father, something returned only to keep us warm and alive.

I went into the kitchen and took a knife and stuck it in the back of my pants. "Etgar," I called.

I heard his trotters clicking the floorboards. He followed me alone through the kitchen and out toward the garden. In the middle of the solemn vines I knelt down and rubbed his head. He grunted.

"I haven't said much," I told him, "since you came back."

He looked at me. More Etgar than ever—the same eyes, it seemed, as the boy I grew up with. I wondered how it all worked, the science behind returning: Whether the pig was born the exact moment of Etgar's death; how long it had taken him to remember; how simple life must have been before returning to our village.

"Why did you come here?"

He put his nose to the dirt.

"You shouldn't have come back," I said, thumbing his spine. I put my forehead down on his cranium. "I don't know what you did to deserve being a pig, but you know we still love you. And Helen's a good woman, I won't deny it. I wish I—" *I wish I could have had her*. "But you were always good to her." I reached behind me for the knife. Etgar jerked and I held onto his neck and he squealed and I pressed his back against my lap. I fell in the dirt on my ass. "Quit it," I said. "Donna is going to die. And you have to promise me that no matter how you return next, you'll come back to us again."

He stopped squirming, stopped squealing. I curled over and kissed him between the eyes. "Because you're my brother. You know that."

I thought he wanted me to do it. Maybe it had never occurred to him that Donna was starving. The blade was rested on his throat.

Helen screamed and was on me before I could do it. I felt ants crawling up my jeans, biting my thighs. Helen ran back into the house, Etgar curled like an infant in her arms. Donna's skinny figure stood in the doorway afterward, watching me squirm on the ground like a pig.

I pleaded with Helen and Donna that they would keep what I tried to do from Namwali. And I was ashamed of having ever suspected my stepmother would be the first to resort to butchering Etgar. I told them as much.

I asked Helen for forgiveness. She said she understood it—that she too was ashamed, but she understood. Donna wouldn't speak to me. I tried to feel her back again as she picked at the remaining ants on the windowsill, but she went to hers and Namwali's room and lay on her mattress.

When Namwali came home, she asked if I would go to the garden and watch the Returned with her. This time there would be no snap beans to pick. I brought out the folding chairs, she the binoculars and stand.

"Braid me," she said, handing me a handful of dyed orange feathers and ties. She called out the names of animals as they appeared, slowly: "Ostrich." And: "I think maybe an armadillo."

"You can't see an armadillo from here," I said, my voice cracking.

As I worked on the third feather her nostrils flared, ears twitching. She said she could see something weaving between the stumps, something large, something gray.

"What is it?"

She moved and I looked into the binoculars. A wolf, bigger than I'd seen in pictures, snapped at the legs of the ostrich. Wolves were absolutely never counted amongst the Returned. Namwali suggested it was because they rarely remembered, that most stayed wild and vicious and could never be taught better. Her description of her past life, when we were children, had never amounted to this.

The ostrich made a dart for the village and the wolf gave chase. The tower bell rang without pause and as the wolf grew nearer there were gunshots.

The ostrich made its way to safety. The wolf slalomed through hawthorns and nettles and the gunshots eventually drove it back to the hill and out of range. It weaved through the pine stumps and out of sight.

"Make sure Etgar stays in tonight."

I looked at Namwali. She had the eyepiece in her fingers, head tilted down to look, but her eyes were removed from the hill.

"What's happening?" I said.

Her face hovered next to the eyepiece. She looked at me and back toward the house and took up the binoculars.

"You think there'll be more?"

She rolled her shoulders. "Wolves always send one ahead of the pack." Then: "Maybe not," she said.

At night I brought the gun out to the porch, sat and watched the path. I had heard about packs of wolves snatching smaller creatures—cats, lap dogs, vermin—from porches in neighboring villages even while the people sat with their animal-kin, defenseless and afraid.

The memory in Namwali's eyes had been evident, but I was optimistic. Everyone slept, Helen with Etgar, and I could hear the vibration of Namwali's snoring through the screen door.

There was a breeze, the rattle of dead kudzu and then a snap. I stood and heaved the gun up and waited for the light to emerge. Something walked around the corner, a lantern in hand. It stared at me under the porch light, stood like a human, wore a mining cap with the headlamp turned off. The chimpanzee, brave thing, had come back to steal from us again.

I flicked off the safety. "Go on," I said.

It waddled toward the car.

"I'm loaded with buckshot," I said. "Blow you in two."

The chimp turned, waddled on. The lamplight faded back around the corner. I could see a hint of its flash coming and going through the kudzu. Then it made a strangled hoot, and for a while there was silence.

The next morning Namwali asked Helen and me to follow her down the road to see what she had found on her way to the square. The chimp's insides were out in the open and chewed among a circle of wolf prints, big as my hands; its arms splayed out like a human, its fangs gnarled up at the sky, its eyes sunk into its skull. Helen vomited bile and Namwali held her up. I moved the chimp out of the road, into the brush away from sight. The headlamp and lantern lay in the weeds.

"I don't suppose we should risk eating it," I said.

Namwali's nostrils flared. She shook her head and rubbed Helen's back. It was already hot, and the smell was terrible.

Donna stayed in bed the rest of the day. We did what we could to keep her nourished—crushed spiders, picked wild onions from the grass and bugs from beneath the stones. She refused most of it. Namwali finally worked up the nerve to go into the village. It was late when she returned. She said there were more people in the square than the day before. They were still angry about the trucks and even more so about an invasion of wolves.

"I hope to never be a wolf again," she said. We had gotten lucky. One woman told Namwali that her grandson, a young ocelot, had been torn in half defending their home.

We would keep watch, that night—the wolves, Namwali said, mightn't attack humans, but Etgar needed to stay inside and away. We were all very tired and weak from hunger.

I showed Helen how to load the twelve gauge—cram the shells in at the bottom, hold the button and simultaneously pump. We would take turns watching from the porch in case the wolves came.

Namwali volunteered to go first. I sat in the dark living room with Helen, Etgar asleep in her lap. There was still plenty of meat on his bones. My wildness and hunger had thankfully vanished, or maybe it had only grown on me to the point of being unrecognizable. I wondered if Etgar would be too small even for the wolves, a waste of their organized effort.

Regardless, I wasn't sure if I trusted Namwali's opinion of what wolves were capable of. I told Helen as much: "Maybe they won't come. Probably not. Definitely not."

Nothing happened for an hour. We tried to rest. It was midnight before Namwali slapped open the screen door, waking Etgar, and told me to go out and watch for a while.

"How did it look?"

Etgar eased over the cot and jumped down to the floor.

"I think I can smell their scent," she said. Etgar trotted over to her, sniffed her feet and went back. "I'm tired. And keep him off the damn floor."

Helen reached down and picked Etgar up again, put him in her lap.

I sat down in the rocking chair, shotgun in hand. I looked down the path. Something howled farther across the main road. Inside, Helen shifted on the cot. I practiced aiming the gun toward the crook in the path.

That's where they'd come. Had the chimp not been on the path the night before, they might have come then. But Namwali never indicated how real wolves would attack. She probably didn't remember, exactly.

If they came I knew it would be quick. I was afraid, more perhaps for my human kin than Etgar. I still loved him. I told myself this—a way to keep my eyes opened and my mind focused on the path, the darkness at the other side of it.

Helen came out and told me she was willing to take watch. It had gotten quiet.

"You should get some rest," she said. I offered her the gun. She took it from me without speaking, held it against her chest, leaned in and kissed me on the lips.

I wished she would not have done it. This was Etgar's fiancée. Had been with him for so long. I knew I had made a mistake. I didn't know how to say it so I didn't. I didn't know anything, anymore. Etgar was my brother. I hated my brother. But I loved him for remembering us, for never being a perfect human being, so imperfect that he came back as swine.

"Stay with him," she whispered, pointing to the door.

He lay on his side across her blanket, lifted up and looked at me. I sat next to him. He didn't try to escape. I put my hand on his ribs and pretended to count.

"Don't know what we'll do," I said. I scratched behind his ear, leaned back against the wall and nodded off.

Pop.

The gunshot brought me back to the dark living room, Etgar squirming and running out to Helen.

I tell everyone who asks, I don't remember the man I used to be: A lump of tobacco stuck between my lip and gums, a notebook flung over my knee, a pencil rolling over the cement and pencil shavings crammed between the furls of my dirty khaki jeans. I remember people used to stare. That I loved reading books—for whatever reason I can't remember. Now, every time I'm alone with a book, I fan the pages and smell, but I hardly ever read. Most recently I read a how-to article on cars and engines that had belonged to Etgar. I read the labels on boxes the food trucks dumped into the square. Sometimes I helped sort them out according to the needs of the people who lived there, the animal-kin they kept dear. There was nothing beautiful about words anymore. Not on labels, nor included within instruction manuals, and our village doesn't have a library anymore. Those books were burned for warmth, years ago.

I have often wondered why I came back as Straub—why, when all my life has amounted to is the care of Namwali, Helen who barely looks at me, and Donna, who swears even today that being human is far worse than being insect.

If anyone asks me how being insect can be so wonderful, I give them a look and tell them there's no real responsibility. You eat and fly or crawl and hide. There is nothing painful about the life of an insect. And even such a short, minute existence must

lead to transcendental possibility.

Etgar's life as a pig ended the night of the attack. Namwali hid Donna beneath some old tops and gowns in the closet. I ran out to catch my brother.

Helen was shouting at the wolves as they stole around the corner. One leapt onto the car, bursting out the windshield. One lay dead on the porch's steps. They circled around us and started for the porch but veered off when Helen made another shot.

Pop.

The gun almost flung her down, the scatter hitting nothing but dust. The wolves yelped and hollered. One braved over to the porch and snapped at her ankles. Before I could snag Etgar, he jumped down the steps and made for the wolves, squealed after them as though drawing their attention away from us. I screamed after him. My voice cracked and my vision was like fire, all red.

Then the wolves were on him. Six of them. Snarling and pawing, tails flinging in the air. Namwali flew out onto the porch and jerked the shotgun from Helen and threw the barrel up.

Pop.

The scatter knocked two on their bellies and the rest started up toward the main road. Namwali shucked the gun, pulled the trigger and it clicked. The remaining injured wolves picked themselves up and limped out into the brush and disappeared. We ran out to get Etgar—chewed all over, clawed, a hole big as a fist torn into his throat by Namwali's shot. The wolf in her eyes expanded and ceased. Helen dropped down on her knees, put Etgar in her lap. Blood poured over her legs.

I covered my face with my hands. It was all I could do, all I could ever do. "Get Donna," Namwali said, pushing me away. I went back to the house to check on my sister, still crying beneath the mound of clothing in Namwali's closet.

So this is how we passed the year of our starvation: cut up the remains, bagged and dropped them into the cooler for as long as we would need to wait on the trucks. A pig can feed a family for days. As I looked down into the cold at Etgar's remains, I reminded myself that this was not my brother, but a pig. The real Etgar was somewhere else, now. We wondered how he would return, next. Whether he would come back to us at all. We thanked him for his gift of meat. Pan fried it in oil with a handful of wild onions.

We sat at the table, together, in silence. Helen opened her eyes to look. She touched my leg and I said nothing. Donna stared into space. Namwali, prodding her fork into the hot, pink ham, was the first to put it to her mouth. ❍

NEEDLEWORK

Lavie Tidhar

Lavie Tidhar is the World Fantasy, British Fantasy Award, and Campbell Award nominated author of *Osama,* as well as the Bookman Histories trilogy of steampunk novels. This prolific author of short stories and novellas grew up on a kibbutz in Israel and in post-apartheid South Africa, but currently resides in London. His first story for us tells the quiet tale of two young people whose lives and aspirations are affected by dreams of a future in the Up and Out.

1.

Bobby Nguyen studies under the tutelage of a Moroccan chef who wears pastel colors and swears in French, a language Bobby has a problem getting to grips with. Bobby studies molecular gastronomy, an advanced degree in which is essential if he is to get a job off-world. "Earth cooking can play at being art," Bobby's tutor tells him, over and over, "but out there, in space, cooking must be an exact science."

So Bobby learns all about the viscosity of eggs and the art of making meringue in a vacuum chamber; he learns to cook sausages using electrical batteries; he experiments endlessly with liquid nitrogen, freezing and shattering various foods; he studies enzymes and emulsifiers and how to use a centrifuge and cooking with lasers and carbon dioxide. Bobby is determined to pass the course with the best possible grades. Bobby is determined to go into space.

2.

Nhu and the girls in Hoi An work tirelessly with needle and thread; they are in their twenties and work keeps them from socializing and when they are amongst themselves, faces frowning in concentration and the heat of the tropical sun slithering into the room despite the best efforts of the air conditioner, making them sweat, they complain about still being single, and the low wages, but not too loudly.

It is pretty in Hoi An, at least in the old town, with the French Colonial streets and the river and the Hoi An lanterns hanging everywhere. Beyond the old town Hoi An is just like any other town, which is to say noisy and modern and filled with pollution and scooters and concrete and mass produced goods.

Not so in the old town, where everything is still hand-made, it is couture, an entire

industry rests on the nameless shoulders of the single girls of Vietnam; a hundred plus bespoke tailors in just this one small town, thousands more across the country and beyond the sea, in Paris and New York and in the Up and Out, in space, where one has to contend with different gravity or worse, no pull of gravity at all and *you* try sewing in free fall.

Nhu adopts a puppy. It's an adorable little thing, with a rough pink tongue and black button eyes and soft paws. When Nhu isn't working sewing silken space suits she likes to sit by the river with her girlfriends and drink sugarcane juice and play with the puppy. They eye the tourists and sometimes flirt with the younger men and practice their English or their French or their Chinese. Once Nhu went to Ha Noi and there, in the Chinese market, she bought a translator pack that is supposed to run simultaneous translations while you speak, in near a hundred languages, uploaded to her node but, when she speaks, all that comes out is gibberish and the foreigners, in turn, sound like propaganda cartoons from the time of the second American war.

Nhu strokes the puppy and looks up at the stars. If you watch long enough you can sometimes see the moving pinpricks of lights of industrial satellites moving in orbit, or the flame bursts of rocket-propelled reusable launch vehicles traveling to and from Gateway, the largest of Earth orbit's habitats, or indeed you can see the diamond glitter of Gateway itself. Space, Nhu sometimes thinks, is like bands of precious stones, rings of spun gold stretching from Earth outwards—the Moon like Cat's Eye opal, Mars like a Madeira citrine, the asteroids and their interwoven habitats a startling range, from a Mozambique garnet to onyx.

Nhu drinks her sugarcane juice and smiles at a young man with the unpracticed step of an off-worlder. Sometimes she dreams of going up there into space, rising like a dragon on a breath of fire, up there into the cold and the dark where the machines sing to each other.

She would go to a ball like the spacers do, it would be held in a castle, a castle in space, a vast edifice of obsidian and blue sapphire and flaming rubies, digested out of primordial rock by a Chinese manufactured nano-swarm and spat out, reformed, its molecules reformatted into the last word in chic and elegance.

She would enter the ball room, her steps light in the artificial gravity, and her dress of Vietnamese silk will billow around her, as magnificent as clouds, which some of these people have never seen. Each thread would have been worked by hand, each pattern and stone woven into the dress by single women working late into the night. She would wear long silken gloves and eyes vat-grown in the Kunming Labs, and their color would be the green of jade or the purple of amethyst. Yes, perhaps purple, she muses.

Her companion would be a burly man, not tall but bulky, with shifting living tattoos moving sensuously on his skin. His hair would be black and cut short and his eyes would be sensitive and caring and his own. He would be dressed immaculately, but carry it like a man who cares for more than clothes. He would be a gardener, she thinks, working the enormous bio-domes of a cargo ship or a habitat, someone who uses his hands, not a spaceship captain cocooned eternally in a conch or a crash harness, barely human, hooked up to the machines and the engines and the Conversation, that eternal to and fro of trans-solar network data.

They would step through the doors, into a spacers' ballroom, with drinks in suction bulbs and women and men from a dozen worlds and habitats—four-armed, red-skinned Martian Re-Born, decommissioned war drones, tentacle junkies, weather hackers, famous games worlds explorers, traders, missionaries, *artists*—a glamorous, sophisticated society, but she, Nhu, will not be fazed, or shy, she would be glowing, glamorous herself, she would be witty and charming and everyone would stare at her in envy, and at the man on her arm.

Nhu sighs and strokes the puppy and it licks her hand and she laughs. It's a warm night in Hoi An and her fingers are calloused and sore from the needlework.

3.

Bobby likes to go to an Irish pub in the Latin Quarter, a cheesy exercise in kitsch and the subversion of authenticity, as Siobhan tells him. Siobhan is a student at the Sorbonne doing her degree in Asteroid Pidgin Poetry, with a particular focus on the man who called himself Bashō. Bobby and his friends like to go to the pub to relax. It's like a European theme park and instead of karaoke booths they have a band and Irish dancing on weekends and imported Guinness. Bobby's closest friend at the school is Lucky Magoro who, despite his Nigerian surname, is from Malawi. They like to talk to the girls from the Sorbonne, who sometimes come back with them to taste reverse baked Alaska or egg-and-bacon ice-cream or liquid pea spherical ravioli, and who, in turn, tell them stories about the early days of space colonization, discoursing on the mythology of space. They tell them of Shambleau, the data-vampires, a gone-by bio-weapon let loose onto the spaceways, its victims become unwilling hunters who are hunted in their turn. They tell them stories of the Zion asteroid, which disappeared, and some said was the first of the Exodus ships, departing the solar system—"The people of Zion established a mind-shared communication network built around cannabis smoke," Siobhan tells them, smiling wickedly at Bobby, "an early cloud-mind example," she says. "But some say a new signal was introduced into the closed network of the asteroids, an alien signal, coming from beyond the system. It's only a myth—"

They exchange food for stories, steal kisses, gossip, drink beer and listen to the Irish music whose beat and tempo are like the sea crashing on wild, uninhabited shores. Siobhan doesn't want to go to space—"It's awful," she tells him one night, drunkenly, leaning on Bobby's shoulder—"I went to Mars, when I was young, my daddy took me. I couldn't bear the smell on board the ship! Everything so cramped, the air and food recycled. I felt sick the whole time."

Then, arriving on Mars, in Tong Yun City, the squalor of the streets astounded her—"Begging robotniks at every corner, with useless piles of obsolete spare parts at their feet, drinking pure alcohol to keep their ancient engines going, neither men nor machines but an unholy cross-breeding of both—"

She hated the narrow streets and the miles of underground levels—"We say space," she tells him—she is feeling maudlin by then—"but we mean the opposite. Everything *inside,* indoors, underground, within walls. They press on you. They close and make it hard to breathe. No privacy, communal showers, toilets and the smell! They sleep in bunks, in dormitories, one on top of the other like worker ants." She shudders.

Bobby sleeps in a dormitory. There are six of them, all boys, all studying molecular gastronomy under an indenture program with a Malay corporation with significant mining interests in the Belt. Bobby knows if he only works hard he will one day be sent up to Gateway, departing Charles de Gaulle or Kuala Lumpur International on board a Virgin RLV, rising conventionally before blasting off, higher and higher, achieving orbit.

From there by company ship, no doubt, to Ceres or Vesta, and from there to a constantly moving, slow, enormous factory ship, perhaps, from which the tiny mining craft will depart and to which they'll return: just like in the documentaries the company makes them watch. And he, Bobby, will live in such a dormitory again, only

larger, with more bodies pressed in more tightly, and his job would be to feed these people, these men and women of the Belt, feed them like a technician or a scientist: the very thought fills Bobby with pride.

4.

In the summer an entourage of off-worlders arrives in Hoi An, colonizing an entire hotel on the outskirts of the old town and led by a princess from a space habitat Emirate in the Jupiter-Saturn interzone. The princess—a tall woman with piercing blue (Armani) eyes, is set on ordering a two-year supply of dresses, frocks, suits and the like for her and her entire entourage, and Nhu and the girls are kept more busy than ever.

Nhu grows accustomed to the sight of the off-worlders walking through the old town, or drinking tea or sugarcane juice by the river. One in particular, a man called Halim, catches her eye. They meet occasionally. He would come, on behalf of his princess, to supervise the dress-making. Later Nhu would see him as she sits by the river with her friends. Once, he smiles, and asks to join her. He pulls a plastic chair over and sits down; the puppy takes to him immediately. Halim has an easy smile and a calm, confident way of moving without drawing attention to himself. His eyes are his own, but what draws her attention and makes her heart beat faster is Halim's thumb, which is a golden prosthetic.

It is an Other, a digital intelligence Joined to Halim, making two of them in that one body. Later she takes him home, to the room in her family's house, and when they make love she guides his hand, the warmth of the prosthetic surprising and exciting her and she thinks—there is an alien intelligence inside me.

This pattern repeats itself. Halim would come to inspect the dresses. He would pass by, later, when Nhu is sitting by the river. He would pull over a plastic chair and sit down and the puppy would run to him and lick his hand, though it avoided the Other. Sometimes, but only rarely, the look in Halim's eyes changes, without warning, and when he next speaks it is his Other speaking, the voice strangely different; but it never stays long.

After the sugarcane they would go to her house. She lives in a room on the second floor of the house, which also has her mother and father, her two brothers, a couple of aunts, their kids and husbands, and her grandmother, who insists on seeing Halim whenever he comes and when he does she stares deeply into his eyes, until his Other comes out, and then they speak, together, in a language Nhu doesn't understand.

Then Nhu and Halim go to Nhu's room, and close the door.

She loves those hot humid nights. In her room a fan turns lazily, and when they make love her hair sticks to her forehead with sweat. Halim's body is lean and muscled and has scars in unexpected places. "What do you do?" she asks him, once. He shrugs and smiles and doesn't answer. They speak by Asteroid Pidgin, mostly. "Wanem wok blong yu?" she'd say and he would shrug and smile and say, "No gat," which means *I don't have* or *Nothing* but really is just an evasion.

He never tells her that he loves her, but then, she takes comfort in the fact he never says he doesn't.

Then, one day, there are no more orders waiting when she comes to work. When she walks past the princess's hotel, later, it is empty, with only a couple of French tourists—he large with dreadlocks, she thin and in a flowing, ill-fitted dress—checking in.

She waits by the river, like she always does, even though she knows he won't come—that he is no longer there.

5.

Bobby has family in Paris and so he visits them some weekends. They live in a crowded flat on the outskirts of Paris and he has to change trains twice to get there. His aunt speaks to him in Vietnamese but his cousins are French-born and disdainful and he is awkward in their presence. His aunt makes stuffed squid and chicken with bamboo shoots and chili and Thai sticky rice and fusses over him. They have relatives who went to the Up and Out, to Ceres and Tong Yun and Lunar Port, and Bobby's aunt worries about Bobby managing all on his own up in space. "You need a wife," she tells him. "Or a husband—" looking at him sideways. Bobby just laughs, awkwardly.

Other weekends he spends with Siobhan, walking along the Seine, going back to her place when her roommates are out. When the weather is good they sit on a bench in the Jardin du Luxembourg, Siobhan's head on Bobby Nguyen's knees, and she recites poetry: Bashō's translation of Coleridge's *The Rime of the Ancient Mariner*? *Singsing blong olfala man blong solwota,* in Asteroid pidgin—or Tirosh's obscure *Remnants of God*, or the confessional perhaps-bible perhaps travel narrative of Ogko. When it rains they find shelter in cafes or dark oak paneled bars and sit, looking at each other over a hot drink, with the steam between them.

It fades off. As the year draws to a close they grow apart, gradually. A mutual separation as Siobhan prepares to head to North America, land of old money and a population on life support, wealthy and ensconced on their continent-wide fortress, there to work for a think tank on Earth-centric interests. As Bobby's course comes to its inevitable conclusion and he is soon to graduate, but then—

6.

Nhu cries but the tears dry. A new commission comes in, and then another, and another. The money she earns goes back to her family but she has a little of her own, too, saved away. Little by little, for she wants to buy the dream, she wants to buy that ticket to the stars.

The dream is a child's dream. As a girl she sat on her grandmother's knees and heard the stories. She pictures the asteroids like a literal belt, Ceres like a buckle, the smaller rocks like stones embedded in the leather of space. She pictures Mars like a tapestry in brilliant reds, the moon like a nightshift of the sheerest silk, Jupiter a bright orange clown suit.

The desire wells up in her. It is not because of Halim. She does not want to go to the Up and Out to find him. He is gone, and what he represented is gone with him. What she wants is for herself, this dream to hold on to, in Hoi An when the moon is full, when the light of the lanterns dances on the water and the smell of frying garlic fills the air.

She saves up and works and the calluses on her hands harden and she almost stops sitting by the river drinking sugarcane juice. At night lying on her bed, the dog at her feet, she opens her node and projects images of underground lunar cities, of busy workers swarming through the tunnels, of giant laundry rooms where the machines never stop, of hydroponic gardens the size of Ha Noi or Ho Chi Minh City, of relaxation areas where men and women sit on divans in euphoric stupor with lotus-like machines rotating between them, and water gurgles in glass as smoke is released. She falls asleep with the images still playing in her eyes, endlessly, randomly changing.

7.

Bobby is back in Viet Nam, and he isn't sure how he feels about it. He is sort of numb, as he gets off at Da Nang airport, having taken a sub-orbital from Paris to Ha Noi and a slow airship from Ha Noi to Da Nang. Then a bus to Hoi An, the sea on his right, and the smell of his country washes over him and into him, molecules of scent tickling the olfactory receptor cells, the signal converted into neuron transmissions that sizzle in that quantum network that is Bobby's brain.

The supervisors were very understanding and they have given him time to go, but they all understand his time is limited. There's a shortage of cooks in the Up and Out and the training program has cost dearly. Bobby doesn't mind. He appreciates their generosity.

He comes home, in time for the funeral.

8.

Nhu sits by the river drinking sugarcane juice when he walks past. Nhu squints, having that reaction you get when you see someone you think you recognize, but can't quite put into context. . . . She says, "Bobby? Bobby Nguyen?"

Bobby had called himself that since he was a child. Had liked the name, from which movie or novel he took it no one in their class quite knows. But it stuck. He turns to look at her, with that same lost reaction in his eyes. "It's Nhu," she says.

Time floods back into his eyes. It's like a light, turning them amber. "Nhu?" he says. Then, shyly, "Hi."

She laughs. He smiles, and without asking pulls a chair and sits. He looks ridiculous, hunched up in that too-small plastic seat. "Long time."

She can't help it, she laughs again. He smiles in puzzlement but it's infectious, and he joins her, just like that, the both of them, rolling on the floor, almost, with the sugarcane juice seller looking on in irritation and the dog running in circles, barking in excitement.

"I'm sorry about your mother," Nhu says, later.

"Thank you."

He buys a glass of juice. Tells Nhu all about the properties of sugar, the miracles of H_2O. How heat, or motion, can change the nature of a thing into another thing. His fingers are warm. He smells, faintly, of lemongrass and vanilla pods.

Later the lanterns are turned off, one by one, and the night is dark. They sit there without speaking and look at stars, so close you could almost reach a hand and touch them. ❍

MONDAY'S MONK

Jason Sanford

Jason Sanford served with the U.S. Peace Corps in Thailand, where he had the opportunity to study and work with monks from several Buddhist monasteries, including Wat Pah Nanachat, which led to the inspiration for "Monday's Monk." Jason's fiction has been published in *Asimov's, Interzone, Year's Best SF 14, Analog,* and other venues. The author's collection, *Never Never Stories,* is now available. Readers can learn more about Jason at *www.jasonsanford.com*.

Somchai chanted calmly as *Nong* Tam's body twitched a final time—the flames flickering high in the sky, the charred scent of his best friend's flesh dancing to the breeze. Somchai sat as close to the funeral pyre as he could bear, intoning different Buddhist sutras as he sweated under his decaying orange robes.

But as the sacred words fell from Somchai's lips he felt unable to truly meditate on these aspects of the noble truths. Instead, he watched in horror as Tam jumped and kicked in the flames. She'd been dead! She'd been gone! Her body cut into so many pieces she'd resembled a jigsaw puzzle instead of the temporary vessel once known as Boomtam Teeravit.

All life is suffering, he told himself, trying to act like a proper Buddhist monk even though he felt far from one in his heart.

And still she kicked. And still she shrieked silent screams. And then as if a mechanical switch clicked off, all motion in the pyre stopped except for the rush of flames.

Somchai fingered the remains of the holy *sai sin* thread in his lap, which had bound Tam's severed hands, enabling her to clasp a single lotus flower to her breasts. He hadn't seen Tam in years and had believed her dead—or escaped to one of the cold lands like New Zealand where nano was still embraced—until the Blues brought her body to his charnel grounds.

He'd immediately known the militia members were testing him. Seeing if he'd protest Tam's death. Seeing if he'd remain detached from their fight.

But despite this, the Blues still honored Tam. They'd stacked her funeral pyre with the best aged wood for a quick, hot fire. They pieced her body together and clothed her in white robes before gracing her forehead with white flower garlands. And in a final honor Seh Náam, the fearsome leader of the Blue militia, personally arranged Tam's severed head so she could see Somchai as he sat before her and chanted.

On seeing Somchai in his orange robes, Tam's beautiful face had smiled. She'd tried to speak, but no sounds escaped her lips because of her severed throat. She'd merely blown him a kiss and closed her eyes, listening to his chanting until the flames exploded around her.

Even though Somchai knew clinging to emotions was delusional, seeing Tam's

beautiful eyes rocked him like lightning jumping through a storm. He felt happiness at being with Tam again, even if only briefly. Satisfaction at his friend seeing that he'd indeed become a monk. Sadness at her painful death. And loneliness. Loneliness above all.

Because now Tam was truly gone.

Normally Somchai meditated on impermanence until each funeral pyre reduced to coals, but today he couldn't calm his thoughts. With his chanting finished, he searched for his bone-toothed rake, wishing to stir the embers to ensure every part of Tam's body burned completely.

But the rake was not where he'd left it in the massive shade of the temple's bo tree. Instead, it rested in Seh Náam's hands.

"*Than* Jaan," Seh Náam said, using a shortened version of Somchai's ordained name, Phra Wan Jaan. "You know the fire must burn down before one stirs the embers. Otherwise the nano is still dangerous. If you wait a bit, I'd be honored to join you in this duty."

Somchai nodded slightly. It wasn't wise to disagree with the leader of the Blues.

Seh Náam was tall and lean even in his seventieth decade of life, his tight-lined face shoving forth beliefs in muscle and strength to anyone who dared meet his gaze. He wore the dark-blue shirt and pants of an ordinary Thai farmer and his feet were bound in simple sandals cut from old tires. When Seh Náam had founded the Blues, he'd chosen these clothes to convey his movement's rejection of the world brought on by nanotech. And even though the Blues had killed and burned their way across Thailand for the last five years, this aspect of their purity hadn't changed. All of the two dozen militia members sitting around the temple wore the same dark-blue clothes.

"I'm impressed," Seh Náam said, speaking softly and gesturing for Somchai to walk with him. "When we killed Boomtam Teeravit, there were those who said you'd yield to temptation. That you'd beg for her life even though she was already dead."

Somchai again thought of Tam's severed head watching him. Of her lips smiling at him. "One realm of Buddhist thought says if you meet the Buddha on the road, you must kill him. Otherwise, you'll remain trapped within the cycle of rebirth."

Seh Náam smiled. "As long as you don't taint yourself with actual killing. Leave that to us."

"I actually obsess on this at times. Tam's head—she smiled at me. She tried to talk before the flames reached her. And she screamed as if in pain."

Seh Náam smiled again, a hungry tiger smile, which was not meant to reassure Somchai. "*Than* Jaan, if you wish we will not bring the bodies here. We can burn them like we used to, without any rites."

"That wouldn't be proper."

"I'll be the first to admit I'm not a very good Buddhist. But I do know death is the only event in a person's life worth honoring. Or at least, that was true until nano came along."

"It's still true."

"Then honor the dead. When people learn they'll no longer live forever, they experience true suffering. But when we mention that despite their sins they'll still be honored with a funeral, perhaps their suffering eases. You are doing your part to end suffering. Nothing more matters."

With that, Seh Náam waved at his unit. The men and women jumped up, shouldering rifles and wand-like nano detectors. One young woman ran over to Somchai and Seh Náam and *wai*ed deeply as she held out a small, red notebook. The woman's hands trembled slightly and her eyes darted back and forth, suggesting she'd recently popped *yaa baa* pills.

"Ah yes," Seh Náam said, taking the old-fashioned notebook and handing it to Somchai. "It would be a lie to say I forgot; rather, I hated to bear so much bad news in

one day. When we caught your friend, she had this with her. She begged me to deliver it to you."

Seh Náam shook his head, as if debating whether to give the book to Somchai. "After reading what's inside, I was tempted to burn the notebook because it will only cause you pain. But Boomtam wrote this in pen and paper. We should all respect such old-fashioned tenacity."

Somchai opened the red notebook, which resembled those handed out by the poor school he and Tam had attended as kids. Sure enough, stamped on the inside cover was the school's seal and code. Written beside it in Tam's beautiful Thai script were the words "I love Somchai."

Seh Náam was right—this would cause pain.

As if enjoying such truths, the militia leader laughed deeply as his unit walked off to find more nano-infested people.

After the militia left, Somchai carried Tam's notebook with him as he made his evening temple rounds. He was pretty sure there were no monastic prohibitions against reading the personal diary of a dead friend, but he wasn't certain. Not for the first time he wished the other monks were still alive to share their knowledge and wisdom.

But there was no way he could stop himself from reading Tam's final words, so that was that.

As usual, there was no one but Somchai in the temple. The once golden paint of the curved-roof *bot* had paled over the last few years and now looked merely tan, while the sparkling glass impressed in the cement barely shone through the many layers of hardened ash.

At least Somchai had been able to keep the *ubosot,* or consecrated hall, clean. Every afternoon after meditating he mopped the hall's teak wood floors and washed the paneling. But without a community of monks to work alongside him, there was little he could do about the temple's other buildings. His cleaning was also hampered by the increasing amounts of time devoted to his morning alms rounds. He now walked to a village more than an hour away before anyone would give him the food he needed to survive.

In fact, even in that village his only reliable food came from a woman who sold black-market kerosene. The woman always smirked as she placed rice in Somchai's alms bowl, amused that people considered a monk like him lower than a thief like herself.

Somchai knew the villagers' dislike for him was only one reason his temple was now shunned. The other was the charnel grounds. People feared the nano there. Feared it might infect them and bring the Blues down upon their families.

Still carrying Tam's notebook, Somchai picked up his bone rake, a bottle of water, and his umbrella tent. He walked the bare-dirt path behind the temple, the ground around him burned empty of plants and leaves. Most of the pine trees were also burned bare, their empty branches reaching skeleton fingers to the sky. Every tree bore the deep grey paint of ash.

Under the trees lay hundreds of bones. Thousands. All human. A rib cage half rose from the ground in front of him. A putrefying corpse, half burned and naked, lay off to the right. Detached arms reached out from both sides of a small pine. Half-starved dogs growled at Somchai as they dragged bones and meat away. From the tree tops, crows challenged him.

But Somchai didn't stop here. This part of the charnel grounds was for those not infected with nano—for those Blues who'd died in their fight to keep death in the world. The Blues liked old fashioned charnel grounds. Walking here was disturbing,

but also made Somchai feel a connection to the monks of centuries past who had no doubt maintained similar grounds.

Thankfully, the nano section of the charnel grounds was far easier to contemplate. Because the Blues needed to ensure the destruction of nanoteched bodies, these cremation fires were larger and hotter. Here existed no bones or body parts, only ash and the still smoking embers from today's fires.

As Somchai stood next to Tam's burned remains, he remembered Seh Náam's comment about helping him rake the pyre. Obviously those had been words to be spoken but not acted upon. A stab of anger burst through Somchai before he released the emotion and focused on raking to and fro through the embers.

The raking calmed him and his mind soon cleared. The fire had been hot enough that all the meat from Tam's body was gone, and many of her larger bones were burned through. For a moment he imagined pulling her bones from the embers and cooling them with water. He could hide them in the dust under the *ubosot*. If he continually poured water on her bones and gave them enough carbon—perhaps raiding the temple's compost piles—the surviving nanotech might rebuild Tam's body. The tiny life-like mechanisms could recreate the hands that had once held him and the lips that had kissed him and even the memories and soul which had loved him. Everything needed to recreate Tam was bound up in the nano inside her bones. If any of her nano still existed.

But instead of pulling out the bones, Somchai raked the coals over so they'd continue to burn. He couldn't ask Tam to suffer the pains of recreation merely because he missed her.

Once he finished raking the coals, Somchai set up his tent umbrella, released its mosquito netting, and climbed inside. He began to read Tam's diary.

Had he loved Tam? Perhaps. Definitely as a friend. Likely as so much more.

Somchai knew why the Blues had spent so many years searching for Tam—after all, she'd been extremely vocal in her support of nano. Even as people decried nano for changing the expected order of life, Tam had taken to the barricades and screamed, "Why not? Why not change life? Why accept your lowly place merely because those higher up deem it correct?"

Tam had always been defiant, even as a child. Her parents dealt in *yaa baa*, or speed, and had been murdered when she was seven. They'd both grown up in the squalid cinderblock apartments of the Bangkok suburbs, where the brown waters of the Chao Phraya River overflowed in the rainy season and the once-white buildings bled black to mildew even in the dry months.

Somchai, who was only a few months older than Tam, had never known his father or anyplace other than those horrid apartment blocks. To make ends meet he helped his mother sell *johk*—rice soup—every morning from their pushcart before he walked to school.

One day a dirty little barefoot girl ran up and stole a bowl of soup from a customer, somehow running down the crowded alleys without spilling a single drop. She reappeared the next day and did the same.

On the third day Somchai chased the girl half a kilometer before catching her. When he grabbed her arm she spilled the *johk* and began to cry.

"You can't cry," Somchai said, incredulous. "It's my *johk*."

The girl snorted hard, pulling back her tears. "It was my meal."

"Don't you know the Five Precepts? Stealing will cause you to be reborn as a hungry ghost."

"Better than coming back as a stupid water buffalo who only eats *johk* over and over. You should burn your long sticky buffalo tongue in it. *Johk johk johk!*"

Shocked by being called a buffalo—the worst of insults—Somchai glared at the girl, wanting to hit her. But then the image of a buffalo eating *johk* and burning its tongue jumped to his mind. Despite his anger, he grinned. The girl grinned back.

"Least you can do is ask before you steal," Somchai said.

"Only from friends," the girl said.

Her name, of course, was Boomtam Teeravit. *Nong* Tam. Little sister Tam. Somchai led Tam back to his mother's *johk* stand and said they had to take care of this orphaned girl. His mother had protested—there were temples that looked after orphans. But Somchai insisted. When his mother refused, Somchai told Tam to be at their stand the next morning, where he promptly gave her his own breakfast and refused to eat until they took in the girl.

Neither Tam nor Somchai's mother believed the threat, but sure enough Somchai didn't eat anything that day or the next. Soon his skinny face shrank and his stomach shrieked loud enough to wake even the hungriest of ghosts. Every morning Somchai sat at the folding table in front of their stand and watched the customers buying breakfast. But despite his mother's pleading, he refused to eat.

Tam was impressed. "I can't believe you're doing this," she said on the third day of his fast. "You truly have the heart of the Buddha."

On the fourth day, Somchai's mother placed a giant bowl of *johk* before her son, with three freshly cracked eggs floating in the middle of the soupy rice. "Fine," his mother said. "But you're responsible for her. Never forget that."

Somchai stared at the hot food and nodded, his body shaking from hunger. As he shoveled food in his mouth, Tam grinned.

"I was wrong," Tam said mischievously. "You don't have the heart of the Buddha—you have his stomach."

Somchai laughed so hard he almost choked on his soup.

The description of Tam stealing the *johk* was the first entry in her diary. Somchai looked at the date and realized Tam must have written it a few months after coming to live with him and his mother.

He read on. The days of his youth passed again but in the strangest manner, seen through the eyes of one who'd lived a similar but slightly different life. There was a funny entry about the time Somchai and Tam swam in the floodwaters of the Chao Phraya and thought they saw a crocodile. Even though crocodiles had long been extinct in Thailand, they spent all night in a tree, afraid to climb back into the water.

There were also long descriptions of their school, where the monks taught math and science, subjects in which Tam excelled. She'd always dreamed of going to college—many of her entries talked about her attempts to land scholarships, even though she lacked the needed connections.

When Somchai read Tam's description of his mother's death during their last year of high school, tears fell across his orange robe. He remembered Tam holding him all night after the funeral, even though as the older one he should have comforted her.

The final entries were all Tam's hopes for the future—her dream to one day attend college. Her desire to be a good person. And most of all, her dream of marrying Somchai. Of having him no longer see her as his adopted little sister but instead as the person he was destined to spend his life with.

And there the diary ended. After his mother's death they'd both gone to work in the factories. Somchai knew why no entries mentioned that backbreaking work—they'd hated their jobs. Without his mother they also couldn't afford their cheap apartment and had moved into a dormitory, where only the poorest workers lived.

Somchai flipped through the blank pages of the diary, looking for any other mention of Tam's life after they'd left home. There was none.

But on the very back page were two words: "My dream." Next to the words was a date from only a week before Tam's death.

Somchai flipped through the diary several times, trying to understand what that meant. Did she mean her entire life had been nothing more than a dream? Or had she intended to write more about her dreams for the future?

He likely would never know.

After finishing the diary, Somchai stayed in the charnel grounds, trying to mediate on Tam's final words. However, the drone of sleep was powerful. He remembered the admonishments from his abbot, who'd called him the worst monk the man had even known. "Do you even know the difference between sleep and meditation?" the abbot once asked with a laugh.

The first time Somchai woke Tam's pyre barely glowed. He stepped out from under his umbrella's mosquito netting and raked the coals, jumping small flames that quickly died back to a warm glow.

When next he woke, though, Somchai heard whispered voices around him and footsteps in the ash and dirt. Even though he rationally knew ghosts didn't exist, he was afraid to open his eyes. He could feel the ghosts standing all around him. Could taste their fury at the fate *karma* created for them.

He sat with his legs crossed and tried to chant, but the footsteps grew closer. The voices screamed in his ears. He remembered how Tam had loved those silly ghost movies when they were growing up. How she'd made him watch them on their ancient player even though he covered his eyes most of the time.

This was the same. Except this was real.

But just as he was about to open his eyes and flee, he felt a warm touch on his hands. Tam's touch. He smelled her sweet body beside his. Felt her kiss his lips with her own.

Somchai knew that allowing a female ghost to touch him violated his vows, but he didn't care.

"Open your eyes," Tam whispered. But he couldn't. This was likely a demon trying to trick him. The moment he looked she'd be gone.

So he kept his eyes closed and pretended life had gone as Tam dreamed it, and that he had never left her side.

A lie is not a lie if I only tell it to myself, he thought before he finally fell back asleep.

In the morning Tam's embers were ash. Somchai looked across the ash-gray ground and saw no footprints.

So Tam was a ghost, he thought. Or a demon had tested him.

For the next week Somchai fell back into his routine. He swept and mopped the *ubosot* each morning and walked his alms rounds, where he discovered, to his happiness, that the kerosene thief was in a good mood and one day placed a fresh-cooked egg in his alms bowl. After returning from his alms rounds he ate his meals and chanted and meditated as best he could. But instead of sleeping in his tiny wood-stilt *kuti* each night he set up his umbrella and slept in the charnel grounds. He gave up meditating on detachment and simply prayed Tam would return.

She didn't.

But on the following Monday, Seh Náam and the Blues did.

Somchai stood in front of the *ubosot* as the Blues drove three trucks onto the temple grounds. The first two trucks carried wood while the third contained the bodies of dozens of people. Normally Somchai stared hard at the bodies, trying to meditate on impermanence, but today he didn't even spare a glance.

"Are you well, *Than* Jaan?" Seh Náam asked. "You seem distracted."

"I suppose I am," Somchai said. "I've spent the last week meditating in the charnel grounds."

"I hope this new fervor wasn't caused by your friend's notebook."

Somchai took a breath to calm himself—he'd hidden Tam's diary in the temple's consecrated hall so he could read it each morning after his alms rounds. But he wasn't about to mention that. Instead, he muttered about ghosts visiting him at night. Like many Thai people, Seh Náam believed in the supernatural, so no further explanation was needed.

Somchai and Seh Náam followed the trucks to the charnel grounds, where the Blues stacked the wood and arranged the bodies on the pyres. As Somchai watched the Blues unload the bodies, he noticed they weren't cut up.

"Yes," Seh Náam said, following his gaze. "No nano in these."

"Then we should do the rites where the Blues are burned."

"These aren't Blues. These are people who merely desired to have nano inserted into their bodies."

Somchai paused. "How do you know this?" he asked.

"How do we know anything? All knowledge is illusion."

Somchai stepped back from Seh Náam and gazed at him, extremely disturbed. "This is wrong. You must know that."

"I do. And it is also what must be done."

Seh Náam grinned at Somchai, daring him to protest further. Somchai remembered how, when the purges started five years earlier, a group of refugees had hidden from the Blues on the monastery grounds. When Seh Náam and his followers arrived to kill the refugees the monks formed a line before the militia, refusing to let them pass. Somchai stood with his fellow monks—fear quaking his body as he wondered why he risked death to protect nano lovers—as their abbot walked up to Seh Náam.

The abbot was an ancient monk who walked with a cane and barely reached Seh Náam's shoulder. For a moment Seh Náam smiled, obviously not impressed. However, Somchai knew better than to doubt the old man. While the abbot often laughed at everything—he'd given Somchai the ordained name of Phra Wan Jaan, or Monday's Monk, because the abbot didn't expect him to stay a monk beyond that day—the abbot wasn't weak. Somchai had often been smacked with surprising strength by the abbot's cane when he'd fallen asleep during chanting. So he wasn't surprised by the abbot facing down Seh Náam.

"Will you kill monks to achieve your goal?" the abbot asked Seh Náam. "That will only take you down the path of *Asura*, the demon of blood and war."

Seh Náam glanced at his militia members and waved them forward, guns at the ready. Behind the line of monks the refugees screamed and begged. Somchai knew that no matter how long he and the monks stood here, they couldn't stop what was coming.

The abbot realized the same thing, because as Seh Náam tried to step around him, he shifted his cane and tripped the great leader of the Blues. Seh Náam fell face first into the dust as the abbot laughed.

"Yes, you are so fearsome," the abbot said. "Killing helpless women and children. But the truth is your deeds are only worth laughing at."

To Somchai's horror, the other monks followed the abbot's lead and laughed at Seh Náam, causing the militia leader's skin to burn red at losing face in front of his men. Seh Náam pulled a pistol and shot the abbot in the head as his men aimed at the other monks. Somchai ran as the shots zinged by, pushing past the refugees until he reached the *ubosot.* He slipped on the consecrated hall's teak floor and slid against the large statue of the Buddha. Somchai bowed low and tried to chant, but no words came. He tried to meditate, but no calm reached him. Outside the gunshots rang for days into hours into minutes.

Tears ran down his face as footsteps walked up behind him.

"You didn't laugh," Seh Náam's deep voice said. "Remember that, when you wonder why you lived. It's because you didn't laugh."

Somchai bowed deeply before the statue, pretending he was prostrating himself before the Buddha. But as Seh Náam's footsteps walked out of the hall, he knew the Buddha wasn't the only thing he'd submitted before.

That old realization now flashed through Somchai, much to his shame, as he again faced Seh Náam. The Blues had stopped unloading the dead bodies from the truck and nervously watched their leader.

"If you're killing people merely because you suspect them of desiring nano," Somchai said in a trembling voice, "you've truly embarked on a path you'll never return from." Somchai stared at the ashy ground, unable to meet Seh Náam's eyes.

"I remember your abbot saying similar words many years ago. But *Than* Jaan, you are nowhere near the monk your abbot was."

"No, I'm not. He was a great monk, unlike me. But that doesn't make what I'm saying any less true."

Somchai tucked his hands under the folds of his robes to hide their shaking. He waited for Seh Náam to kill him like he'd killed the abbot and the other monks.

But instead, Seh Náam laughed and clasped Somchai on the shoulder. "While you are indeed a poor excuse for a monk, you're also correct. But these killings are not on you, are they? Whether you think we justly killed these people or murdered them, do they not deserve their final rites?"

Somchai looked at Seh Náam's face, puzzled by the polite request. But Seh Náam didn't explain more and merely waited for Somchai to make up his mind.

Knowing nothing more to say, Somchai nodded for the militia to finish setting up the pyres.

After the Blues left Somchai again set up his umbrella net before the smoldering funeral pyres. He chanted well into the night before, as was always the case, he fell asleep.

When he woke, he sat crosslegged on a floor mat in Tam's tiny cinderblock apartment. He looked around, puzzled. The last time he'd seen Tam had been in these rooms, which she'd moved into after working for several years in the factory. But that had been more than five years ago, shortly before he'd become a monk.

In front of him sat an ancient TV, playing one of the hokey Thai ghost films that Tam loved and Somchai hated. In the corner rested a beat-up desk and the even older computer Tam used to organize people on the issue of nanotech. And instead of his orange monk's robes, he wore a T-shirt and pants.

Somchai smiled as he realized he must be dreaming.

"It's not a dream, buffalo brain," Tam said with a smile as she opened the apartment door. She wore the blue uniform from her night shift at the solar panel factory and held a sack of food, which smelled of sticky rice and *som tam*. "Not very noble eats," she said. "Hardly worth giving to a monk. But you're still welcome to share."

Somchai thanked her even as he tried remembering the last time he'd eaten such delicious food. The villagers on his alms rounds only gave him jasmine rice and an occasional piece of tough chicken or a boiled egg.

They ate on the floor mat and watched a horror movie about a *Phii Krasue*—a ghostly head floating over a glowing heart and entrails—which ripped into the intestines of victims, flicking its long tongue out to feed off their blood. Somchai shivered and looked away, to Tam's obvious amusement. Somchai so loved being with Tam he tried to push from his mind that this was only a dream.

"Don't be silly," Tam said. "I already told you this isn't a dream."

"So you say. I remember the last time I was in your apartment. You called me a

buffalo—and a lot of other names—because I wouldn't join your protest movement. Now you're dead and I've chanted over your funeral pyre."

Tam pursed her lips. "You know, Seh Náam's correct—you're not a very good monk."

Somchai bowed his head. "No, I'm not. When the abbot and the other monks tried to protect people, I ran. When you protested against the nano crackdown, I ran."

"But you stood up to Seh Náam today. And you've tried to do your duty all these years. Surely even the Buddha can't fault you for that."

Somchai wanted to cry—to feel big undignified tears fall from his face. If he'd done his duty he would have stood with the abbot and his fellow monks when they tried to save those villagers. If he'd done his duty, he would have stood by Tam instead of running away and becoming a monk.

"Why did you give me your diary?" he asked.

"It was my dream. I thought you'd understand."

Somchai nodded sadly. He did understand, and it pained him more than anything he'd ever known. He wished he had been the person Tam described in her diary. He wished they could have lived their lives together, as she'd wanted.

"That's why I gave you the diary," Tam whispered in his ear. "It was my dream. And now it'll come true."

Somchai started to ask what she meant, but before he could the *Phii Krasue* on the TV tore into another screaming victim. Even though Somchai was certain this ghost was the silliest thing he'd ever seen—especially after all the horrors of the charnel grounds—he still looked away. Tam reached out and gripped his hand tight.

Tam leaned in to kiss him. As their lips met, Somchai saw their life. Saw the happiness they'd have together. Saw them living in this very apartment. Saw them working all day before coming home to each other. Saw them using their free time to protest the Blues' attack on nano.

They marched through downtown Bangkok, banners held high, demanding the same access to nano as the elite. People poured out of the city to join their movement—thousands of people. People Somchai had never met but who now seemed so familiar to him. The crowds greeted him by name and whispered how happy they were that he and Tam were finally together.

Somchai gripped Tam's hand and smiled.

And then they were back in the apartment, kissing.

"I wish this could go on forever," Somchai said when their embrace ended.

"Then keep the fires going."

And with that, he woke.

In the nights that followed, Somchai did as Tam said and kept the fires going, dragging wood to the charnel grounds so the flames and embers stayed hot. In return, each night he dreamed of Tam. They built a new life—the life Tam had always dreamed about and which he'd been a fool to walk out of. Each night of dreaming seemed to stretch into months of living together with Tam.

And as the fires burned on, Somchai began to dream of other people. Not in the manner of the random people who flickered absently in his dreams, but real people like Tam. People whose bodies he had seen in passing when the Blues delivered them for their final rites. These people joined him and Tam in building a new life. A new Bangkok.

One night, while snuggling with Tam as they watched another silly ghost story in their little apartment, Somchai realized he had to ask.

"It's the nano," Tam said softly, as if speaking to a slow student in school. "The fire reactivates it. Restimulates the nano that once existed in all our bodies."

Somchai nodded. While he'd never been as good a student as Tam, he knew that the tiny mechanisms stored information about every aspect of their host's body. DNA

strands, immune responses, individual memories. If what Tam was saying was correct, the nano had survived the funeral pyres in the charnel grounds.

"Wait," he said. "Does this mean the leftover nano is in me too?"

"Does that bother you?" Tam asked.

"No."

"A wise answer," she said as she snuggled closer.

Their new lives went on well into the dry season. Now that Somchai knew the essence of people survived the death of their bodies, he gratefully accepted each corpse the Blues brought him.

Seh Náam was amazed at the change in Somchai's behavior. "It's like you've taken a step on the path to enlightenment," the old militia leader said one day.

"Nonsense," Somchai replied. "I'm actually the worst excuse for a monk who ever lived. Do you know that I still think of myself by my given name? Or dream of the life I could have had with Tam? I've been totally unable to let go of the joys and horrors in my life."

Seh Náam nodded, impressed by Somchai's words. "Perhaps," he said, "but I wonder . . ."

But what he wondered Somchai didn't learn. With a big frown, Seh Náam boarded one of the militia's trucks and drove away.

In the following months Somchai didn't worry anymore about Seh Náam. He knew the Blues were still killing people around the country, but he also knew these deaths weren't truly final. Each night he experienced this truth as only Tam could teach him.

That year was the hottest and driest Somchai had ever seen. He tried explaining to Tam how the trees wilted and the streams ran dry, but none of that mattered to her. In their shared dream they held hands as they walked along a pier over the Chao Phraya. But not the polluted river they'd known as kids. Instead, the waters flowed clean and pure and wrapped them in nothing but the warm chill of peace.

"But this is merely a dream," he said. "While I love being with you, and know that you and everyone else here is having a second chance at life, that doesn't change the fact that this is still a dream."

Tam stepped back from him, an irritated look running over her face. She flicked a hand through her long, black hair. "Ah me," she said. "It's still about you, isn't it? All this is happening only for your benefit."

Somchai started to protest, but before he could stammer an apology he felt laughter rising from the city around him, almost as if everyone else had heard his comment. Distracted, he didn't notice Tam pushing him until it was too late. He fell backward off the pier and landed in the river with a massive splash.

Giggling, Tam reached down and helped Somchai climb back out.

"You are right," she said. "This is merely a dream. But we're learning. Building. By finding ways to network all of our individual nanotech, maybe we can even find a way to change the world that rejected us."

Tam squeezed Somchai's hand. Then, as if hearing someone else talking, she looked off to the side and nodded. "It's time for you to wake," she said.

The next moment Somchai sat in the charnel grounds. He stretched as he climbed out from beneath his umbrella and smiled at the rising sun. Today would be hot, he knew. Not that he cared. All that mattered was making it through the day until he could spend another night dreaming alongside Tam and the others.

As he folded his umbrella, Somchai wondered what Tam had meant by finding a way to change the real world. But then, beside where he'd slept, he saw the answer.

A smiling face grinned at him from the ash—etched there as if by unseen fingers.

* * *

But making it through the day would be much harder than Somchai imagined.

While Somchai cleaned the *ubosot,* Seh Náam and the Blues drove onto the temple grounds. Instead of their usual convoy of wood and bodies, only a single truck stopped. Seh Náam and two militia members stepped out.

"We need to talk, *Than* Jaan," Seh Náam said. Somchai nodded, grinning as he walked over. He no longer feared anything this man could do to him. Tam had shown him that life was no longer as limited as he'd once believed.

But instead of talking, Seh Náam gestured toward the militia member to his right. The soldier aimed a rod-like nano detector at Somchai before showing the results to Seh Náam.

"As I suspected," Seh Náam said. "*Than* Jaan, it is my sad duty to inform you that you're infected with nano."

"I see. Well, such is life."

Seh Náam nodded. "You understand what we must do?"

"Of course. I only hope you'll give me the same rites I've performed for so many others."

Seh Náam smiled, the same tiger smile he'd often worn with pride—a smile Somchai hadn't seen on the man's face in so long. Despite believing he no longer feared this man, Somchai shivered inside his robes.

"I'm afraid we can't give you a funeral pyre," Seh Náam said. "We've done testing and it turns out nano is kept active by heat. Somehow the flames stimulate the nano, cause them to multiply as if they were still within a human body. Perhaps you've noticed this during your 'meditations' in the charnel grounds."

Somchai knew that how he answered would dictate how painfully he died. Did Seh Náam know he'd been communicating with Tam and the others? Perhaps he did. Seh Náam mentioned they'd done testing.

"So that's how I was exposed," Somchai muttered, acting as if he was too dim to understand what had happened.

"Yes, obviously. But did you notice anything strange in the charnel grounds?"

"No. But you're welcome to stay tonight and see for yourself."

"That won't be necessary," Seh Náam said with a snort. "We have a chemical that will deactive the nano. First thing in the morning we'll spray everything down and be done with this mess."

Seh Náam nodded to one of the militia members, who pulled a pistol. Somchai watched as the man's pistol rose toward his head. He knew he was about to die. And for the first time in his life, he wasn't afraid of true death. But he couldn't let Tam and the others be killed a second, final time.

"Wa . . . wait," he said. The militia member held his pistol still, waiting for Seh Náam's order.

"I can't let you live, *Than* Jaan."

"It's not that. I merely want a chance to ready the temple and myself for my death. As you once said, death is the only event in a person's life worth honoring."

For a moment Somchai didn't know if Seh Náam would bite, but the militia leader laughed softly. "You're not a very good monk, *Than* Jaan."

"You speak the truth. But all I ask is until morning to prepare."

"Very well. But if you try to flee, I'll not only catch you, I will kill you very very slowly. I trust you've seen enough of my works to know that I am, once again, speaking the truth."

Somchai had indeed.

By the time the Blues left the sun had already set for the night. Somchai wanted to flee to the charnel grounds—to warn Tam and the others. They'd drawn that smiling face in the ash, so obviously they were learning to affect things in the real world.

But he also knew they weren't ready. The small fires he'd kept burning had barely given their nanotech enough energy to recreate a semblance of their old lives. To have a chance to fully live, free from any danger from the Blues, they needed more energy than a small fire would ever give.

Nodding his head with determination, Somchai walked into the night, needing to reach the distant village that provided him with food.

As he walked the dark road, bamboo knocked against itself and quicksilver clouds were backlit before a quarter moon. Somchai remembered the science lessons Tam had loved as a child—how the moon merely reflected the energy thrown at it by the sun. The universe—from the bamboo around him to the sun to the distant stars filling the night sky—everything flowed to energy. If he could only give Tam and the others a little time, perhaps they could tap into this boundless energy and live on.

Somchai reached the village shortly after midnight. A few dogs barked but no people noticed his passing.

He quickly reached the house of the woman who sold black-market kerosene. Even though his stomach grumbled as if expecting food—he remembered Tam once talking about Pavlov's dogs and their cursed bell, causing him to grin—he walked quietly to the rear of the house. The woman's ancient truck sat there, a large tanker of kerosene on the rear bed. Because the woman worked for the local crime syndicate she probably figured no one would be stupid enough to steal from her. She'd never even bothered putting a pass system on the truck, which had actual metal keys hanging from the ignition.

Somchai climbed in and began to crank the engine, but stopped. If his plan worked, the Blues might come for these villagers. Or the fires might spread across the dry land and threaten everyone here.

Climbing out of the truck, Somchai walked around to the front of the house and knocked on the door. When the woman answered, he bowed as deeply as he could and humbly made his request.

Somchai drove the truck back to the temple as dawn broke and parked in front of the *ubosot.* He ran inside, pulled Tam's diary from its hiding place, and placed it safely in his robe. He then doused the consecrated hall in kerosene, using the small pump exactly as the black-market woman had shown him.

He sprayed kerosene on every structure in the temple before driving through the charnel grounds, this time spraying trees and bushes, human remains and bone and everything he could reach. The stick-thin dogs yelped and ran from the fumes while the crows shrieked their anger and took flight.

When Somchai finished, he parked the truck on the spot where Tam's funeral pyre had burned. He squatted in the dust and ash beside the truck and read Tam's diary while he waited for the Blues.

He'd reached Tam's final two words—"My dream"—when the Blues pulled up at the temple gates. Somchai stood up and turned on the truck's pump, which sprayed kerosene all over his body and puddled around him. In his right hand, he held both Tam's diary and a road flare, which the black-market woman had promised would easily catch fire.

The militia members didn't enter, obviously smelling the kerosene fumes. One of the Blues aimed a rifle at Somchai but the others grabbed her and yanked her weapon away, not wanting to risk igniting the fuel. Somchai sat still, watching the Blues and wishing he could tell Tam and her friends what he had planned.

A half hour after the Blues arrived, Seh Náam entered the temple. He walked by himself past the *ubosot* and onto the charnel grounds, only stopping when Somchai waved the unlit flare at him.

"No closer, Seh Náam," Somchai said.

"I knew you'd be trouble today," Seh Náam said, chuckling. "As we drove through the nearby villages, we noticed they were deserted."

"I warned everyone to leave. In case you decided to harm them, or the fire burned out of control."

Seh Náam nodded. "But you're not going to spare me, or my men?"

"You're free to run away."

Seh Náam shook his head and walked a few steps closer, again stopping when Somchai waved the flare. "What will this accomplish?" Seh Náam said.

"The fire will free the nano. Everyone will live again."

"Perhaps. But you forget something. You're not a murderer. I don't think you will kill me."

As Seh Náam said this, he took a step toward Somchai, then another. Somchai gripped the flare tightly, willing himself to light it, wishing the diary could ignite it, but Seh Náam was right. He couldn't. It had taken all of his willpower to brave his own death, but to kill Seh Náam—how could he do that? Seh Náam glared at him, grinning his scariest tiger smile, a smile which stabbed through Somchai's heart and froze his soul.

Somchai felt both Tam's diary and the flare slip from his grip and fall into the mud. Seh Náam laughed as he turned off the kerosene pump. "Perhaps I was wrong," Seh Náam said. "You're a better monk that I thought."

Seh Náam drew a knife from his pocket and stepped toward Somchai, who closed his eyes and prepared himself for death. But instead of the knife entering his body, nothing happened. Somchai opened his eyes to see Seh Náam standing before him with shock on his face. The knife fell from Seh Náam's hand and splashed into the puddle of kerosene.

Somchai followed Seh Náam's shocked gaze to where Tam's diary and the flare had fallen in the muddy puddle of kerosene. Except they no longer rested in the mud—the mud had formed a right hand that held the flare and a left hand that held the diary, hands which rose from the ground followed by upraised arms and a head and chest and legs. Long tresses of kerosene flowed from the creature's head in mimicry of hair, and a mouth and eyes sank into the mud of a newly formed face.

Tam's face.

Her eyes winked at Somchai. Her mouth grinned at Seh Náam. Her left hand pressed the diary to her chest as her other hand lit the flare.

Seh Náam tried to run but the flames hopscotched from the puddle to the truck, which exploded in a massive fireball. Somchai saw a brief image of Seh Náam flying through the air, his stern face disappeared in screams, before the explosion consumed him.

But instead of the explosion also quickly killing Somchai, it danced around him. Somchai wondered about this until he saw Tam's muddy form falling to pieces beside him, her lips blowing a kiss even as they disintegrated amidst the flames and fury.

Why did she protect me? Somchai wondered.

He knew the answer a moment later, as flames danced across his kerosene-soaked robes. Somchai screamed and thrashed as he slowly began to burn. Far too slowly. Before he had imagined himself stoically embracing death as only a true monk could. But this wasn't the death he'd imagined. Instead, the flames thrashed him across the ground in slow motion—every part of his body screaming louder and louder until there seemed to be nothing left to his life but the promise of pain and even more pain.

But even as he screamed, Somchai also understood. From all around him he felt the thousands of people whose funeral pyres he'd presided over. Each of them had felt the pain he was now experiencing. It was only natural they wanted to punish him for what he'd done.

"That's not quite it," Tam whispered in his ear, her words easing through the pain like water. He still hurt, and still felt his body burning, but the pain wasn't as bad as before.

"Shhh," Tam said. "You're right that some of us wanted revenge for what you did. But it's more than that. How could we truly accept you unless you went through the same rebirth we had?"

As Tam said those words Somchai felt his body collapse to the ground. Tam held his hand while he floated up, watching with amazement as the charnel grounds surrendered to flames. Under the heat the ash that had coated everything on the temple grounds vanished. The curved roof of the *ubosot* danced into the air on a pillar of flame, and the statue of the Buddha sighed as it collapsed from the teak floor falling in on itself.

All the other temple buildings also burned, and the forest around the temple fed the fire until the winds themselves swirled in, bringing more heat and fuel for the storm. Somchai felt Tam and the others feeding off the heat even as they used their powers to grow the flames.

And Somchai rose with them into the sky, holding tight to Tam's hand—or perhaps, he realized, the dream of her hand. As the pain of his death eased away, he didn't bother asking Tam if she'd been among those who'd wanted revenge on him. He didn't even ask what they would do now that they could control their own destiny.

Instead, he bowed before her and humbly asked Tam to forgive him.

"We'll see," Tam said, a wicked grin on her face.

From the newly burnt diary of Boomtam Teeravit:

Somchai died six months ago, so to celebrate the two of us watched a horror movie, just us, holding hands and snuggling on the floor of our imagined apartment.

Even though nothing can hurt us, Somchai still closes his eyes as the *Phii Krasue* floats its ghostly head and glowing heart and entrails across the graveyard. The victim—who looks, amusingly, just like Seh Náam—shrieks before becoming a quick meal for the ghost's long razor-sharp tongue.

I ask Somchai if he'll ever tire of this movie.

"Perhaps. Want to see Seh Náam get disemboweled again?"

But before we can replay the scene, the lights in our apartment flicker. From outside we hear thousands of voices calling our names. We've been floating in the clouds since Somchai liberated us—feeding off lightning and the air's natural electric potential, growing stronger every day. We cruise lazy circles over Thailand, reaching tentacles of power toward the ground. Absorbing the scattered nano of those the Blues killed. Using our power to prevent the Blues from killing any others.

But problems still arise.

Right now wind sheer generated by a massive thunderstorm is threatening to tear our swarm apart. Irritated at the distraction, but still wanting to help, Somchai and I join our minds with the others. We break the thunderstorm apart and absorb its power.

Returning to our movie, Somchai and I snuggle closer. "It might be fun to go off on our own one day," Somchai whispers. "See what we can build, just the two of us."

I look at him for a moment before punching him gently in the arm. "You really are a horrible monk. Are you saying you've grown attached to being with me?"

"What does that matter? All that matters is the person I want to be with."

"A wise answer," I say.

While Somchai replays the movie, returning to the exact moment when the *Phii Krasue* forever rips apart Seh Náam's life, I recreate my once-burned diary and turn to the last page, which simply reads "My dream."

Now, I write the rest of my final entry: *My dream. From what once passed as the last words of my life.*

No longer. ❍

Michael Cassutt's latest publications include an SF trilogy co-written with David S. Goyer—*Heaven's Shadow* (Ace 2011), *Heaven's War* (Ace 2012), and *Heaven's Fall* (forthcoming from Ace this summer)—and short fiction contributions to George R.R. Martin's Wild Cards series. The author's years of experience as a former network executive, then a TV and movie writer-producer for three decades, which involved hundreds of pitches—both giving and getting—helped prepare him for . . .

PITCHING OLD MARS

Michael Cassutt

Thanks for inviting me in. I've been writing SF novels lately—a few shorter things when I can't avoid the impulse—and non-fiction about space flight, which is probably where you found me.

I'd love some water, thank you. Which feels kind of mean, thinking about Mars and Old Martians, because the one thing everyone assumes is that water is hard to come by. . . .

Oh, Goyer is in England right now, but says you should hire me and pay me a lot of money.

I think Byron Haskin may have used this office when he was doing *Robinson Crusoe on Mars*. No? You should find a DVD or something, it's still one of the best Mars movies ever made.

And since this is the point where the guy doing the pitching is supposed to suck up to the buyer just a bit, I want to tell you that you're incredibly brave to be doing something like this. *John Carter* cratered, to use an astronomically appropriate term, at least in its roll-out.

But, as every sci-fi friend of mine says, put "of Mars" in the title and you avoid one of Disney's mistakes, right?

So, yeah, Old Mars, the real deal, not E. R. Burroughs or even Ray Bradbury. Is there a cool sci-fi movie or story to be told that hits that conceptual sweet spot, that allows the viewer to be part of a truly alien world, that is much stranger than Pandora from *Avatar,* to see or be part of battles between warriors armed with swords and those carrying more exotic weapons all played out on a barren landscape, with the fate of ancient empires at stake. . . ? It could be a bit like *Dune* or *Game of Thrones,* in that sense.

I freely confess that I've always found the phrase "under two moons" to be incredibly evocative. Did you know that was more like the original title for what became John Carter? Not *A Princess of Mars*, which was the first *book* title: no, *Under the Moons of Mars*.

Which is the kind of poetry I'd like this project to evoke.

Sorry, I used the word poetry in a movie pitch.

Okay, to re-set. I really should have brought notes, right?

The challenge with any sci-fi concept is first creating the world . . . it's really the primary character. So, yeah, you've got the potential for this red deserty-landscape, two moons in a night sky.

That's Mars as it looks now. Unfortunately, this Mars has no delicate spires or long canals or Gandhi-like beings speaking in incomprehensible whispers—or, no, not drinking their own bodily fluids, though you're right: that is a sci-fi touch.

There may be some kind of life—moss or lichen or wiggly bugs that live underground right now, waiting for a new NASA probe to find them—but that's not much to build a story on.

So I would propose going into the past . . . the far, far past. Call it a billion years ago.

By comparison, Earth's environment a billion years ago—well, it was so long ago we don't know that there was any life. It pre-dates the dinosaurs and, for that matter, pre-dates the fossil record. Planet Earth would have been unrecognizable—there were no "continents," just one big one, in a single planet-wide ocean. There was less oxygen. The radiation levels were higher.

There wasn't much that was alive, if anything.

On *Mars*, One Billion B.C., a warmer, wetter world, you could have a more robust atmosphere. You could have open lakes and rivers. Canals.

You could have greenery. Forests. Fields. Steppes.

You could have Martians who are anything that fits such an environment. They could be bipedal. They could have eight legs. They could be like dragonflies.

You don't need to limit yourself to one race—Old Mars could be populated by a variety of races, for that matter.

In my vision, these races, each intelligent, might be fighting for dominance, for the future—since that, apparently, is what races do. There may be a valuable mineral involved. Maybe all these Old Martians are facing some kind of climate change and need to migrate. Whatever seems like the richest, most skewed mirror of our world would work best.

Okay, that's the backdrop.

The more important question to answer, of course, is who do we like? Who do we care about? Since every sci-fi story is, at heart, a hero's journey, who is the hero of this Old Mars story?

He's a young creature, call him Aleph, who can see his world changing—dying, perhaps. And, driven by his innate optimism and desire to prove himself while also doing good, he sets out to change it. To change everything, whether it's beating the bad race that's threatening his, or leading his people to some shelter at the north Martian pole.

My first choice is to have Aleph be the Old Martian equivalent of the kid building a rocket in his back yard . . . he wants to fly to one of the two moons.

Not just to go there, but because he can get some item or mineral there that could save his race.

Aleph will also have a love interest, of course. Rather than go too weirdly biological—I don't envision his race as being like bees, for example, with Aleph being a worker who wants to mate with the queen—I'd keep it more recognizable. These Old Martians have pair bonds. Boys and girls.

The conflict for Aleph is not only external—will the grown-ups or bad guys stop him from reaching his goal, which they will try, with exciting weapons and hand-to-hand or claw-to-claw battles?—it's also learning that in order to win or save his love, he has to give up his larger goal.

What does Aleph look like? I knew you'd ask me that. I've pulled some sci-fi art that might suggest some possibilities.

There are a couple of ways to go . . . he could be a Martian caterpillar or centipede, something low to the ground, multi-legged, which might give the production team and director something fun to do, with low angles, Aleph essentially looking up at his world. (And, sidebar, what does a world created by Martian centipedes look like? There might not be any towering spires. . . .)

Or he could be something rounder, bouncier, something that rolls. We'd have to be careful with that concept, though, since Heinlein did that in *Red Planet*, one of my favorite SF novels about Mars.

Or he could be more delicate, a winged creature, kind of like Tinkerbell, since we're fluttering around a Disney concept.

One fun thing . . . suppose Aleph starts as a Martian caterpillar and becomes a, well, yes, I'm saying this, a Martian butterfly—

Now there's something I hadn't considered—yes, we could think of this Old Mars One Billion B.C. as what *led up* to the Barsoom of John Carter. Call it Old Mars One Million B.C.

Before Carter? Sorry. Yes, the problem could be more relatable . . . the world is dying, the water is drying up, and there isn't enough to go around.

I can see you two making eye contact, and I know exactly what you're saying to each other:

Where are the people? We're not doing the Pixar version of Old Mars here, though that might be fun—and I urge you to consider the marketing possibilities of Aleph and his kind—but a live action piece with human movie stars or their incredibly lifelike avatars, a movie starring Carey Mulligan or Joseph Gordon-Levitt—

I have a thought. Really, I had this thought before I walked in here: how to put humans into Aleph's world.

One way is time travel. Bookend the Mars element with a story set in the here and now—possibly a NASA or DARPA program to use some kind of quantum entanglement machine to teleport astronauts to the Red Planet.

Which works fine, except they show up one billion years in the past. Or one hundred million. Your mileage may vary.

At least in our Old Mars Carey and Joseph could dispense with space suits and helmets, because we know how well those work with actors. . . .

Well, no, they don't have to be astronauts. Yes, ordinary people—our past? Possibly, though I don't quite see how they would—

Oh, yes, a magic spell or talisman or gizmo of some kind. Since my DARPA quantum entanglement device is total bullshit, I can hardly argue—

Oh, sure . . . we don't need two. Why send a committed couple on something like this? Maybe it should just be one of them . . . of course it would be the guy, and—let me jump ahead of you—it's possible that Aleph's people might be close enough to humans that we would want to have sex with each other—

Am I getting red-faced? Sorry—though kind of appropriate, don't you think? It's just . . . this is already evolving in a direction that feels somewhat familiar to me. We're almost talking about tharks, and while Disney has zero current interest in exploiting the John Carter rights, they would land on us like a flying Barsoomian battleship if we used anything that resembled one of those eight-legged guys, whether or not we did it in 3D.

"Sore throats?" Good one.

This may be a fatal flaw with the whole concept. How do you tell an ancient Mars story without turning it into a fantasy that couldn't possibly be set on Mars—and doesn't require it. Without replicating a century-old book and months-old movie. How do you tell any kind of story in that world that doesn't feel like ten other fantasy adventures—what makes Old Mars Martian? And still gives you a story?

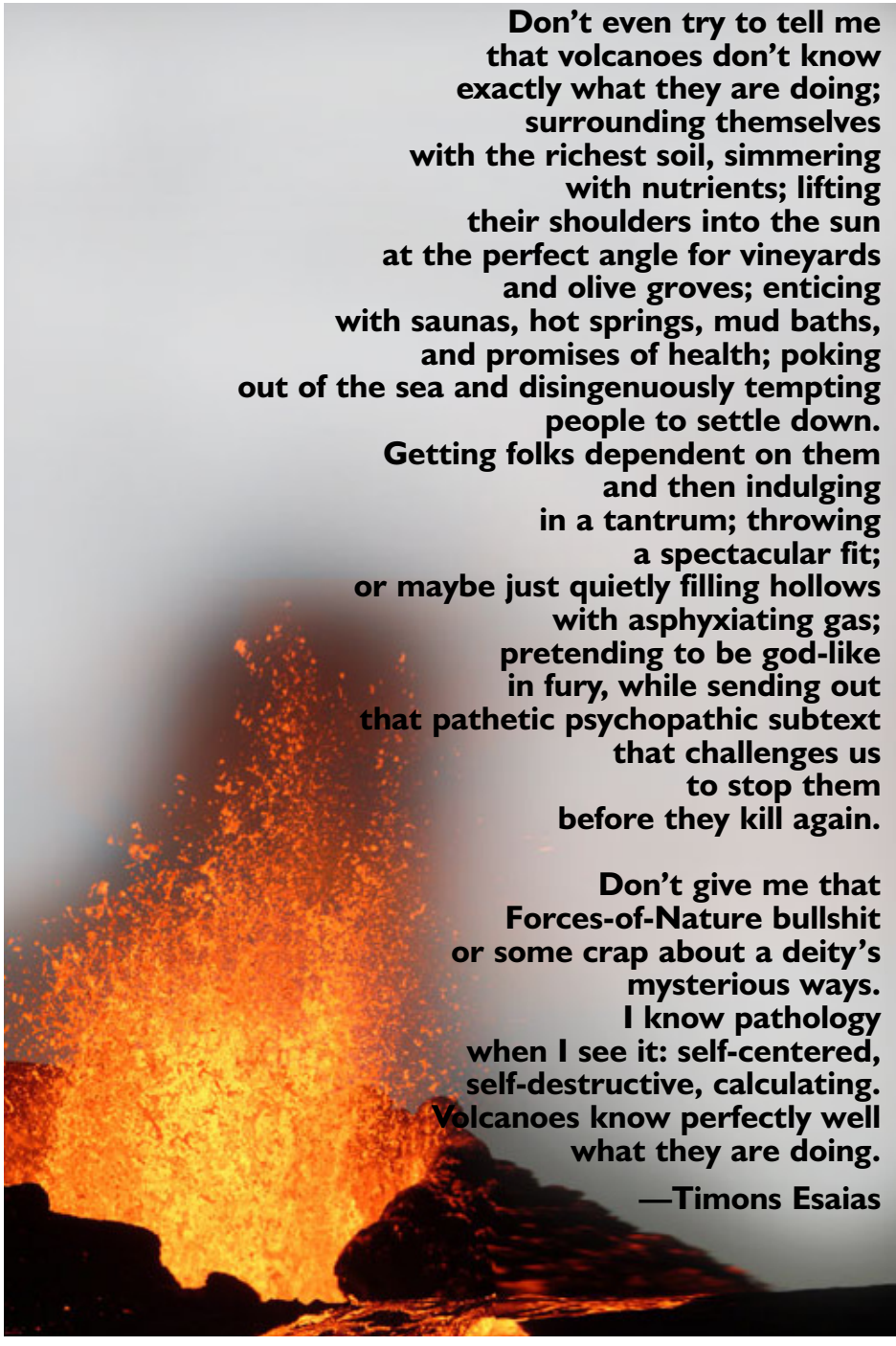
I'm out of answers.

That would be great. If you can find someone to do what you want, I'll buy a ticket to see it.

My pleasure. Always great to come onto the lot.

Do you validate? ❍

Insidious



Don't even try to tell me
that volcanoes don't know
exactly what they are doing;
surrounding themselves
with the richest soil, simmering
with nutrients; lifting
their shoulders into the sun
at the perfect angle for vineyards
and olive groves; enticing
with saunas, hot springs, mud baths,
and promises of health; poking
out of the sea and disingenuously tempting
people to settle down.
Getting folks dependent on them
and then indulging
in a tantrum; throwing
a spectacular fit;
or maybe just quietly filling hollows
with asphyxiating gas;
pretending to be god-like
in fury, while sending out
that pathetic psychopathic subtext
that challenges us
to stop them
before they kill again.

Don't give me that
Forces-of-Nature bullshit
or some crap about a deity's
mysterious ways.
I know pathology
when I see it: self-centered,
self-destructive, calculating.
Volcanoes know perfectly well
what they are doing.

—Timons Esaias

Alexander Jablokov tells us he's completing work on a YA alternate history novel, tentatively called *Timeslip,* that's about a high school student in our world who gets thrown into another line of history and has to find his way back. The author's novel, *Brain Thief,* came out in paperback last fall from Tor Books. His latest tale for us takes us to the vicinity of Mars and allows us to witness a ferocious battle on a . . .

FERAL MOON

Alexander Jablokov

The corpses fell from the interior of the moon like drops of water from an icicle. The body repatriation team that hung in the open space just outside the blast crater maneuvered back and forth and caught them in a grid of storage modules, one by one. Behind them, the stars moved slowly past.

To Kingsman, the module grid looked disturbingly like an ice cube tray. The repat team filled it in strict order, from one end to the other, then sealed and marked each module.

One body brushed against a twisted length of structural beam and spun slightly as it came down, making the team scramble. If they missed it, the body would float out of the crater and into open space, requiring an embarrassing, and expensive, recovery effort.

Preceptor Dakila Uy muttered in exasperation. "Clumsy. Looks like crap."

Kingsman thought that was a beamed signal, for him alone, but maybe a member of Uy's staff was noting it down, for later discipline. They were all hidden somewhere, out of Kingsman's sight, leaving only Kingsman and Uy on the shelf in the crater torn out of the side of Phobos. From the look of the stretch of tile still left on the wall nearby, it had probably once been part of someone's bathroom.

The team caught the body and flipped it into its module. These were the bodies of enemy combatants, of course. Defenders of Phobos. Their faces were displayed on the black shrinkwrap that protected the bodies. These were mostly file photos from their dogchips, sometimes cleaned up and reprocessed versions of the dead faces beneath, when no file could be found. Other identifying information appeared on their chests. Kingsman hadn't been issued the proper codes, so they appeared to him as generic scribbles.

The lack of code access was just another annoyance for Kingsman to work through. More serious was the three days he had been stranded in orbit, within sight of Phobos but without access. The official story had been "safety concerns."

Kingsman had a specific sort of power. Strictly speaking, he could only exercise it once. After that, he would be a hollow shell, without power to further influence events. He would need to use the weight of his single authority to gain cooperation in other areas. It was going to be a delicate game.

"Technically, you outrank me," Uy said.

"I suppose all ranks are merely 'technical,' Preceptor." Kingsman had expected his

encounter with Uy to start with a fight. He supposed he should be glad it was over something so petty. "I have the same rank as you, with three years' seniority. But I'm not here to—"

"That's ridiculous. What, they count time in prison as 'seniority'? You lost all right to anything like that when you were convicted and sentenced."

"I don't want to argue about legal details. That's not my area of expertise. Yours either, I suspect. My seniority might come into play if we're fighting for spots on a ceremonial dais. Otherwise, it's pretty much meaningless. I have no rights of command here. I do have the right to demand treatment appropriate to my rank and role. Which does not include being left in the hull of a transport vessel for three days after my mission has already started."

"Oh," Uy said. "My apologies. We were preparing for a major push. Working every minute, preparing. You remember how that is, don't you, Tony? Combat? Everything else takes second place. Everything else is pretty much irrelevant."

The body modules were sealed and marked for chain of custody. Eventually, they would be returned to their families. Some diplomatic relations were still maintained with forces deeper within Phobos, though the political structure had fragmented, and the authority of the counterparties was sometimes unclear.

This crater had been blown out of the side of Phobos during the surprise attack by the Union ship. It widened out beneath Uy and Kingsman's feet, dangling lengths of pipe, shattered transport corridor, and strips of the reinforcing rings that kept the welded-together outer layer of the moon's regolith stable. Phobos' rotation was slow, creating just enough gravity for orientation. Every few minutes, the vast face of Mars would scrape past, filling virtually their entire field of view.

No one in the busy crater paid attention to it, any more than they paid attention to the parade of enemy bodies. Instead, Kingsman felt himself the focus of interest from everyone working in the busy crater space, which was the ingress point for supplies to the Union forces fighting to conquer the moon. Some things could not be kept secret, and who he was was one of them.

"Are you at liberty to reveal the results of your push?" Kingsman said.

"It fully achieved its tactical objectives. Two more levels taken, and a significant pumping node. The Phobs can fight, but they're doomed. There is no reason for your mission here . . . Preceptor."

Kingsman had expected a desperate effort preceding his arrival. If a rapid success could be achieved, Kingsman's mission might become irrelevant. Uy was showing off its fruits now: a parade of enemy dead. Union corpses would be moved more discreetly, with dark ceremonial. Three dead, five wounded, two seriously enough to be rotated out. They hadn't been able to hide that from him. A reasonable cost, if you had a good basis for your mission.

Unsupported hope was not a good basis for anything, least of all military operations. Kingsman was more relevant than ever.

Anthony Kingsman was a tall man with big joints pushing out against his skin, and he knew that his spacesuit emphasized his boiled-and-mounted appearance. He wore his graying hair long, pulled back from his high forehead and tied back in a queue. Both the receding hairline and the gray hair were signs of his time in the prison asteroid, where aesthetic treatments weren't part of the routine.

Dakila Uy was shorter and stockier, with dark skin and black hair he brushed straight up. He'd even made that hair an element of how his suit displayed him. He had a practiced way of staying absolutely still, as if he was the center around which all else revolved. He was the commander of a five-thousand-troop invading force, a challenging role at this point in a long war, and one that he had to play without a break. He did his best.

Kingsman knew Uy of old, from before his own disgrace, even from before the Rim War had become the disaster it now was. Uy was both brave and smart. More importantly, he was increasingly listened to in higher political circles. So he had maneuvered himself into command of the Phobos Expedition. Victory there would secure his reputation.

But some operations required more than bravery and intelligence. They needed a level of understanding beyond rationality. They needed a kind of twisted genius. They needed what looked a lot like luck. Instead of an easy victory, Phobos had turned out to be a desperate vortex that sucked down soldiers, resources . . . and reputations.

Surely Uy had to see that Kingsman was the only way he could salvage his.

"I'll need access to all of your tactical records," Kingsman said. "All pre-op intel as well."

Uy snorted. "You can't possibly live long enough to get through all that."

"I'll skim."

"That's more than I can give you," Uy said. "At least for an operation that's still forging toward victory. But I have something better. I've assigned a unit commander to put you in touch with what's going on, right at the face. Full access, Tony. Just like you like. I think you'll understand things a bit better once you've actually seen it. It'll do you good to get back in combat. Though you probably got more than your share of action in the prison hulk. I hear the place wasn't well managed for a while."

Kingsman had seen more than he would ever want to share with anyone. Least of all Uy. "I could cancel this operation right now. You know that."

Uy was silent for a long moment. "You could. But would it stick? Not with the troops, I can tell you that. And not with your controllers, either. They need you to at least give the appearance of looking things over. All you'd get from a snap recommendation is chaos. Lessened effectiveness. Defeat. Is that really how you want to play it?"

The hell of it was, Uy was right. An order to pull out that could be argued with was worse than no order at all. In addition, Uy knew Kingsman of old, too. He knew Kingsman would compel himself to understand everything he could before making a decision. He knew he had a handle on Kingsman's pride.

It was hard to bluff when you hadn't been dealt any cards yet.

"She's my best commander, Tony," Uy said. "You'll be in good hands."

A figure detached itself from some overhead strutwork and dropped slowly down. For a moment, it looked to Kingsman like she would miss. But he had misgauged the Coriolis curve. While the path was straight with reference to the stars, the rotation of the moon made it seem curved relative to where they stood. The officer landed on the ledge next to Kingsman. He saw dark eyes, cheeks with decorative metal implants.

"Preceptor Anthony Kingsman," Uy said, with forced heartiness. "Sub-Commander Leila Ferhat. SC Ferhat will serve as your guide to the Phobos Expedition."

The last of the Phob bodies floated past and was packaged up. Kingsman noted that Ferhat kept her eyes averted. She hated this corpse parade. That would have been a possible way to bond with her, if she hadn't clearly hated Kingsman even more.

Ferhat didn't talk to him. Instead, she shot him a set of instructional and safety icons: click into the air supply on this reaction sled, make sure the partial pressure of oxygen is between these two bars, at least two of these five points must be secure for you to be considered attached to the sled, keep your hands to yourself.

Kingsman did as he was instructed. The sled dropped out of the crater and into open space. Kingsman felt the pressure as Ferhat activated the drive and they moved away from the spinning potato of Phobos.

The space around was crowded with Union vessels, dwelling units, and other gear. A spacecraft vectoring in from a long transfer orbit flared a reaction rocket and readied itself for docking.

None of this was visible to the naked eye, but of course no one used a naked eye in space, any more than anyone had a transparent face plate. Everything that Kingsman saw was intensively processed and information enhanced to interact optimally with his clunky evolved perception modules. The approaching spacecraft was clear in his vision, with its fuel pods gleaming in the light of the distant Sun, its list of combat medals streaming out behind it. Its reaction drive hissed as it slowed.

Every bump in the surface of Phobos was clear. The moon's surface had once been a loose layer of regolith, which over the centuries had been welded into a thick radiation shield bound with stabilizer hoops, and then honeycombed with support tunnels. Stickney, the disproportionately large crater that had always been its biggest visual feature, was still there, like a beauty mark. The Union assault crater was some distance closer to the hub. The Phobs had expected any assault to come at that hub, since the surface was too thick for quick penetration, and so they had armored and reinforced it.

But the supposed tourist vessel had injected itself into the moon's side, and detonated. Its shielded contents had ripped deep into the regolith, including its encapsulated Union troops, who had hatched and dug further in, until they came up through the floors of the lowest inhabited corridors and started their assault.

Even with processing, Mars looked like a plate of corroded metal, broken and crudely rewelded. Phobos had an absurdly low orbit, and moved faster than Mars rotated, so that they seemed to scud above the planet's rusted surface, pursuing something that would never be caught.

Kingsman gloried in the information access. He now had full clearance, the same as Uy and his staff. He would have to watch carefully, to make sure that he wasn't subtly cut off from something crucial. But for now, it was like being let out of a box.

Ferhat's goal out here became clear: a battered vessel that was mostly heavy thrusters pointed in various directions. It was some kind of salvage tug. She maneuvered neatly and linked up to it.

"They really should get this reactivated and operating," Ferhat said. "If we're here much longer, neglecting cleanup is going to come around and bite us on the ass."

She was challenging him. His job was to make sure they weren't there much longer, no matter what.

His mission was supposedly confidential. Obviously, there was no way to keep a secret like that for long.

"That's not why you've hauled us out here," he said.

"Oh?" Her suit displayed a lean woman with a burn scar on her ribs. On leave she let her dark hair grow long, while on duty she kept it bristled. Her high cheekbones were made even higher by the metal implants, which she kept buffed to a high gloss. She kept her face display expressive so that her thoughts and moods could be read, as was standard intra-unit practice. What it expressed now was irritation. "Why, then?"

"You need intel," Kingsman said. "You think you're missing something. But why would you come out here to find it?"

The question was half to himself. He could see her considering how much was aimed at her. But if she was as smart as she seemed, she knew something: Kingsman might not have been her favorite court-martialed-but-reinstated officer responsible for the unnecessary deaths of fellow soldiers, but he was still a useful resource for her. Would she use him wisely while she had him?

"Look." She gestured toward Phobos, and it turned semitransparent, revealing a

maze of tunnels and open spaces. "Settlement, two hundred years ago." The tunnels receded to a cup around the north pole. She stepped the display forward by decades. The inhabited region expanded slowly, going out past the equator just under the regolith, but much less than that along the axis. Then, in three major jumps, it excavated significant portions of the interior, opening out internal seas, high-pressure vacuoles, and dense residential matrices. Kingsman noticed that a lot of the corridors glowed a red that marked them as "dubious intelligence." Those were Ferhat's own markings. The general-access map—he called it up and overlaid it on hers—had no error bars in those places.

"That's a huge volume of stuff they needed to toss," Ferhat said. "All asteroid colonies have high-entropic junk to dispose of. But the gravity of Mars and Deimos makes it tricky to really get rid of it here, given the cost of reaction mass. Some always seems to come back to become a navigational hazard. They bought this thing from some shipyard. It puts out magnetic filaments hundreds of miles long. They form a field, and herd the debris into sturdier nets that haul it in."

"But most of the debris must be non-magnetic," Kingsman said.

"That's why they hacked up this add-on." Ferhat pointed and red dots appeared on two massive cylinders. "Seemed to work well enough. Those axial cylinders fire microscopic iron flechettes. No shortage of iron, after all. Radar detects all the debris. Anything that doesn't respond to the magnetic mesh gets a flechette shot. If it vaporizes, problem solved. If not—now you've got a magnetic hook, and the mesh can catch it and drag it in."

"Are you considering recycling those flechette guns for antipersonnel purposes?"

"You try hauling one of those barrels through the corridors. Might be a hell of a surprise for someone, if you managed to do it. No. Just let me take a look here, and I'll get you down to the face. Clip in over here."

She was suddenly brisk. Kingsman figured she felt he'd tricked her into treating him like a regular human being.

The tug clutched two debris-filled meshes like a cartoon miser with moneybags. It must have just come back from a salvage expedition when the Union assault hit. Ferhat loosened one and started going through the chunks of rock it held, scanning each one quickly with several beam generators and sensors she pulled off the sled.

Kingsman allowed himself a few minutes of just letting the stars wash around him. It had been a long time since he'd been able to focus on something farther than ten or fifteen feet away from him. Prison asteroids weren't much for long vistas.

But now it was time to be useful. She wasn't sharing the data overlay she was using, mildly rude, though not a clear insult. What she was doing was really a job for half a dozen people with automated equipment. The debris ranged in size from tiny pebbles to head-sized chunks. Some were hundreds of years en route, others might have been excavated the day before the Union arrived. And there was several tons of it.

Here and there, amid the rough chondrites and phyllosilicates, bits of inlay glimmered, and a trace of carving caught his eye like a doomed hand reaching from quicksand. He grabbed it. It was part of a human face, the cheekbone and the eye, with just a swirl of hair.

"Please," she said. "Don't make this take longer. I'm away from my command too long as it is."

"Look at this. You think it's from one of the transverse connecting corridors? Down in the Kloen District, maybe."

"I really can't rely on details like that." Still, she took the bit of carving from him, and examined it with her scanner. "Isotopes match. Could be Kloen. Or nearby."

"They must have really torn that area apart if they destroyed those reliefs to make

defensive lines. They sacrificed a lot. Those reliefs were beautiful. At least, I've heard they were."

She spoke to him reluctantly. "Kloen is just beyond our face. It looks like it will be a problem when we get to it. Plus, it's kind of an independent collective now. Not even part of the same government as other parts of Phobos. Things are different out there."

She finally shared her overlay. The debris she had checked over already glimmered with information. Each piece had a distinct isotopic signature that marked it as coming from a specific location within Phobos. If he called up a 3D image of the moon, he could see where they originated. She had particularly focused on those that came from the volumes marked in red on her own map.

"How long do you think they were preparing for our attack?" he said.

She shrugged, her suit's body language amplification making it an elaborate gesture. "All I know is, we're pressing into a volume that doesn't match our intel, facing political organizations with their own agendas, and taking casualties doing it. I'm no longer sure that our objective is even valid."

Uy had given him her tactical objective: a water node that supplied a good chunk of Phobos. Capturing it would change the balance of combat. But if she was looking for evidence to disconfirm her assumptions, she was a rare commander indeed.

"Could you use help going through this stuff?" Kingsman said.

He could see her struggle with an automatic refusal. Then: "Yes. It would make things go faster. And I think the Preceptor thinks I already have you upstairs, with my unit. I just took advantage of the opportunity to come out here."

It took another hour, even with his assistance.

There were a couple of pieces of debris that weren't excavated rock: a ring from a pressurized air pipe that must have blown off a malfunctioning airlock, and a length of shredded safety line marking a rescue attempt that failed at least two centuries before. But amid everything else were pieces newly sliced out of the moon. Given the unlikeliness of any particular piece ending up here, they could extrapolate, and see that vast volumes must have been reorganized within Phobos.

"You have thoughts about this," she said. "You know more than you're telling me."

"I don't have a tactical job," he said. "I just have—"

"If you have information or understanding, I need it. No matter what it is."

If the dispositions were a disaster, he should leave them the way they were and order a pull-out. He was supposed to judge the situation and make an up or down decision. It wasn't his job to fix anything.

"It's possible your mission is the victim of a fairly extensive deception operation," Kingsman said. "The main water line may no longer be any such thing."

"They've been defending it fiercely," she said.

"Well, now. They would, wouldn't they?"

"That last assault was meaningless," she said, mostly to herself. "Schorsky and Pandit died—"

"We kill them all the time," Kingsman said.

"Well," she said, as if realizing she had been getting too friendly with him, "you would know, wouldn't you?"

The occupied interior of Phobos was a tangled mass of corridors. You couldn't see anywhere more than a few hundred meters away. Here gigantic doorways swelled out into the path of traffic, there pits opened beneath your feet, to reveal family compounds with children chasing each other.

Ferhat pushed Kingsman from one security zone to another.

They passed a team of Phobs restoring a string of overhead lights, while groups of

their relatives sat on stacks of household possessions and waited for their corridor to be habitable again. Phobs shared no particular physical look, except for the jointless way they moved through their spaces and the long hair and loose clothing both sexes favored. No one looked at Ferhat and Kingsman.

Walls were cracked by small-arms fire. A Union casualty memorial glowed at a wider area, where a fountain trickled water. Ferhat gave the three dead marked there a discreet salute. The memorial was virtual, coded to their suits, and was tactfully invisible to the natives, though it was clear from the savage graffiti tattooed on the wall behind it that the Phobs knew it was there.

Past the memorial was another Union checkpoint, where a cold-eyed soldier examined Kingsman's record, exactly as if he had not passed through three such points already. Behind the checkpoint was an encampment of occupation troops, installed in a couple of large apartments with open verandas on the corridor. They had their own power, and kept their spaces much more brightly lit than Phobs generally would. Every captured level of Phobos required a detachment of troops to keep it pacified. Discipline looked good, so far. But they had already been here longer than expected.

The soldier had been looking at Kingsman's records, not at him. "My cousin died at Kalatra."

Kingsman waited for the soldier to say something else, but the bare fact was apparently enough. So he nodded, as if the man had mentioned they had gone to the same high school, but in different years.

"Not relevant, soldier." Ferhat suddenly crowded up.

"Sorry, ma'am. Not relevant."

"We have a job to do here. I do, you do. He does."

"You're good to go." The soldier stepped back, trying to get out of the range of her rage.

"What was your cousin's name?" Kingsman said.

"You wouldn't have known her."

Kingsman waited.

"Murnau. Cassie Murnau."

"Seventeenth Engineers. She was power, running cabling up Big Cliff when it came apart."

"That's what we were told. Sir."

They stared at each other for a moment, then Kingsman moved past. Ferhat followed him onto the elevator to the next level.

"Surely you don't know everyone who died," she said.

"In the first months of my imprisonment, my only reading was the personnel records of the casualties at Kalatra. They gave it to me as an additional punishment, not knowing that I would have requested it anyway. I couldn't go meet their families, so that was the best I could do. So, yes, I do know everyone who died, or was wounded."

She thought for a moment. "Wait."

"Yes?"

"If she died during the Big Cliff operation . . . she died in combat."

"Almost all of them died in combat."

"You know what I mean! During the assault, before the junta's surrender. Straight combat. Part of the victory. Not during the . . . repacification."

"Well, I guess he didn't see the difference. Most people don't."

"You should have explained it to him."

"Most people don't like to have me explain things like that to them. It's really not worth it, Sub-Commander."

The area above actually had a view, opening out to a high wall. Phobs slid up and down it on cables, passing through big stone doorways that led to yet more corridors.

This area was well cleaned up. Plants grew up and down the big wall. People were gathered at tables, eating. One group looked like it was celebrating the wedding anniversary of an older couple. At least, a man and a woman sat together under a kind of canopy. If the Phobs had a family resemblance, it came from the fact that they appeared in Kingsman's display just as their physical selves, without the extra information all Union troops provided. Their eyes were blank, and kept everything deep inside. The flowing gowns that concealed their bodies and the hair that swirled around their faces were just extra.

Two Union soldiers stood on top of a dividing wall, crowd hosers held lightly in their hands, and kept an eye on things.

Kingsman couldn't help but see things tactically, and from that point of view this place was nothing but a trap. Dead-end corridors, sudden level changes, sight lines blocked by a shop selling flatbreads grabbed from rotating platters or an emergency health center that was also a neighborhood social spot: Phobos was nothing but places to be slowed down, stopped, killed.

Anything a tourist found attractive, a soldier found a threat.

But now the moon had fragmented, feralized. The top-level political organization hadn't survived the first demand for surrender. That had to have been planned along with the rest of their subtle defenses. Uy now had to deal with dozens of separate organizations that controlled power generators, transportation centers . . . and water supplies. Each had to be attacked or negotiated with separately.

Phobos was a trap. That was why it had always been the touristic center of the inner Solar System.

Another two checkpoints and Ferhat and Kingsman finally came to the Lower Concourse, one of the biggest open areas in the moon.

The high ceiling hid in mist and light. The open surface was folded up into rocky hills and stable sand dunes, each one placed to conceal how the Concourse curved. Small shops and restaurants nestled in odd nooks.

Many of the owners had just had time to seal up and remove most of their equipment when the Union assault broke through. Rubble covered the mosaic dining floors. Multicolored glass bottles lay on the rocks, unbreakable and gleaming. What had once been decorative pools had cracked and drained through into lower levels, leaving dry sockets.

The Lower Concourse had been known for its beauty. People had traveled from all over the Solar System to see it.

Kingsman himself had once looked into taking a vacation here with his wife. He remembered flipping through the images: the steaming turquoise pools, the people tucked into the hot sand baths, the quiet spots where two people could be alone, at last, and figure things out.

It had proved impossible on a sub-Preceptor's salary, no matter how he worked the numbers. He had never even mentioned that he was thinking about it. A few months after he gave up on the idea, Elise asked him for a divorce, and disappeared on a refugee relief effort among the asteroids.

A nice vacation somewhere other than her parents' summer house wouldn't have kept them married. It would just have saddled him with debts.

Still, it would have been something nice to remember, to contrast to the years of combat followed by the years of imprisonment that were now most of the memories he had to work with.

Even in ruins, the Concourse was a comfortable space for surface dwellers, and most of the Union troops were from Earth. They'd set up their privacy units, waste recyclers, and mess facilities among the ridges and dunes. No one paid obvious attention as Ferhat led him into the encampment. That showed discipline.

Ferhat was good. Uy had made the wrong choice, putting his smartest subordinate in charge of Kingsman. Elise had understood him, even as she didn't want to be married to him. She told him that the best weapon against him was stupidity. If Uy had had the sense to see that, he would have put Kingsman into the hands of a bland dullard who did things by the numbers. Kingsman would have been dragged around like a piece of luggage, unable to achieve anything.

Instead, with Ferhat, Uy had put a potential tool into Kingsman's hands. He just had to figure out how to use it.

. . . Don't expect sentiment from an inhabitant of Phobos. To them, practicality is all. Any position can be traded at any time, if the difference in value is greater than the cost of making the transaction. The difficulty for someone who did not grow up running the corridors of Phobos is figuring out what they value, and what they regard as a transaction cost, rather than entertainment. They hold the value of friendship high, and so are unlikely to trade you. But they seem to be capable of living with a structure or work of art for a century, and then, when there is a chance of improving traffic circulation or providing a convenient storage area, of removing it without sentiment. We had come to Gravad to relax in the Ang, a well-known steam meditation cocoon, but found that it had been excavated, and the entire space around it was under some kind of repair. A cheerful old man offered to sell us bits and pieces of the famous curved walls, with their fine intaglio carvings, but we felt that was a bit like coming to see a famous palace, only to be offered a brick as an example of what it had once looked like. The man remembered many happy visits there himself, but the fact that it no longer existed seemed of no concern to him.

. . . we stayed on in Gravad, a zone not much liked even by other citizens of Phobos. It was excavated early in the settlement of the moon, and its vacuole-spoke pattern, once in fashion, is now regarded as hideous. Such distinctions are, of course, invisible to the visitor. After some search, we found a small, uncomfortable room, one that was both hot and noisy. Given our situation, the host didn't even want to show it to us. He had purchased cubic from some defunct competitor and added it to his volume. He had not yet brought it up to the standards of his establishment, he said. But its location was just what we wanted, and he was persuaded. So we spent the night, sleepless, sweating, feeling the deep vibration of secret excavation in our bones, like a deep fever. . . .

. . . when people heard that we were in the process of an initial investigation of the consequences of our wedding, we were recommended Breen Gardens, as appropriate to romance. Its trees grow across the hollow and bury their tops in the opposite wall, where some perverse manipulation of tissue turns them into roots again. It is necessary to bribe the monkeys to leave you in peace. That was not to her taste, she said. Too obvious, perhaps, or unnecessary to our own situation. Instead we visited a spot where romances are best ended. After all, the beginning of anything is inevitably the end of something else. The best spot for ending a relationship is one of the tiny restaurants at the top of Farnum's Wall, with its eternal waterfall, either Left Phleb or Noricum. We visited both, and, if you are in the final stages of a once-passionate relationship that is now congealing around you, there are some features that may be of interest. Noricum's pastries, delicious but stimulating a host of mysterious allergies, put you in the mood to do some serious damage to your once loved enemy. Left Phleb specializes in random blasts of air, sometimes freezing, sometimes smelling of decaying flesh. As it happened, some kind of repairs deep in the water system had left the famous waterfall a mere trickle. That was a disappointment. We could hear the well-rehearsed arguments of the couples at the other tables. For a couple in trouble, that might have been a balm: the absurdities of others' romantic squabbles might lead one to question the signifi-

cance of your own. As it was, the arguments seemed to indicate the pettiness of the reasons that brought them together in the first place, never an appropriate lesson for a couple who were, after all, on their honeymoon. . . .

. . . we were told to stay away from Demavend. That advice was well meant. Actually, it was the best advice we received on our trip. The reasons to stay away turned out to be legion: sullen shopkeepers, packed restaurants that felt like emergency pods carrying refugees from some great disaster, children who hid under the heavy corridor furniture and jabbed at our behinds with sharpened wires. And most of the reasons for going to Demavend turned out to be less than compelling: a tomb with no body in it; a famous view down a widening corridor that was blocked by netting as some useless cross tunnel was constructed; a concert hall so poorly designed that all we heard were echoes of the performance, echoes that seemed to last long after the performers had left the stage. But Demavend turned out to be the highlight of our trip. In it the sense of secret negotiation, of grim planning, of determination to remain neutral between two great forces, one controlling the resources of the Solar System, the other desperate to use them, seemed clearest and most manifest. It was in Demavend that we realized that we were married for a reason, and that reason might well keep us both alive. . . .

"Who the hell wrote this?" Ferhat said. "I don't think this showed up in the intel stream anywhere. Maybe that's because no one could stand to read it. How did you get it?"

"Personal communication," Kingsman said.

"In prison? They would have read it and incorporated it into the stream."

"No. From before. Just before I went to Kalatra, in fact."

That dread name gave her pause. "Don't be coy, Preceptor. Who was it from?"

She'd picked up on his one area of reluctance. "A smart guy. One I respect. He's married to . . . he's now married to my ex-wife. He wrote these notes on their honeymoon."

"He spent his honeymoon writing reports on water supplies and excavations?"

"Nam Lo is the kind of man who gets a lot done every day."

"All I can say is, if that's the guy who beat your ass in the husband sweepstakes, you must have been a real prize."

"I probably could have stood some improvement."

Ferhat and Kingsman sat together on the floor, leaning against a wall. Business went on all around them, and Ferhat occasionally had to answer a question or approve something. She would always let Kingsman know she was doing that, so he wouldn't speak while she wasn't listening. He appreciated the courtesy.

She turned back to him after making some decisions about resupply. "All right. Some of this guy's observations match what I've suspected. But I don't like my own conclusion."

"Of course you don't," Kingsman said. "No one likes giving up a good working hypothesis. But deceptions do happen. And, if I'm right, this is a particularly good one. But this is just another hypothesis. I could be wrong."

"Do you think that covers you?"

"What?"

"Saying 'I could be wrong.'"

No one ever liked his method. When it worked, it seemed as if he had succeeded by accident, and when it didn't, they blamed Kingsman for the failure.

"Let me put it this way," he said. "I could be wrong. But I'm probably not."

She examined the exploded diagram of her team's tactical target, even though she had taken it apart a dozen different ways already. "What if you're right? What if we're aiming at a false target? Will you immediately cancel the Phobos expedition?"

"I can't swear that I won't," Kingsman said, after thinking it over. "Will that affect whether you order the recon?"

"Don't push it." After looking it over one more time, she closed the image. They were left alone with each other. "I don't really have a choice. I can't risk chasing an illusion and losing anyone else. I'll give you two guys to check it out: Landor and Tutun. Good guys, maybe not quite nailed down around the edges."

Kingsman checked their records as they flickered past his vision. Exactly as she said: brave men, fast, who exploited ambiguity in orders when it suited them.

"And you picked them because. . . ?"

"Because they'll listen to the main thing I have to say to them, and act on it. And that's this: if you get in trouble and saving you puts them at risk, any risk at all, they're to abandon you. They'll do that."

"They might even enjoy following that order," Kingsman said.

"Don't worry, Kingsman. They'll play it straight. If they can get you out, they will. Let me ask you something."

"Sure."

"Were you surprised when they came to you in prison and offered you freedom in exchange for coming here and making this particular decision?"

Kingsman thought it over. "I don't know about 'surprised.' I calculated the odds as a bit less than one in two that someone would come for me within three years of my incarceration. I figured that after any longer my skill set would be outdated, making me significantly less valuable. It was two years and eight months. That meant things were bad."

Ferhat pushed herself to her feet. "Were you surprised when your wife asked you for a divorce?"

That Kingsman didn't need to think about. "Yes."

. . . I have seen asteroids with wet inner walls and dry heights, their interiors tangled with pipes, lifting buckets, rising columns of humid air condensing on cold sheets in the low-gravity zones, modified tree trunks with swollen xylem and phloem, high-surface-tension globules curving like balls in some invisible game. At the gravity of a spinning asteroid even crude pumping schemes can lift water a great height. After generations of post-collapse life in such a space, cultural adaptations make it seem like a sensible, even noble proceeding, using muscle and improvisation to build an integrated life. But no one would ever have chosen it freely.

Water brings life, and it brings collapse. The two are linked. The sequence is inescapable. Human life requires water. And water inevitably destroys.

Water dissolves, it erodes, it corrodes, it decays. It is patient and it never stops its work. With it come microbes and other creatures that change pHs, secrete their own solvents, push tiny fibers into supposedly resistant walls, and swell their own fecundity into the cracks.

Water freezes. When it does, its pressure is irresistible. If a water-filled vacuole in rock is allowed to get too cold, its phase transition can split an asteroid wide open.

No matter how careful the inhabitants are, over time, all falls apart, water works its way through the inertial wall, and spurts, freezing, into vacuum. The result is a dead, hollow rock with an oddly high albedo from the ice crystals coating its surface.

Phobos has its secret inner seas. So far they have managed to keep them under control, as servants. That requires constant maintenance and a sophisticated social organization. Social failure would result in environmental failure. In a moon, there is no "state of nature."

Near New South Corridor lies one of the more interesting attempts to unite water supply with spiritual entertainment. . . .

* * *

Nam Lo probably didn't even know that his personal notes had made their way to Kingsman. Elise's biggest flaw might have been her belief that she had the right to keep or violate secrets based on whether she thought the goal was important enough.

Not too long after her divorce from Kingsman, Elise had actually gone to the Concourse, sat down at a table—and sent a message to her ex-husband.

He had never known Elise to be cruel, but if sending your ex-husband a message from your honeymoon with your new husband wasn't cruel, what was?

Kingsman had been en route to what seemed a routine military operation at Kalatra when he got the message. He tried to delete it without opening it. Then he stored it for a long time. Then, after his gamble had failed, and a lot of people had died, he had wondered how bad the message could be by comparison, and had opened it.

She had sent him an image of herself sitting at a table in the Lower Concourse of Phobos. Her thick dark hair was pulled back from her high forehead. Her protruding eyes, which showed white all around the iris when she was emotional, seemed even larger than he remembered. The fashion that month was for wind, and she was dressed for it, in a dress that seemed to be made entirely of velvet ribbons, and streamed out to the side, clinging to the well-remembered curves of her body. On the table in front of her were two plates, one with a smear of butter. But the chair next to her was empty.

Presumably Nam Lo had been off making some kind of observation, and hadn't known what she was doing. That would explain how she had managed to code all of Nam Lo's notes into the image. Despite clues, it had taken Kingsman a while to find them, and then he was just puzzled by them.

Now that he was here in Phobos, they seemed like the most important gift anyone had ever given him.

"This is crazy shit," Landor muttered. "I ain't going to lie about that."

"I appreciate honesty," Kingsman said. "In situation reports. Personal opinions you can keep to yourself."

"Jesus!" Tutun's tone was vicious. "I can't believe she's sending us off to get killed like this. I didn't do anything. You do something?"

"Like what?" Landor rechecked his gear. He was a big man, with pale, pimply skin. His suit displayed his tattoos, and was festooned with way more than the regulation kit. "What could I have done?"

"I don't know," Tutun said. "Like not take care of that stupid ventilator, maybe. Did you screw up on the vent again?" Despite his visible irritation, Tutun kept doing his job, scanning forward as the three men scrabbled down the dark hallway, knee-deep in swirling trash. He had dark skin and oddly delicate features, like a doll.

"That vent's just not working right," Landor said. "Took a hit on the first day, been flapping like it's dying ever since. That's not my fault, Tutun. Not my fault at all."

"You're supposed to keep that vent working. So we can breathe. That's kind of fundamental here. Breathing. Not like the Phobs are going to be sending oxygen down our way."

"It's not my fault!" Landor was sounding nervous. "Jesus, you think she'd send us out here with the Angle of Death because of a busted ventilator?"

"Commander Ferhat hates stuff that doesn't work right. Like busted ventilators. Or the people who can't get off their ass to get them to work. She'll rip stuff out and rewire if she has to. No sentiment. That's what I like about her."

"'Angle of Death'?" Kingsman said.

"But what about you?" Landor said. "Why would she want to kill you?"

"Come on, Landor, you serious? Me? She'd as soon kill me as assign me latrine duty. Of course, those things wouldn't smell half so bad if that vent was working right. . . ."

"But why, man?" Landor was almost in tears. "What she got against you so bad?"

Tutun slapped Landor on the shoulder. If Landor's suit was at the regulation setting, he felt it on his skin. "Because I'm friends with you, hump. That's pretty much the story. She sees that it unfits me for command. Makes me untrustworthy. Poor taste in shithole bros. But you know what? I'm sticking with you. To the end."

"Screw you, man!" Landor stepped away, as if ready to throw a punch.

"This 'Angle' thing is still bugging me," Kingsman said.

"Typo, for crissakes." Landor directed his rage at Kingsman. "How else? That's the first report we got, after Kalatra. So that's what we stuck with. Like a prophecy, or something. That's what most prophesies are, right? Typos and 'what did you say?' and shit. Like that. So you're the Angler. We know you."

"Mistakes can be intel too," Tutun said. "Are we at the shit face yet?"

"We're not looking for combat," Kingsman said. "This is recon. You've done recon?"

"Not with you. Never with you. And I didn't put getting killed on my list of things to do before I die."

"Good one, Tun!" Landor chortled, wanting to be friends again.

"Come on," Kingsman said. "We've got a specific thing to check out, and we're done."

They scrambled over a pile of rubble into a ruined kitchen cubby. Not too far above them started the Phob-occupied areas, where there were other kitchens that still worked, still fed people. Tutun pushed his fingers against a stretch of wall still stained with the remnants of old food.

According to local informants, there were several different political organizations in the area: a communal supply organization, a gang-run territory around a power unit, and a safety group of families that had started dictating personal dress and rules of conscience. Aside from confusing the geography, Phobos' ruling clique had explicitly dissolved itself into dozens of contradictory and uncooperative political units. No single group had the authority or power to surrender the moon to the invading force. It was self-binding on a vast and deranged scale.

"This way." Tutun blew a hole in the wall.

Kingsman was on point. He knew the other two could let him get ahead, and then leave him there. But if he kept worrying about things like that, he'd completely lose effectiveness. He went through the wall, and into the narrow access space that kinked up from there. After a moment, he heard the other two behind him. All around them was the whisper of occupied apartments.

From all evidence available to Ferhat, the main water lines ran through this volume. They supplied the unconquered parts of Phobos. If they could be seized, resistance would have to end.

That assumption had been the cornerstone of Ferhat's dispositions. But she looked for disconfirming evidence. Kingsman could see that that was her particular gift, a rare one. That she could test and accept his evidence, despite not liking or trusting him, was even rarer.

Kingsman already suspected that the old water channels were no longer in use, that they were now a decoy and a trap. But he hadn't invested himself and the lives of his troops in another interpretation of the intel. It was easier for him.

The three men came to the separation point. Tutun pushed off down a side passage, leaving Kingsman and Landor curled up like grubs, listening to the sounds of children's voices, dishes, a rumbling piece of cleaning equipment just below them. They waited in darkness and silence, their very metabolisms slowed to minimize the

burble of their blood. They would outwait anyone who might have heard them and raised the threat level.

Several hours later Landor shook himself, tapped Kingsman's foot, and set off the microdetonations.

They dropped slowly into someone's living room.

"Lie down, lie down!" Landor was yelling before his feet even reached the floor. "Hands over head. Down, down, down!"

The apartment had a complicated three-dimensional layout, with sleeping and other private areas dropping down below the entertainment/eating area that was their initial target. It hadn't been chosen because it was an easy tactical problem. It had been chosen because it was the most likely spot for Kingsman to test the new hypothesis.

And because he had information that led him to think Elise might have been around this volume in the days and hours before the Union assault on Phobos. That was something he hadn't shared with Ferhat.

It was a high room with lights shining upward onto a domed ceiling, a ceiling that now had a hole in it. A few fragments floated down after Kingsman and Landor.

The front of the room opened out onto the main corridor for this residential area. Kingsman, as practiced, jumped over and put up the privacy screens, then shot a preliminary defensive net across the openings. He could hear the hum of conversation from the corridor as people went about their business. If things went as planned, the three men would be gone before anyone got suspicious.

A woman and two children had been sitting down to a meal. For a long moment they just sat straight up as the two armored figures dropped through their ceiling and food flew.

Then, as requested, they got on the floor.

Landor secured their wrists and ankles. "This is a temporary occupation." He quoted the standard message. "You will be informed of what to do. You will not be harmed. You are not the target. We apologize for any inconvenience."

To Kingsman: "Someone ran. We've given them enough head start. Chase them down to the left bottom."

Kingsman had already launched himself out of the dining area and down the passage to the lower sleeping spaces.

There he was, a boy, maybe early teens, screaming. Why fire a disrupter grenade when you could use a member of the household to do the job for you? He couldn't convey any information, only panic. Kingsman let him keep his lead.

The apartment was packed with stuff. Clothes, arranged by color and texture, filled shelves. Elaborate hats dangled from hooks. Spherical aquatic environments full of fish and other creatures hung from the ceiling. Scurrying toy animals crunched underfoot. You took your life in your hands moving around a Phobos apartment even in peacetime.

You needed the clothes to catch skin fragments, because otherwise the moon would have filled with masses of dust, but the rest was just for entertainment.

Turning a corner, Kingsman ran into a woman, her black hair wild, wearing only a pale-blue sleepsuit.

"Please stop," Kingsman said. "Stop or be processed."

Instead, she kicked over a case of decorative plates, which spun slowly into Kingsman's path.

Two more kids came out, one crying, one sleepily rubbing his eyes. Not in the records—some kind of sleepover or other annoying social event.

There was a lower exit here, one leading to waste disposal and other support func-

tions. If she got out here, she could raise the alarm, and the local militia would be on them. She half ran, half swam, staying ahead of Kingsman.

As she reached the utility room, Tutun punched through the wall, showering her with fragments.

"Please lie down," he said.

A long moment, and she did so.

"Why is this one part out in the open like this?" Tutun pushed his face up to the braided stream of water that went from one wall to the other in the small room.

Kingsman stopped himself from pointing out that, at the velocity it was moving, the water could rip Tutun's nose off. Either Tutun knew that, or it wouldn't make any difference what Kingsman said. "If we're right, they jury-rigged the whole cycle, fast. Used what they had. This jump makes enough noise that it sounds like a lot more water than it is. Plus it looks cool."

Human physiology required water, lots of it. Every cell needed it. It brought nutrients into the body and took waste out. And regardless of technical advances, it was just as massive and bulky as it had been when the Sumerians started digging canals. Every society in the solar system spent a lot of time and energy managing it. Supply failures led to a quick and unpleasant death.

Extra clothes hung on the room's walls. The Phobs seemed to take this pretty casually. But that was part of the plan. There was absolutely no sign from outside that this was here.

"I saw something downstairs." Tutun pulled his nose safely away from the water. "There's a big ass bladder down there. Heavy bag bigger than this room. It could support this family for months."

Those bags were a specialty of Elise's, Kingsman thought. She'd saved a lot of lives with them in asteroid relief efforts.

Or maybe they were just water bags, like any emergency service would have on hand. He had to be carefully how many hypotheses he was juggling at any one time. He could float away from reality and never get back.

Kingsman pulled out a syringe and put the needle almost parallel to the water. "If this is just a short recirculating loop, like we suspect, the radioactive tracer will come back in a couple of minutes. I'd be happy not to see it."

"Nah," Tutun said. "I doubt you're ever happy being wrong, no matter what you say."

Landor was in the other room monitoring the family. The two mothers were sullen, sitting cross armed in the kitchen, refusing to answer any questions, or chat about family life, despite Landor's somewhat ponderous efforts to create a calm situation. The kids, however, saw this as an opportunity to continue this sleepover with their friends. They had piled decorative cushions in a corner of the main family room and were playing a kind of hide and seek game with them.

The makeshift fortress had collapsed again. Giggling, kids were crawling out from under it.

At that moment, the black-haired woman Tutun had captured in the lower hall brightened up. "Where did you say you were from?"

Pleased at any attention, Landor turned to her. "A little town in the Great Plains, called—"

"Count the kids!" Tutun bellowed. "How many kids in there?"

Landor's head snapped and his eyes wiggled back and forth. The kids chose this moment to run madly around, pretending to play hide and seek. "One . . . hey, there's one missing, man. That skinny kid. Where—?"

"He's suffocating!" the other woman said. "Help him!"

It wasn't remotely persuasive.

"Watch their asses. You guys, stop moving. *Now*." Tutun toed through the cushions, weapon at ready, while the kids stood in a row and watched, wide eyed. "Where does this go?" He had found a small opening in the base of the wall, barely large enough even for the child who had gone missing.

"He's going to die in there!" The woman wasn't giving up. "No air. Get him out! Please, mister. . . ."

It had gotten silent outside the apartment. Tutun knelt and looked into the hole, which looked like a passage for a pet. "This leads into the corridor. He's raised the alarm by this point."

"So let's get the hell out of here!" Landor glanced up at the ceiling hole, which dangled dust-covered fibers.

"Easy way to get caught, hump," Tutun said. "These guys are fast."

"No kidding," the black-haired woman said. "You better surrender right now. I'll put in a good word for you."

"Thanks," Landor said. "We all appreciate it."

"You better appreciate it. It's that, or death."

Tutun glanced at Kingsman. "How much longer do you need to know you're wrong?"

"Oh, man." Landor couldn't believe what he was hearing. "We gotta move."

"Just a few seconds more," Kingsman said, looking at the water, and the radiation sensor he had placed next to it. How long would the longest possible closed loop be? Or what if he was actually wrong, and he'd never see the tracer?

"Let us go!" The black-haired woman was getting agitated. "Otherwise, it's bad news for all of us."

"Bad news is something I'm always willing to share, honey." Tutun's eyes flicked back and forth as he scanned up through the ceiling. "Yep. Sly, quiet. But they're there." He started to bring up his weapon.

Kingsman pushed it down. "Will you do anything but make a lot of noise and let them know we're on to them?"

"They'll move on us soon, and that'll be it."

They could try to keep these people as hostages and negotiate a way out. But protracted hostage situations seldom turned out well in combat theaters. The opposition didn't value the hostages as much as you thought they should. Decisions tended to turn brutally pragmatic. People could feel sorry about it later.

But what other options did they have? The route they had taken in was now cut off. There was only the front of the unit, on the main hallway, or the smaller bottom exit, in the utility corridor. The front here was now covered by a mob of angered Phobs. Presumably they'd covered the bottom exit too, but, Kingsman remembered, that one had some interesting space constraints that made it hard to surveil thoroughly.

"Tutun," Kingsman said. "Just down the passage from the utility area—"

"Egress there. We looked at it, if you will remember—"

"I remember, soldier. At that point we rejected it as too risky, but right about now it's looking pretty good. How would you get down to it? I mean, without getting killed."

"Thanks for qualifying that, sir."

The three of them sat and stared at each other. The detector beeped.

Landor looked startled. "So it is. . . ."

"You're surprised?" Kingsman said. "You thought I was wrong?"

"Sure I did. Sir."

So, they were calling him "sir." That either meant they were starting to respect him, or they were starting to be sure they were going to die.

"Um," Landor said. "The water bag. The bladder."

Kingsman got it instantly. "Brilliant, Landor. You have hidden depths. Tutun."

Tutun kept his eyes on the prisoners. "What?"

"Let them go."

Tutun hesitated.

"We don't really have a choice. No reason to increase civilian casualties."

"That it? They get out, we die, like everyone else you command?" Tutun, enraged, stuck a gun in a crying child's face. "What did they do to earn that?"

Everyone knew what had led to his disastrous decision on Kalatra. Or at least they thought they did.

"They had a sleepover." Kingsman stayed calm as he unhooked the mesh over the front openings. "They sat down in their PJs to have some breakfast. They built a fort out of pillows. Maybe they wanted to skip a day of school so that they could play with their friends some more. None of us earn life, Tutun. We just get it as a gift. Are you qualified to decide who doesn't get to open theirs?"

"Yeah, hump." Landor's voice was shaking. "We're getting out. Just . . . he's got a plan. Don't you see that? He's got something that might get us out."

"It will take those outside a few seconds to process that these are their people," Kingsman said. "Let's use that."

"Run!" Tutun screamed at the family. It was a genuinely terrifying sound. "Before you get killed!"

The kids scattered first, the mothers after them, their toes grabbing the tiny bumps on the sides and bottom of the corridor with the quick reflexes of those who had lived their whole lives in low, spinning gravity.

Their rescuers had concealed themselves at a corner. A couple of them now darted out to gather in and protect the children. Kingsman and Tutun took advantage of the moment of distraction to hang out of their entrance and shoot the Phobs when they exposed themselves. Kingsman got one clean shot, Tutun, younger and faster, two. At least one of their opponents went down and was pulled back out of sight.

Kingsman hoped they would think that was the sole point of the exercise.

Kingsman and Tutun tumbled down the passage to the lower bedrooms. As soon as they were down, Landor hit the microdetonators he had installed in the few seconds he'd had. There was a tiny crack, and the wall of the water storage area crumbled into a side corridor.

There was the big water bladder, a dull red with a rough surface. It had embedded logos but those had been plastered over with stickers from the Coruscating Cooperative: "Water of Life, courtesy of your allies, CC." A childish bit of advertising, but new entities had to establish legitimacy however they could.

All three men put their shoulders against the floppy water storage bladder.

It rolled into the hallway. They could hear the buzz-snap of fire from the other side, but that amount of water could absorb an incredible amount of energy.

Including kinetic, provided by their muscles. It took a few seconds of maximal effort to get it rolling, a slow few feet per second. Kingsman was gasping for breath. But it was moving faster.

The bladder was well-designed—and it was one of Elise's. Kingsman was sure it was her design, and the original logo that of Nam Lo's relief organization, Soft Landing. Presumably it was leaking water from the other side. But it did not give way or explode.

"It's coming up." Landor spoke calmly. "Let it roll. . . . Just a bit farther . . . go!"

The rolling bladder cleared a side passage. In the few seconds it gave them, Landor dove down it, followed by Tutun and Kingsman. They jumped over the squatting

Landor, who placed another set of detonators. Another crack, and the passage crumbled into rubble behind them.

"How did you know to look for that?" Uy looked up at the diagram of the Demavend district as it loomed over him and took a sip of his drink.

"What?" Ferhat said. "You mean this cross passage?" A line appeared in response to her finger gesture, showing where she had taken the unmapped corridors into account.

"Yes. The location of that hit our intel stream . . . when, Servan?"

The young staffer flicked a pale-lashed eyelid to bring up the data. "Eight hours ago, sir. Rumors before, from local informants. Marked unreliable. But a detonation there gave us a nice solid echo."

"Have you been basing your assault plan on unreliable local rumors?" Uy's tone sounded joking. He wasn't joking.

"No sir. I had supporting testimony. Pre-assault. A tourist report."

"Tourist report. I have to admit, I was never at my most reliable while on vacation."

Uy's staff laughed sycophantically. They sat in a rough crescent around the outer rim of the restaurant terrace, with a nice view of the rolling landscape of the Concourse. Ferhat's troops, obliged to attend this face-to-face, had occupied what had once been the kitchen and support area, and had even meshed some of the rubble into a rough wall, as if expecting an assault from the analysts and administrators up from headquarters.

"This particular tourist's reports have been extremely reliable," Ferhat said. "In fact, they are what helped us scope out the extent of the Phob deception operation around the water supply."

"Well, great." Uy put his drink down so roughly that it spilled. The gesture he made to keep a subordinate from jumping to wipe it up was almost a fist.

"Shall I proceed?" Ferhat said.

"I don't know. Should she, Tony?"

Kingsman had tried to sit unobtrusively. But there was no group with which he fit and he had found himself perched alone between the two forces, his long legs jammed beneath a table that threatened to tip every time he tried to decrease the stress on his knees.

Trying to be unobtrusive was stupid. This ghost wasn't just an uninvited guest at the feast. He was the caterer.

Everyone knew who Kingsman was. Though the fact was supposedly close-held by senior command, everyone knew why he was there. Everyone knew his authority. Everyone wondered why he wasn't exercising it.

"It's an extremely effective disposition of available resources," Kingsman managed. "Aimed at a potentially high-value target."

Uy stared at him in disbelief. "It's a bit late in your life to try to develop a skill for content-free phrasing, Tony. Save it for those of us who have a natural talent for it."

Kingsman had come back from the recon with Landor and Tutun knowing that the entire Union strategy in Phobos was flawed. That was more than enough reason to cut losses and announce a withdrawal. Anything else would be throwing away lives and resources on an unattainable goal.

Ferhat had debriefed the three of them, and had clearly known what Kingsman's only possible decision was. Still, she had immediately gone to her command shelter and started planning another operation, one that would take advantage of the intel she now had. And she had worked with total focus, calling in whatever members of her team could help her, until just before the meeting where she expected to be told that all of her efforts were completely wasted.

Preceptor Uy had come up here to the Concourse with his staff fully expecting to start organizing the logistics of a withdrawal in the face of a still-active enemy, only to get an operational proposal from a subordinate that involved a complex disengagement, change of face, and high-risk penetration into a previously untouched volume. He was confused, and increasingly furious.

And it was a decent operational plan, Kingsman thought. It would hit Phob operations at a weak point, taking advantage of that same feral lack of top-down organization that had thus far been a strength of the opposition. Backed with enough resources, it would seize control of a decent volume deep in Phobos . . . before inevitably bogging down and failing to make any significant difference in the overall strategic situation. Ferhat was smart, but she wasn't ready for operational-level command yet. It was another level of complexity.

But as it moved into Demavend and established dominance over the water-filled vacuole there, her proposed operation would encounter something else, something that, if managed properly, really could make a difference. Ferhat had no reason to know it was there. Even Kingsman couldn't be sure . . . but it was a chance worth taking, he thought.

"Preceptor Uy," Kingsman said. "May we talk privately?"

"Goddamit!" Uy stood up. "What the hell are you playing at, Kingsman?"

They had moved into a small enclosed shell with a two-person table, once used for romantic dinners. Uy wasn't as tall as Kingsman, but he was a big man too, and together they packed it full, and were able to feel the heat of each other's skin.

"You need a chance, Dakila," Kingsman said. "This can give you one."

"I don't need a chance. I need a withdrawal. Every day you wait costs me at least two soldiers. Dead, or desperately injured. Given what you've been through, I would think you'd want to avoid even one unnecessary death."

"If you want to withdraw so badly, why don't you simply order it yourself?"

This tiny room was a good place for a cage fight. They could do a lot of damage to each other.

Uy's breath was hot past Kingsman's ear. "What do you want? I knew you would finally want something from me. I voiced my objections to you coming here, but you have some strong protectors."

"I don't want anything from you that I'm not clearly asking for right now," Kingsman said. "Commander Ferhat's mission offers a possibility of a better settlement. A better result. Right now, you pull out, you'll leave chaos. And lose people while disengaging. It will be a mess, probably a long-term mess, years. One way or another you're leaving Phobos soon. Ferhat will let you get out without ripping your skin off."

"She's wondering why the hell you're leaving her up there, briefing us on a mission no one wants," Uy said. "Her heart's not in it."

"Her heart may or may not be in it," Kingsman said. "But her head is. It's not perfect . . . but we can make it the best odds operation possible. It can get us down to Demavend. After that . . . one way or another, you're out of here. Will you give her the support she needs?"

Kingsman wasn't even sure if he was right. Could Uy order a withdrawal on his own authority? How much negotiation would that require, and how quickly would it become public knowledge?

Uy still needed his coverage.

"You better give me something other than a rack of corpses," Uy said.

Elise's family had owned a vacation cottage in the Adirondacks, an ancient moun-

tain resort area. It was tucked between two folds of a mountain. Several structures had risen and fallen on the same rubble foundation over the centuries.

The first time he had visited, something about the place had made him uncomfortable. It wasn't just the precise shabbiness that signaled old family wealth. And it wasn't even the sense that he was being tested in some way he couldn't even figure out.

It was the lack of sightlines. Oh, there was one view, very nice, off the porch to the glitter of the lake below. But aside from that, he was blinded. And there were any number of locations in the immediate area that were both more defensible and with better routes of escape in case of disaster.

That wasn't the point at all. It wasn't. So he tried to relax. He paddled a canoe on the lake, getting a blister on his finger for his pains. He hiked the trails, surprised at how hard it was to keep up with Elise, who remembered every turn on the way up, every gigantic glacial boulder, and mourned any tree that had been blown over or died of disease since her childhood. One patriarch had fallen just the previous winter. Rounded rocks were embedded in its complex roots, which loomed above them both. She walked back and forth along the trunk, and then they had sat together in the cool shade cast by the roots.

He'd bought a present for the house, a slightly convex mirror for the end of the upper hallway, just near the door to their bedroom. It had a mosaic of old pieces of dinner china around its edge.

"I never knew you had that kind of eye," Elise said. The beauty of the mirror made her see him a different way. She insisted on standing in front of it with him, resting her head on his shoulder, and looking into each other's eyes in their reflection.

Behind their heads he could see the window, its curtains blowing in at them, and beyond that the road and the rise of the mountain on the other side of the lake.

They left that cottage a true couple. They came back several times, though not often. His career took him everywhere in the Solar System.

And their last, worst fight took place there, after which nothing had been the same. Two weeks after the last time they went there, she told him their marriage had to be over.

"Mashee, you're supposed to be buttoned up." Ferhat's tone was weary. This was the third soldier she'd had to downcheck for being inadequately armored since they had started out.

Without looking at anyone else in her team, Mashee activated her armor and pulled her faceplate down, so that irritated features were sharply displayed. She exchanged a glance with the rest of her team. Then she knelt, slapped the wall, waited for the detonation and let Landor leap over her into the apartment beyond. A moment later, she followed.

Kingsman was in no way in charge. But he was there. And Kingsman had demonstrated that all of their work, all of their casualties had been futile, a gigantic mistake. They might have hated him before. Now it was more personal. And their commander, Ferhat, was willing to cooperate with him. It somehow tainted her. It had become almost a point of pride to be inadequately buttoned up, as if taking proper precautions during an assault was some kind of statement of sympathy for his insane and pointless objectives.

They had been staying away from any transport corridors or open spaces, busting through walls and hopping through dwelling units on an unpredictable path. It was rough, tedious work, with the risk of resistance behind every apartment wall.

Ferhat and Kingsman had moved up now, because things would be changing just ahead. Once the apartment was checked safe, Kingsman slid in and stayed out of the

way, behind a cabinet filled with decorative plates that flickered with their own light. Ferhat settled at the kitchen table and waved her hands as she examined a situation display. Two other troopers, Tutun and Gupta, waited next to her, weapons ready.

Mashee reached through a hole into a bedroom and pulled out a little girl in a frilly dress, as if she had dressed formally for the assault on her home. She had her arms crossed and looked up at the armored soldiers expressionlessly. Mashee reached out to help the next person, but the woman shook off her gauntlet and climbed through on her own, a big packet of clothing and other supplies under her arm. A man followed, also not looking at Mashee.

Ferhat and her soldiers destroyed living spaces just to get from one place to another. It gave them maximum safety and coverage, but it was a brutal way to travel. Mashee slapped identification stickers on the apartment and clicked a confirmation to the couple, who would be notified when they could move back to their home and try to do what they could with what was left of it.

"Other side of the wall," Ferhat said. "Make it wide."

Tutun jumped through, knocking over a small cabinet and scattering figurines on the floor, and blew the wall of the bedroom beyond.

There was nothing on the other side. Bright light flared in. They all moved more carefully, as if they could be sucked out by the whistle of wind they could hear. Tutun stuck his head out.

"Wow. Take a look at this."

Beyond was a vast crack that extended up and down. The other side of it was a hundred meters away. It was the first open space they had come to since leaving the Lower Concourse a few days before. Like many things Phobos, it was bleak and disturbing, hard to get to grips with. Even what should have been pleasant balconies far away on the opposite wall looked more like elements of God's own cheese grater.

"A good spot for them to make a stand." Landor said. "They've got to be waiting for us over there."

"A great spot." Tutun was already taking distance readings across the abyss, finding appropriate adhesion points for their transport cables. "I could hold us here with a . . ." He paused, not having worked out the right metaphor before getting there.

"A pile of rocks?" Landor suggested

"Yeah. Maybe." Tutun was reluctant to take the suggestion. "I could maybe do it with that."

"Tiny rocks. Pebbles. Like . . . sand."

They both fell silent, contemplating holding the gap by shooting sand, hoping for a more sensible comparison.

"A fart gun?" Gupta had been checking her weapon, as she did obsessively, mostly, Kingsman thought, to try to block out her colleagues' chattering.

The two men laughed. "What? What's that?"

Gupta, irritated, looked across the gap to where someone had left a white cup on the curving railing of a balcony. Once you followed her glance, it was impossible to look at anything else.

"It made that noise," she said. "Like a fart. When you fired it. Little pellets, kind of soft. My brother and I both had them. It was, like, compressed air or something. You didn't have a toy like that?"

The other two weren't really listening, just chortling at everything she said, so she shut up.

"Never mind the gun part," Landor said. "I could hold that wall through the power of farts alone."

"Go bo!" Tutun faked enthusiasm and the two men tapped weapons.

None of the civilians they had been moving out of the area had any useful military information. Oh, they were full of it, of course: a substantial unit was concealed beneath the shielding of a local power node, the troops had all fled in panic and dropped in survival pods to the Martian surface, ambushes could be expected from soldiers with diapaused metabolisms, encapsulated in what looked like bunches of brown fiber sprayed into dark corners. The civilians weren't worth the effort of interrogating, but it had to be done.

Interior asteroid combat was a battle of sensors. Scouting, as Kingsman had done up toward the water source, was too dangerous and expensive to do often. So they vibrated the rock, they sent out electromagnetic radiation at various frequencies, felt for density variations, and tried to figure out what the hell lay ahead of them. The enemy, meanwhile, spoofed with fake echoes, misleading density profiles, recordings of gossiping troops on R&R. As a result, troopers moved ahead blinder than any troops in human history, blinder than inexperienced colonial troops chopping their way into a dense jungle. They couldn't *see*.

They might have been even more resentful if they had known that some of the intel that guided their movements had come from Kingsman's ex-wife's current husband. Ferhat hadn't seen fit to share that information.

But they had their doctrine, and knew how to move and protect each other. At the signal, puffs of impact appeared between the balconies opposite. Lines snapped across, finding adhesion points in the rock of the wall. Reaction-packed soldiers shot across, sometimes hitting balconies, but more often cracking holes in the wall and tumbling through into the spaces beyond.

It was indeed a good place for a stand. Even a moderate force could have imposed heavy casualties on the Union forces as they crossed, exposed. But no one responded. And the apartments on the other side were completely empty.

"You did figure there was under a 50 percent chance that they would ambush you by this point," Kingsman said. "But that the risks go up from here."

Ferhat looked up from her planning images. "I didn't consult you on that. Where did you get that number?"

Kingsman shrugged. "I know how a good unit commander thinks. And you're good."

"Just not as good as you."

"I have more experience." Kingsman wasn't going to deny it. "Particularly with the way things can go wrong."

Ferhat had hauled him into an inner room of a balcony apartment while the rest of the crew rotated through their breaks. She had spent a few minutes going over fairly routine tactical issues. That wasn't fooling either of them.

"Don't tell me about how things can go wrong," she said. "You landed me in the shit with my commander by letting me propose this stupid expedition. It's not what he wants. It's not what anyone wants. But you let me go ahead with it."

"It makes the most of the opportunities we have," Kingsman said. "It uses the space and the resources to their maximum. It's something to be proud of."

His praise didn't interest her. "You know a plan is never completed. There's always a possible flaw, something I hadn't considered adequately, or some assumption that needs to get reexamined."

"And you think the odds don't add up," he said.

"You know that. You've known it since I proposed it. But you let it go ahead. Instead of doing the one job you had and pulling the Union forces out of Phobos, you've had us into its very heart. You've fallen back in love with the idea of victory."

"I—" He had been prepared to make a defense of the opportunity the expedition

to Demavend provided. But this hit him from an unexpected direction. "Not victory. There is no victory possible. Just salvage. We can salvage something from the situation."

"If you don't tell me immediately what factors you're using that you haven't told me about, I will scrub this mission. Here and now. You might be afraid to do that. I'm not. I'll pull back, and then we can all wait for you to make the decision you should have already made."

He believed her. And, whether or not she was telling the truth, his respect for her grew. Just at the point that he was about to lose hers.

"There's a relief team interned down in Demavend, near the water," he said. "At least, that is my assumption, based on reasonable evidence. And in charge of that team is someone whose cooperation I might be able to get."

"I don't believe it." Ferhat's voice was full of disappointment. "Victory was bad enough. But is that really what this is about? Finding your ex-wife?"

"No!" the accusation was so unfair he wasn't able to say anything coherent. "That's not it at—"

That was as far as Kingsman managed to get before the air disappeared.

There was a moment while the air rushed out of their suits, and a pain of imbalanced pressure in Kingsman's ears. Then his mask was down, his emergency connections activated, and his suit inflated. By the time he could turn his attention to something else, Ferhat was not only buttoned up but giving commands.

A kaleidoscope of desegmenting floors rotated beneath them. The stars appeared in the gaps, far away. The black grew larger. Everything between them and outer space had disappeared. The Phobs had sacrificed a segment of their own world to kill them.

And Kingsman was falling free. He had environmental protection, and a small reaction capability, but nothing like you would need for serious maneuvers in freefall.

While still talking on several channels, and watching displays run across her visual field, Ferhat reached down and casually caught his harness. She tossed him up to where Landor was ready for him with a spiderline. Landor clipped him in and was gone.

Several of the soldiers had flown out of reach and were dropping into orbit. And a couple had not had their suits close enough to secure. Kingsman watched one struggling with a balky seal, running air generators at full to maximize supply. Smarter to drop air generation to minimize pressure, seal the suit, and then refill, taking the chance of hypoxia. But panic had taken hold. The suit wouldn't seal. As the air generation finally gave out, the figure stopped struggling. Medical indications scribbled across the suit. There was a lot a suit could do to preserve physiological function in emergency situations, but complete lack of air pressure was not something it could help. A piece of debris drifted in between them and Kingsman lost sight of whoever it had been.

Kingsman resisted the urge to query Ferhat on whether she had sent the signal they had agreed to in their contingency plans. Either she had or she hadn't. Still, he found himself worrying, in a way he usually didn't. He looked down past his dangling feet. Most of the loose blocks had by this point tumbled out of the big crack in the moon, and he had a good view of Mars as it ground past.

An explosion at Kingsman's left elbow sent a shock through his chest and tossed him free of his support. His spiderline kept him from drifting. The same explosion caught two troops before they could react.

One lost an arm, spurting black crystals of blood before the suit sealed the wound. The other suffered head trauma, with damage indicators growing across his face.

Landor. Nothing to do now. Dealing with them was up to his unit commander, who, sure enough, was shooting a crash cart across space.

Ferhat's troops adapted quickly to the changed rules of engagement. Those assigned def/off responsibilities were firing, either directly at targets or as cover for medical rescues and tactical redeployments.

It wasn't enough. Now that he had incorporated the mass of colorful tactical data, whispered force estimates, and freezing prickles across his fingertips and lips, Kingsman had a good idea of the situation.

If he had been in charge he might have arranged dispositions a bit differently—there were a few coverage zones that were a bit sparse—but by and large Ferhat had done a superb job reacting to an unprecedented situation.

Their force just wasn't big enough to do the job.

The Phob forces had been prepared for this very situation. They knew the locations of every feature down to the millimeter. They had no perceptual ramp-up. They didn't need to exchange any tactical signals, because they already knew what the situation was.

Their fire was fierce and accurate. The only thing that kept them from killing Ferhat's entire force within fifteen minutes was simply the high quality of the armor and weaponry of the Union forces. Phobos specialized in tourism, not war. They were at least an equipment generation behind, and had to fill gaps with makeshifts.

Three Phobs in a prepared emplacement on the opposite wall found that simply being protected wasn't enough. They laid down a good field of fire. But they were too concentrated on hitting their targets, and not enough on their own vulnerability.

Two Union soldiers deliberately exposed themselves, looking pinned down and helpless. A third waited for a screening of debris from a detonation, swung up, and got enough of an angle to bank projectiles into the protected emplacement. The first one ricocheted and chipped rock far away. The second took an enemy soldier in the shoulder. The third detonated and took the position out.

Kingsman looked for something in addition to what was already happening. There was no room in anyone else's mind for anything other than the immediate tactical situation. Kingsman, with no assigned fire cover task, had the freedom to consider contingencies. As always, that meant he spent the vast majority of his time thinking about things that never happened, and never would. To everyone else, the things that happened seemed inevitable. To him, they were only tiny slivers of actuality poking through a vast mass of unrealized possibilities, to the extent that he sometimes felt unsure of which possible future he had actually ended up in.

The Phobs had gone through a great deal of trouble to make sure their booby trap had been undetectable. But did it make sense that they were done being tricky? Maybe they had not yet detonated every structure that they had mined.

Ferhat's tactical dispositions were optimal. She was getting the maximum use out of her force, given the situation.

But which as-yet-unexploded wall would flip the situation if it came apart? Kingsman held a complex equation in his head. Any wall detonation decision had been made in the past—they couldn't change those, and he couldn't detect where they would be. But he could see which ones they would *wish* they had, if they wanted to inflict maximum damage at any given point in the fluid combat situation. So he watched those points, which ranged in number from three to almost a dozen at any given time. And waited.

He knew the troops, if they spared him any thought, felt that he was staying out of the way, saving himself. Even though he had been explicitly ordered not to insert himself into tactical operations, since adding new troops into a trained team could only reduce effectiveness, they still resented him for staying out of the fight.

He was moving before he consciously knew why. In coming up against a desperately fighting nest of Phobs in a well-protected corner of the space, Tutun and his team had exposed themselves to what looked like an interior wall. It still bore traces of mildew-resistant bathroom material here, elaborate dimensional wallpaper there. They'd traded protection for speed. Given the known situation, that was a sensible risk.

As the wall collapsed, spilling already firing Phob troops, it proved to be a disaster.

Kingsman accelerated directly at the newly revealed Phobs, at a steep angle along the wall. Just as Tutun's unit had been focused on taking out their target, the Phobs were focused on their target, Tutun's combat group. They had crouched there in what had once been someone's living room, watching and awaiting their moment. They knew they had to take advantage of every instant of surprise, before the encounter turned into a standard firefight, one in which they had the disadvantage.

Kingsman crashed into them like a bowling ball while maintaining a steady fire.

The next few seconds were just flashes of pain and light, combat faces leering at him from glowing faceplates, complete disorientation from arms and legs pointing in all directions.

He had succeeded in disrupting the Phob attack, but numbers told. He was knocked, twisted . . . and felt the sear of freezing cold along his side as some cutting tool ripped his suit open. A forearm at his throat, limited armor giving way. . . .

Then, impacts and loosening. Tutun and his troops had responded, taking out his attackers. Gupta was at his side. Without saying anything, she grabbed him and spun him around, spraying sealant as she did so.

"Wounds?" he managed.

"Skin held. You'll have vacuum bruising. If he'd managed to cut through, the pressure would have made your guts burst out. Don't worry, I'll give you a full checkout after."

Not five seconds later, she spun him again and gave him a kick which drove him back to his original observation position.

The entire event couldn't have taken forty seconds. Five dead Phobs fell outward behind him.

Kingsman finally risked connecting to Ferhat. "Assume the vessel," was all he said.

"But that will put us—"

"I know where it will put us. But we need to take advantage of the situation. Surprise won't last long. We aren't the only troops who can react to an unexpected tactical reverse."

This was one of many contingencies they had discussed. It required that she deliberately expose her troops to fire in order to put them in position to take advantage of the arrival of a weapon she had no real control over. For her, that was like a trapped climber letting go to fall off a high cliff because he planned for a condor to fly by and catch him before he hit the ground.

She barely hesitated before sending out the new dispositions.

Everyone could see the danger, and no one knew the reason for it. But they were trained, and moved as directed.

It looked like they were trying to retreat, to pull back into that side of the former abyss that was now a wall behind them. That was what the Phobs had probably originally expected them to do, so they were likely to accept it as making sense.

The Phobs moved to take advantage of the gaps in defense that naturally opened up when a force changed its line of operation.

Kingsman could see past his feet into space. His display amplified all military assets.

And the salvage tug had been reclassified as one, after some frantic negotiations with sullenly resistant officials from Salvage and Reclamation.

He saw the tug slide into view, serenely sailing along in pursuit of vagrant debris. If the Phobs noticed it, they edited it out as a routine part of background maintenance, even though the tug hadn't been operational since the Union assault.

Two Union soldiers had been wounded in the redeployment, and there was no way a cart could get to them under the current conditions. One had lost a lot of blood, and was showing slowing heart rate and shock. The other was stabilized, with painkillers allowing her to keep up a steady fire to hold off attackers.

"This better work, or I will kill you," Ferhat said in his ear.

That wasn't a standardized tactical message.

The tug's short-maneuver rockets flared along one side. The programming that kept it from approaching too close to large objects had been altered. It headed forward, into the new gap that had opened up in the Phobos surface by the booby trap.

A couple of Phob troops finally noticed it, but clearly didn't know what to do, or what it represented.

It fired a flight of metal flechettes, this time into enemy troops rather than nonmagnetic debris.

Direction of the flechettes wasn't perfect. The radar wasn't designed to show up a target against a solid background. But the number of them was huge. And human bodies, even armored ones, are much softer than interplanetary rubble.

The effect was devastating.

Crystallized blood puffed out of Phobs and vanished. What was left of their bodies fell out past the tug, some bouncing off its smooth curves on the way out. After an initial shock, the Phobs recognized the changed situation. They pulled back from exposed positions. And some of them disappeared, through airlocks built in what had once been an interior wall.

Ferhat waited. The tug was a makeshift weapon. It had no ability to distinguish between enemy and friendly. It detected moving objects in a certain segment of space. As long as those were all Phobs, all was well. Otherwise, her force would suffer friendly fire casualties.

The Phobs weren't stupid, and quickly found defensive positions where the tug's flechettes couldn't hit, or stopped moving against the background rock so that it had trouble detecting them.

Ferhat gave the signal. Kingsman commanded the tug to cease fire, and the Union troops switched from defensive to offensive operations, pursuing the now-retreating Phobs and seizing airlocks before they could be used and fused shut. Those Phobs who had frozen to avoid being destroyed by the tug's flechettes were now easy targets.

Within a few more minutes, firing stopped. Ferhat's troops held the volume.

"Here's where feralization puts them at a disadvantage," Kingsman said. "Phobos as a whole might have decided to blow a larger hole, killing us all without combat. This group had loyalty to only a limited volume. The cost they were willing to pay was much lower. Too low to be effective."

"A central government would have been willing to pay a higher price," Ferhat said. "Because they didn't have to pull it out of their own hearts. The price someone else pays always seems cheaper. But we're clear now. I'm pretty sure there's no other force that can threaten us within range."

The troops were busily checking their weapons and supplies, gathered in small personal groups exchanging observations on the last battle directly through voice, not via data feeds and images.

Kingsman's suit had been repaired, and Gupta had indeed looked him over, to confirm her initial diagnosis. Bruising and abrasions, but no serious damage. His tough integument had held his innards against the vacuum. His side still burned.

"You earned something from me there," Ferhat said. "Don't waste it."

"Yes," he said. "That's my ex-wife up there. I don't know how she managed it, but she and her husband managed to get her and a lot of emergency equipment into Phobos before the Union hit. They were ready. What they put in place is now our best hope for avoiding a large-scale disaster."

He could see that Ferhat could barely stand to talk to him. She felt betrayed, and her troops put at risk, by a man she knew she should never have trusted.

"The possibility of finding her is why you supported this operation," she said. "The real reason you let me go ahead with it."

"Yes."

He wanted to talk more, to tell her how much he respected her, how much she had managed to accomplish . . . he was surprised at himself. Why talk more now? Why did Ferhat matter so much?

"And you're going to tell me it isn't personal," Ferhat said.

"That's what we always lie to ourselves about. But if it is personal, it's still the best bet we have going. I want you to send me in."

"Oh. Because you're the one person in the world she would be willing to talk to?"

"As an ex-husband, no. She doesn't want to see that man again. But as someone who can keep Phobos from falling apart, I can guarantee you, there's no one she would rather see."

With every victory came loss. And this one came with the knowledge that, when this was over, Ferhat would never speak with him again.

"Six hours," she said. "There's no resistance in that direction. But that's as long as we're moving."

"Okay."

"I wasn't asking you to agree," Ferhat said. "I wasn't asking for you to say anything."

Once its military forces were crushed, the ruling junta of Kalatra agreed to surrender to Kingsman's force. His operations were now studied in tactical school, though they gave the commander a *nom de guerre*. Because of what happened afterward, Kingsman didn't deserve to have his name attached to his own achievements: they called him Preceptor Zero.

The asteroid had been packed, not just with its own inhabitants, but with refugees from other asteroids that had already been defeated. His own force was at the limits of its resources, and its sanity. Still, Kingsman managed to find a way to arrange for the removal of excess population and their transportation to safer areas. It was perhaps an overcommitment of military resources, though nothing that would have led to discipline.

But his defeat of the junta had been too thorough. Too many of the leadership had been killed, and those that remained had been discredited and were not as firmly in control of their people as they thought. And, more importantly, not as in control as they had persuaded Kingsman. They had been facing internal resistance even before his assault. Now, as food was distributed, and stresses relaxed, a mutiny arose. It flared through the displaced population, and there was a desperate attempt at resistance. That action was insane. That was why Kingsman had not anticipated it.

Assuming rationality in your opponent can be the most irrational position of all.

Kingsman waited too long to respond. He couldn't accept until almost too late that his brilliant solution had fallen apart. After that, his dispositions minimized Kala-

tran civilian casualties, even as those civilians were killing his troops. His troops, well trained and loyal, obeyed his commands, and some of them died for his vision of a just solution.

Eventually, he succeeded. The asteroid was pacified thoroughly, and all resistance was crushed. He believed that a more pragmatic-seeming solution, one that killed thousands of Kalatrans, would have been less effective, and left behind it a disaster. But would he have killed those thousands, if he had, in fact, thought it would be more "effective" to do so? Sometimes he thought he would have been compelled to do it, other times that even a victory at such cost would have been unacceptable. He found that the Anthony Kingsman of those moments was forever closed off to him. That man was unknowable, even though Kingsman could remember being him.

Hundreds or thousands, he held himself responsible for not deciding to abandon his own previous, rigorously worked out plan, and realizing that the situation had changed too much for it to be applicable. Though when he was particularly honest with himself, he wasn't sure how much earlier he could possibly have realized it, or what he would have been able to do differently if he had.

As far as everyone else was concerned, the disaster had been the result of pure ego. Kingsman had seen himself as the savior of Kalatra, and had been willing to sacrifice his own troops to maintain that image of himself. No surviving Kalatran saw him as in any way their savior, of course. He was more hated by the people there than by any other Union citizen. He had, after all, killed hundreds of civilians with crisp efficiency. Of the several attempts on his life, during his trial and after, at least two had been Kalatran death squads.

Given the calls for his blood, the eventual court martial had been a marvel of by-the-book procedure. He had violated protocols by accepting the surrender of a civilian force without official authorization. Every commander at the Rim had to do things like that, of course. Their actions were regularized afterward. Not this time.

So the charges that sent him to the prison asteroid were not the ones that everyone thought were his real crimes. But even a politically driven Union court in the heated atmosphere of the months after Kalatra wasn't going to officially find him guilty of minimizing enemy civilian casualties.

He suspected that Elise liked to believe that he had been the man who just refused to kill large numbers of people. Maybe he was that man. Or that better man existed when Elise was there to see him. If she did agree to talk to him, it would only be because of what he had tried to do at Kalatra.

And what, he feared, she would want him to do again here on Phobos.

There are beaches in Phobos, yielding spots to lie in the heat and light, water lapping at your feet.

We have not come to one of those places. Where we stand is washed by cold water and scoured by an eternal wind that must have some purpose, like clearing out dust. There seems no real reason for the water vacuole to be quite so unpleasant. But maybe there's some kind of message in it.

She wades out into the freezing water, challenging me to do the same.

I knew her a long time ago, before . . . almost anything. Then she made a series of choices I still don't understand. But her choices are not to be argued with. And for a long time she was gone to me.

Now she is back. Everything else in my life I control. This, no.

Did he feel the same when he was with her? Or did he feel he was in control until that last desperate moment? She left him, then he tried to do his duty and keep a private conscience simultaneously, and events went against him.

I strip down, step into the water. It freezes, burns, then settles into a dull ache. Why

has she picked this particular challenge for me? One that he had favored? Or simply one she wants me to think he favored? She is oddly defensive of his memory, though I never bring him up. I just feel honored by her choice.

Then, slowly, I understand. We should not underestimate the people who live here, who create the subtle art we admire, who wipe away spills when we are clumsy, who seem to disappear when we aren't looking directly at them. This is their cold heart. They'll do what they have to, when the time comes.

As I did when I asked her to join my mission. I'd like to say I had only the lives we could save from pain and premature death in mind. I would. But she was on my mind, too. I'm glad she's with me, even though, if our plans work out, we may never see each other again.

Ferhat and her troops moved fast, this time taking advantage of the open space of the evacuated crack. Below them, Union repair teams were sealing the space up, trying to keep Phobos from cracking in half. This had to be giving satisfaction to whoever still clung to an idea of victory in Phobos. Only a beleaguered force close to defeat would ever commit an act that desperate.

If it had succeeded, Kingsman thought, it would have achieved its larger goal. The destruction of Ferhat's force would have led to negotiations and a withdrawal of Union force, leaving the ruined hulk of Phobos behind them. No Kingsman with desperate and unusual powers would have been necessary.

But it hadn't succeeded.

The dwelling units on either side of the crack were sealed and empty. And the only effective military force in the volume had been the one Ferhat's force had just defeated. So, when they blew through the final wall and into the volume around the water vacuole, there was no one to stop them.

The team delivered Kingsman to a dark street that ended in a wall of ice with mist spilling off of it. Water sloshed somewhere out of sight. With the exception of a stack of emergency air cocoons, there was no sign that anyone had been here in years.

The cloaked figure sat stirring a pot on a heater, as the freezing mist swirled along the ground.

Elise turned her face up to Kingsman as he approached.

"Hello, Tony."

"Elise." He lowered himself and sat across from her.

She smiled. "It's good to see you."

"Um. Me, too."

Humans could go through a phenomenal amount of effort to communicate, only to say absolutely nothing at all.

There might have been a few more lines around her eyes. He wasn't sure. He could see a change in tactical disposition instantly, but he often missed big changes in the way people looked and dressed. He had never managed to make himself care. Then, in the long prison hours, as he looked back over his life, he finally realized that not paying attention to that was missing a very big change in tactical dispositions indeed.

But, really, she hadn't changed. He hair was thick around her face, so heavy it seemed like it should give her headaches. She still hid her too-large ears under it. And when she stared intently at him, he could see the white all the way around her eyes, and her teeth in her slightly downturned mouth. He knew he did look different, after defeat, after prison, after release. Death and resurrection were hard on the face.

"Want something to eat?" she said. "The soup's ready. I made it myself." She paused. "Don't look so suspicious."

"Sure," he said. "That would be just the thing."

She'd taken that battered travel case with her when she left him. She now reached into it and pulled out two bowls. She spooned soup from the pot and handed him a steaming bowl. It was a hot and sour soup, with insects instead of fish, in the orbital fashion. The hot oil clung to his tongue.

Elise had never been much of a cook. But she could follow a simple set of instructions if she had to. That is, as long as Kingsman was not the one giving them. She was trying to prove she was somehow different, that she had made progress.

That Kingsman had no reason to think that he knew her at all.

"They brought you out to solve their problems for them," Elise said. "Have you?"

"That kind of depends on you, now."

"I was afraid of that."

"No," he said. "You were hoping for that."

She shook her head, but slowly, so he couldn't be sure if she was denying it, or just reflecting on how stupid everything was. "But why did you agree? What made you do it?"

"They offered me reinstatement, full pension, return to rank. More important, they offered me freedom. They let me out of prison."

"Is that why?" she said.

"You think I'm immune from wanting things like that? I'm not some kind of saint. Maybe I can't be bought for a hot shower or two . . . but, after a few years in a prison asteroid, my price actually wasn't much higher."

"And what you do with your freedom is fight your way all the way up here, to inner Phobos?"

"I need your help." Kingsman held out his bowl and she refilled it. "As you need mine. We're balanced on the edge of a disaster here."

"Because of an unprovoked Union attack."

"You don't need to remind me of that. But the road we took to get here is no longer relevant. All that matters is what path we pick to get out."

"Ah. So simple. The situation itself will blackmail me. I'm supposed to help you, because the Union is now the only force that can minimize the problem it itself created."

Despite himself, Kingsman smiled.

"I'm not your damn student, Tony!" She was furious. "Don't you dare be pleased at how well I figure things out. I'm not taking any of your tests, and I won't be happy when you give me a gold star."

"I didn't marry you to teach you anything."

"Oh? Don't tell me I didn't spend a few years in the Kingsman School of the Cognitive Arts. Dammit, Tony. Dammit, how are we . . . going to fix this?"

She could openly use what she had learned from him, now that she no longer had to live with him. Despite himself, despite his grief and his sense that nothing in his life would ever be right again, he *was* pleased. He resolved to hide it better.

"We can make an arrangement," he said. "You'll have to help. Fully, voluntarily. I don't need 'happily.' You don't have to pretend to like it. With your contacts and your resources, and our troops, we can tamp down on future death. No full Union conquest of Phobos, nothing like that. But a stop that doesn't lead to mass murder."

"Militarists overestimate the benefits of war," she said. "Pacifists underestimate the costs of peace."

"Once you've said that," Kingsman said, "what else is there to say?"

"Did you know I was here, Tony?"

"Sure. That's why I made it up here to talk to you."

"No. Not recently. Before. Long before. I mean, when you sent your message

through your channels that you were ready to get the hell out of prison and stick your head into the grinding gears of their disaster to try to stop it."

No one outside a couple of people high in Union command knew that. No one at the prison had known it. Uy didn't know it. If Ferhat learned it she would probably shoot him.

Kingsman didn't even consider denying it.

"I . . . yes. I thought there was a good chance you were here. As soon as the Union attacked Phobos, someone got footage in to me. Just so I would be up on the situation, you know. Despite what happened, I had contacts in the Service. People willing to do me favors."

"Because they knew that you might be more useful in disgrace than you ever had been as an eager-beaver officer with sparkling shoulder tabs."

He was startled. "Is that really how you saw me?"

"No, Tony." She reached out and touched his hand. "I just resented it. It's the only thing you've really given your life to. And no matter what they did to you, these are the people whose opinion matters to you. Peace-seeking politicians risked their reputations to get you out of prison—and you still feel contempt for them. You manipulated them, as you manipulated everyone. To get here. What did you see? What made you decide?"

He had hoped that she would never know. "This. Amid all the images of the assault, and all the intelligence reports, there was a tiny fragment that caught my eye. Just this."

Keeping it had been a risk. An intelligence sweep of his records would have noted it, and someone would eventually have connected it back to what he had seen in the darkness of his cell.

Elise had always had a distinctive style and way of moving. He spotted her in the video right away. She was a tall woman, with a swimmer's shoulders. She favored backless outfits to show off her delts, but that day she wore a sensible suit of dark plum, with contrasting butter-yellow cuffs, and a wide hat that tilted down over one eye. Three days before the assault, she slid through a partying crowd like an eel, her attention focused on something unseen.

She watched herself. "It was just a chance then. Just a possibility, one of several places the conflict might break out again. I was hoping it wouldn't be here. Not so much for me, but for this place. This place . . . you never knew Phobos in its greatest time, did you, Tony?"

He'd never told her that he tried to save up for a vacation for the two of them here. "No."

"There was nowhere else like it."

"Don't forget, you sent me Nam Lo's observations. I may never have seen it myself, but I saw it through the eyes of your husband."

"Please," Elise said. "You've got to let it go. Whatever it was we had. The past. You talk a good game about sunk costs, about playing the pieces where they are on the board, but . . . you haven't moved on. Is that really what you want it to say on whatever big memorial they put up to you? 'He never moved on.' Please, Tony. No matter how this works out. Tell me you'll do it. It's not like there aren't plenty of directions for you to go."

Elise had certainly moved on, from a husband who wanted to protect her, however clumsily, to one who deliberately put her in an incredibly dangerous situation on the off chance that she might act effectively to further their shared aims.

Kingsman had to face the fact that his wife had left him for a man who was more Kingsman than he was.

"Okay, Elise," he said. "If you tell me one thing."

"Just one?"

It was an old game. "I'll just ask for one. You may feel like giving me more."

"I doubt it. Shoot."

"You decided we were through. The last day of our last vacation in the Adirondacks. I was in the bedroom, you were in the hall. We were talking about something. I don't remember what. Just a normal conversation. Like married people have. And then, in the middle, it was over. I could tell by your voice. I mean, I can tell now, remembering it. Back then, I had no idea."

She was silent.

"Do you remember?" he said.

"I do."

"Then why won't you tell me?"

"Because . . . well, it will seem dumb. Arbitrary. Petty."

It took all of Kingsman's self-control to not say that he had long been used to all of those things from her. This wasn't a marital fight. Not anymore. He was going to promise to let it go. To move on. No matter what she told him. He'd already decided.

Why, then, had he asked this? How would it make a difference?

"Try me," he said.

"I don't remember what we were talking about either. Stuff about getting ready to go, I think. But then you told me someone was coming up the road."

"Okay."

"You were in the bedroom. You couldn't see that window. So I . . . I asked you how you knew. You said you could see it in the mirror. The one with the broken wedding china set in the frame."

If she wanted to see those broken decorative plates as wedding china, he supposed he wouldn't argue with her. "Yes, of course. I picked that spot—"

"So that you could keep an eye on things. See the road, see what was coming up against you. And I realized . . . I said this was dumb. I had been thinking things over a lot. Not sure what was wrong, and what I should do about it. Then I realized: I had no idea of how you thought. I had no idea how you saw the world. All I knew was that it wasn't my way. I'm surprised you could hear it in my voice, though. I wasn't really conscious of it."

"That was the day. After that, there was nothing I could do to change it. It took you a couple of months. I kept waiting for it."

"Well, you sure seemed surprised when I told you."

"I was. I reached my conclusions—and then I ignored them. Because I had to. I'd like to say I felt relief that day, but that would be a lie."

"Did I answer your question?"

"You did," he said. "And you have my promise. I will move on."

"Thank you, Tony."

They were both silent for a moment.

"Now, about the other matter we were discussing. . . ." he said.

"The fate of Phobos? Something separate, I hope. Your agreement with me about what happened at the end of our marriage shouldn't imply—"

"Don't play games with me, Elise. You know that you and I are the best hope for this situation."

"Let's say 'least bad.' 'Best' is pushing it. All right. The Union will get something that looks like a victory. And the inhabitants of Phobos will get something that looks like life. You keep casualties to a minimum. And once you're done, there will be a hell of a mess to clean up. Dead children, crying mothers, armless young women, old men who have lost three generations of their family. Starvation and howling pain. I've seen them all before, I'll see them all again. I'll be at work."

"Thank you, Elise."

"I'm not doing it for you, and I'm not even doing it because I want to."

She was doing it because she trusted him. Was it because of the decision he had made at Kalatra? Even then, he had wondered if he had risked himself that way because he thought that Elise would respect him for that decision. He would never ask her.

Because he was going to move on.

The Union force did get something that looked very much like victory. Enough so that Preceptor Dakila Uy could return to Earth with honors, receiving a promotion that meant he would not ever have to worry about precedence with Kingsman. Kingsman had heard he was considering a political career.

Even though Leila Ferhat had been largely responsible for Uy's victory, she got no thanks for it. For Uy, she would always be the one who knew he had wanted to retreat, and had been balked of that goal by Kingsman's insane ambitions and her own clever tactical plan. She received a minor commendation, and some notes in her fitness report that indicated she had problems understanding the chain of command.

Still, there was a halo around the successful Phobos expedition, and she took advantage of it, before that halo got stained by post-event investigations and news reports of the aftermath. She transferred to a force near Jupiter, and now had a position of some responsibility in the force assaulting Titan. Kingsman knew her commander, and hoped that he understood her value. But he resisted the urge to put in a good word for her. That was the last thing she would want.

Nam Lo was somewhere on Titan. He had not managed to come to join his wife in the reconstruction of Phobos, because he was facing another potential human disaster caused by Union military action.

Phobos would never again be what it was. Centuries of culture lay buried in rubble. Elise fed the hungry, bandaged the wounded, comforted the survivors. Once military operations concluded, there was no further disaster.

No one knew that Kingsman had once again risked soldiers to prevent larger death tolls. This time his risks had paid off, and it seemed like things could have come out no other way.

He was once again an active-duty officer, though his actual authority was now several levels below the ability to call off an entire Union military expedition. In fact, he only commanded a handful of troops.

Officially, this rock in the Mars's trailing Lagrange point was uninhabited. It had served as a base for a while, and then had been abandoned in the run-up to Phobos. After that, there were no resources to reactivate it.

But it could be reactivated by someone who had reason to do so. If someone from the outer satellites wanted to take advantage of the confusion following Phobos to mount an assault on the Union forces around Mars, this would be an excellent staging point.

Kingsman gave that event a possibility of one in three within the next six months. That was high enough that he had had no trouble in persuading command to fund and staff his operation.

"No big water here." Tutun stopped in the middle of one of the endless featureless tunnels. It was a spot as good as any other. "No waterfalls."

"No," Kingsman said. "We'll be running our water through our bodies on the average of once a week."

"You know, I could do without the statistics once in a while."

Tutun was one of several of Ferhat's troops who had decided to go with Kingsman after the end of the Phobos expedition.

"Pick a spot," Kingsman said. "Pick it carefully. You're going to be in it for a long time."

Six months was a long time to spend buttoned up in survival pods. Elise had been right about what he needed. The idea that some of the troops who had served with him in Phobos were willing to undertake the difficult duty under his command, on a one-third chance that they might face an immensely superior force far from any possible reinforcement and support, gave him a feeling unlike any other. The most difficult part of the operation would be maintaining total detection discipline. As the weeks went by, and no assault manifested itself, the temptation would be to let small things go, to turn on some light and heat in a small room somewhere deep in the rock. The hardest part of Kingsman's job would be maintaining morale when that moment came.

Kingsman settled back against the side of the survival pod. Tutun snored to his right. To his left, Gupta watched something on a tiny screen, grunting occasionally. He wanted to tell her to stop. The unpredictable rhythm of her grunts drove him crazy.

Time enough for that later. He was sure that in a few weeks they would all want to kill each other. Meanwhile, it was time for a nap. ❍

ROUNDER

a poem's
point
can
be anything—
its
origin could be
an argument, a joke, a pattern
from some
unpoetic mundane
source. It finds its way
by itself.
Start one on Saturn—
you could wind up looking at Mars
or even Uranus. No limits;
not even taste or logic.
It never has to be rational:
a poem's
its own
equation.

==========solution==========

Count the number of syllables in each line—

3(point)1415926535897932 3

—Joe Haldeman

NEXT ISSUE

APRIL/MAY ISSUE

Once again, we've filled our double anniversary issue full to bursting with excitement. Our April/May 2013 issue features a thrilling cover story from **Neal Asher.** A life-or-death Universe-transversing search for mysterious artifacts will ultimately reveal the horrifying truth about "The Other Gun"; **Tom Purdom's** "Warlord" plunges us into the strife on Delta Pavonis II, where only the most resourceful will survive; and long after the dust of battle has settled, **Colin P. Davies** scrutinizes the man behind the legend of "Julian of Earth."

ALSO IN APRIL/MAY

While probing a series of puzzling murders, **Alan Wall** unravels the secret of "Spider God and the Periodic Table"; **Naomi Kritzer's** desperate time traveler tries to push her younger self to "The Wall"; disturbing truths about the human heart are revealed in **Ken Liu's** dark look at "The Oracle"; **Karl Bunker** brings two people with completely different world views together in "Gray Wings"; **Leah Cypess** tells the story of a young woman who must learn to cope with an amazing gift or else remain forever "Distant Like the Stars"; **Joel Richard's** police detective's hunt for a brutal criminal is guided by the "Writing in the Margins"; and **Linda Nagata's** suspenseful tale about an ill-fated demonstration shines a ray of hope "Through Your Eyes."

OUR EXCITING FEATURES

In "My Desk," **Robert Silverberg's** Reflections column offers us a glimpse of the author's workspace and a sliver of his autobiography; **Norman Spinrad's** On Books column escorts us through exciting "Doors to Anywhere"; for anyone curious about the dramatis personæ of the publishing industry, **James Patrick Kelly's** On the Net offers us "A Field Guide to the Editors"; plus we'll have an array of poetry and other features you're sure to enjoy. Look for our April/May issue on sale at newsstands on February 26, 2013. Or subscribe to *Asimov's*—in paper format or in downloadable varieties—by visiting us online at *www.asimovs.com*. We're also available individually or by subscription on *Amazon.com's* Kindle and Kindle Fire, *BarnesandNoble.com's* Nook, *ebookstore.sony.com's* eReader, *Zinio.com,* and from *magzter.com/magazines!*

COMING SOON

new stories by **G. David Nordley, Ted Kosmatka, Robert Reed, Kristine Kathryn Rusch, Benjamin Crowell, Eric Del Carlo, Jack Skillingstead, Megan Arkenberg, Ian Watson,** and many others!

On Books

Peter Heck

BLUE REMEMBERED EARTH
By Alastair Reynolds
Ace, $26.95 (hc)
ISBN: 978-0-441-02071-3

Reynolds has made his reputation with big, action packed novels in the "New Space Opera" mode. Here he takes a move in another direction.

This new novel's action is confined entirely to the Solar System, and is set in a future society where violence is almost unheard of—in fact, almost impossible, because of pervasive monitoring of every human action. The major characters are all members of a single family, the Akinyas. They are among the richest and most powerful people in this new world, where not only the Moon and Mars have human settlements, but significant mining takes place on the outer moons and asteroids.

The focus is on family dynamics, and the action is precipitated by the death of the matriarch of the family, Eunice, the grandmother of all the major characters. There are essentially two factions within the family: two older brothers who have taken central roles in the family business, and a brother and sister who have elected to lead more independent lives: Geoffrey, studying the dynamics of an elephant herd near their family home in Africa, and Sunday, as an artist on the Moon.

The worlds they inhabit are very different from ours, and not just because of easy space travel. Europe and North America have been knocked from the pedestal of economic and political dominance, in part by resource depletion, in part by the aftermath of global climate change. Africa, with plentiful solar energy, is now a center of power. But the colonies on the Moon and Mars, and underseas on Earth itself, are also vital centers. And with pervasive electronic connections between all parts of the human world, everyone has nearly instant access to everyone else.

Eunice's death at first seems to consolidate the grasp on power of Hector and Lucas, the two cousins who have taken an interest in the Akinya business empire. But they soon call Geoffrey in for a favor. It seems Eunice has left something—they aren't sure what—in a safe deposit box on the Moon. Someone needs to retrieve it—preferably someone who won't attract attention from competitors. Geoffrey fits the bill—and the cousins are willing to fund his elephant research for several years to come if he'll do the job. He agrees, partly because it'll give him an opportunity to visit Sunday, whom he hasn't seen in the flesh for years. (Electronic avatars are used by almost everyone for business they can't conduct in person.)

Arriving on the Moon, Geoffrey opens the box to discover—the glove of a space suit. That turns out to be the first clue in a hunt that takes him to Mars—and beyond, in an adventure far more complex than he'd thought was possible. Family secrets are thick on the ground, as is a scientific payoff that is well worth the long, sometimes slow, buildup.

Reynolds has pulled off a tour de force, both in keeping the action within the Solar System and in rejecting violence as a major plot engine. (There are a couple of points where the action is considerably less tranquil, but it's a far cry from the interstellar combat that's been one of his hallmarks.) The characters are complex, as are the societies they inhabit, and the backgrounds of three planets, plus various habitats in space, are convincingly drawn.

This may, in fact, be Reynolds' best to date—no mean feat considering the high quality of his previous work. Recommended.

CAPTAIN VORPATRIL'S ALLIANCE
By Lois McMaster Bujold
Baen, $25.00 (hc)
ISBN: 978-1-4516-3845-5

Here's a new novel in Bujold's familiar future history, although it's one where her iconic hero Miles Vorkosigan plays a supporting role at best. Instead, the focus is on Ivan Vorpatril, his somewhat less adventurous cousin.

While there is enough intrigue and action to give the book forward momentum, for much of its length, the focus is on what's probably best described as a comedy of manners. This is accomplished in a time-honored fashion, by introducing an alien viewpoint: in this case, two young women from Jackson's Whole, a world organized on very different principles from Ivan's homeworld Barrayar—essentially, a libertarian free-market society. In his capacity as aide to an admiral, Ivan is stationed on a colonial world, when his old friend Byerly Vorrutyer asks him for help in keeping an eye on a young woman from off planet. Ivan goes about the assignment in a somewhat simple-minded fashion, and is surprised when the subject of the surveillance stuns him and ties him up.

Things progress from that point; Ivan learns that the young woman, Tej, is the daughter of a powerful family on her home world, and has fled in the wake of a hostile takeover—one involving deadly force. She and her companion Rish, a genetically engineered dancer with blue skin, have dodged several attempts to take them hostage, but are now at the end of their funds and strategies. With Byerly's help, Ivan gets them safely out of danger for the moment by smuggling them into his own apartment. But his mission will be up in a couple of days, and he has no plans for keeping them safe afterward. He gets Tej to an imperial security officer, who debriefs her, and figures he's done his duty.

Then the pursuit catches up with them again, in the form of local officers put on Tej's track by agents of the group that's attacked her family. As a last resort, Byerly comes up with a foolproof strategy: if Ivan marries Tej, she'll have diplomatic immunity long enough to get her to safety, at which point the two can divorce and all's well that ends well. Convinced by the logic, Ivan goes through a traditional, and very quick, Barrayaran ceremony and the two are officially wed. They make their escape, and the heat would appear to be off—for the moment. Wrong again.

Bujold takes the plot through one twist after another, with the couple (plus Rish and Byerly) returning to Barrayar, where Ivan thinks the divorce will be a piece of cake, since his uncle is a provincial judge with the power to annul the wedding with a sweep of his hand. But first, Tej has to meet Ivan's very-well-connected family, plus various figures in the power elite of the planet. Rish and Byerly start dating, spending very late hours at various high and low dives around the capital city. And, since they really are officially married, Ivan and Tej start having sex. It's only then that they find out the divorce isn't going to be so easy after all. . . .

As if these complications aren't enough, the rest of Tej's family shows up, with plans of their own that don't necessarily involve Tej staying married. And, of course, their enemies aren't far behind. Bujold builds one plot surprise upon another, with results that ought to amply satisfy action-oriented readers.

But that's just the surface of the book—which is, as noted, very much a comedy of manners. We learn a good deal about Barrayaran society, especially the family life of its upper crust, all of it presented with an amused smile and the occasional side glance at our own customs. With Tej as the occasionally bewildered outsider and Ivan as the somewhat stodgy local alternating viewpoints, the interplay of characters is refreshing—

with the somewhat more unconventional Byerly and Rish to add still another perspective.

This one should keep Bujold's fans well entertained while they await the next Miles Vorkosigan adventure—which, judging by the conclusion of *Cryoburn,* the previous book in the series, will take him into completely new territory.

YEAR ZERO
By Rob Reid
Del Rey, $25.00 (hc)
ISBN: 978-0-345-53441-5

In this first novel, Nick Carter, a music industry lawyer, gets involved in the biggest intellectual property case ever.

Nick holds one of the lower slots in the hierarchy of a huge New York law firm that specializes in the protection of the music industry's hold over popular songs. And as the novel begins, he's become aware that he's on the verge of an evaluation by his superiors, the kind that will determine whether he has any chance of making partner. Unfortunately, he's weak in the kind of original thinking that catapults an apprentice into a partnership—which means he's likely to be looking for a job if he doesn't come through.

But luck is on his side, in the form of a pair of humanoid aliens, Carly and Frampton, who have come to his office looking for a way out of a major problem. It turns out that, starting in the 1970s, the aliens discovered human music—the one art at which our species surpasses all other sentient beings. The moment of that discovery—when the theme from "Welcome Back, Kotter" penetrated the aliens' consciousness—changed extraterrestrial society forever. The problem is, they then pirated every single instance of human music they could find.

As a result, they now owe unfathomably huge royalties, plus penalty payments for the piracy, to every human being on earth. And, being highly evolved moral beings, they need to figure out a way to pay up without bankrupting the entire galaxy. They've come to Nick because he has the same name as one of the Backstreet Boys. Despite being highly evolved, the aliens are total celebrity worshippers, and they think Nick's supposed status will help their case.

Nick is at first extremely skeptical, but they quickly flash some advanced tech that convinces him they're for real. The enormous amounts at stake, he realizes, may be just the ticket to get him past the partnership hurdle. Now all he has to do is sell it to his boss, an incredibly predatory senior partner named Judy. She's asked him to come up with a way to woo an important senator who's the firm's main governmental connection. The senator has his own case of celebrity worship—he can usually be paid off with minor favors such as having him play a tambourine track in the studio for one of his idols' records. Nick figures he can assure his promotion by getting the senator involved in finding a fix for the aliens' piracy problem.

Of course, the problem's way too complex for that. Nick gets an unexpected call from someone named Paulie Stardust demanding his presence at a trendy downtown restaurant. He follows directions to the place, where he is surprised to find his obnoxious cousin Pugwash, a wealthy, smug trend-chaser who considers himself an intellectual. Also there is a large parrot, who turns out to be Paulie—an alien who's got his own solution to the piracy problem. And unlike most of the aliens, he's not especially morally advanced.

That sets off a complicated plot in which Nick finds himself zipping around the universe through fast-moving wormholes, visiting advanced societies that nonetheless have recognizable echoes of our own—and yes, he does eventually save the Earth from the cosmic villains. Reid has a lot of fun with the music-obsessed aliens, whose taste runs to the dregs of seventies pop, including bands many of us have gladly forgotten. He also riffs amusingly on several of the tropes of SF, and writes some of the cleverest footnotes since Jack Vance.

A great one to pick up if you're in the

mood for a giggle; music trivia experts especially will have a ball with it.

MIRROR EARTH:
The Search for Our Planet's Twin
By Michael D. Lemonick
Walker, $26.00 (hc)
ISBN: 978-0-8027-7900-7

The discovery of planets beyond our Solar System, once thought all but impossible, is now a thriving scientific enterprise. Here's a look at some of the scientists who carry out the search.

Before planets of other stars had been detected, astronomers were fairly sure they existed, partially on the assumption that our own Solar System is typical of others—using the Copernican postulate that Earth and its environs are in no way special. But finding those planets entailed precise measurements of the wobble caused by a body in orbit around a star, or the dimming of light as it passed between the star and the observer. Attempts were made as far back as the 1960s, notably by Peter van de Kamp of Swarthmore, who in 1963 claimed to have found a planet orbiting Barnard's Star. Despite initial excitement, those who tried to duplicate his findings eventually proved him wrong. He'd misread the signals.

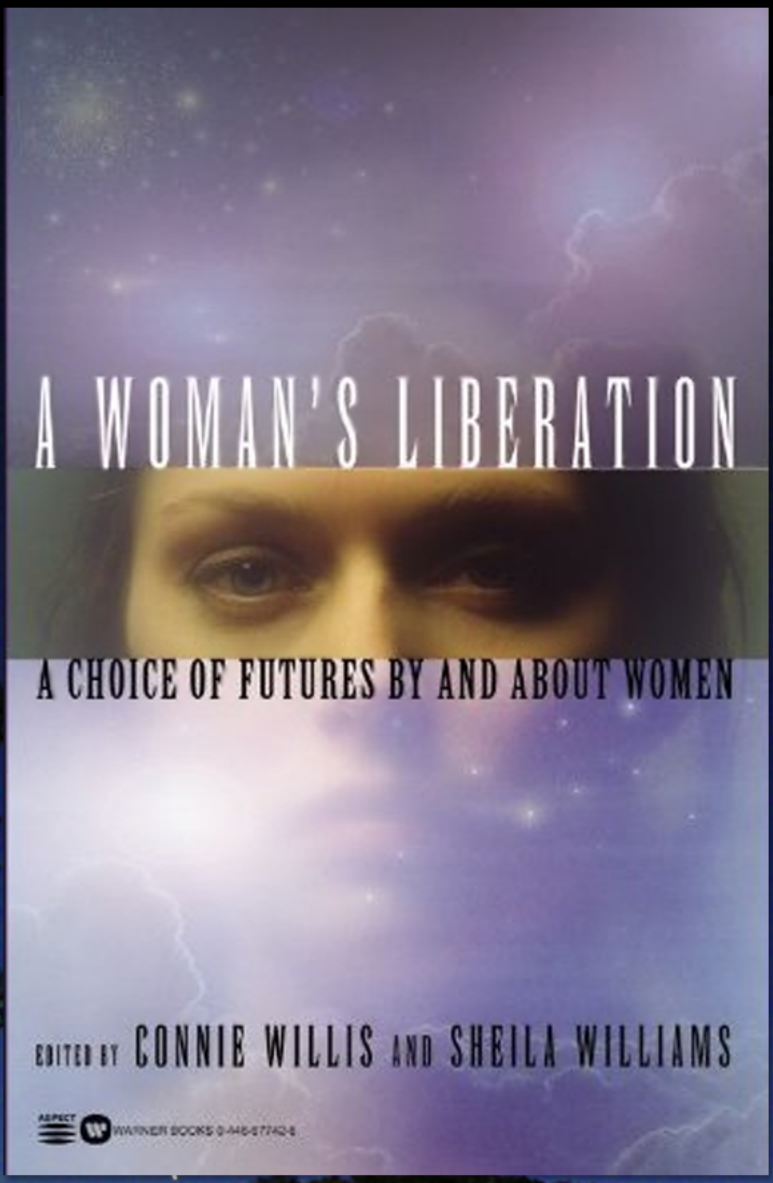
It took until 1995 for Swiss astronomers Michel Mayor and Didier Queloz to make the first confirmed discovery, a body half the size of Jupiter orbiting the star 51 Pegasi every four days. This "hot Jupiter" overturned existing theories of planet formation, proving once and for all that our Solar System isn't necessarily representative of the galactic norm. And when Geoff Marcy and Paul Butler of San Francisco State University found two more planets in observations they had been recording for six years, the game was on.

New tools, notably space telescopes, made the task easier; so did the arrival on the scene of a generation of astronomers whose imagination was fired by this grand new enterprise. Lemonick gives profiles of a number of these "exoplaneteers": Canadians Dave Charbonneau and Sara Saeger, who learned their trade at Harvard; and Debra Fischer and Natalie Batalha of the University of California. Unlike earlier eras of astronomy, the hunt for new planets is very much open to both sexes.

Another major player in the planet-hunting game is Bill Borucki, the driving force behind the Kepler space telescope, which has produced over a thousand candidate planets. And the chase is now finding planets close in size to Earth itself. That becomes more interesting, because it makes it more likely that some of them are Earth-like in other ways—possibly including the existence of life. That would, of course, be the jackpot.

Whether such planets exist remains to be seen—but Lemonick makes it clear that the exoplaneteers are busily working to find ways to detect them. Most of the professionals try hard not to appear too enthusiastic about the possibility—as noted at several points in the book, an observer should be his own harshest critic. As much as they'd like to be the one who makes that breakthrough, nobody wants to repeat van de Kamp's mistake.

A good look at one of the most exciting areas of astronomy, and at the new breed of astronomers who're adding to the inventory of new worlds. ❍



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SF Conventional Calendar

Lots of new April and May events to report on this time, as well as a few in February and March. I'll be at Boskone, LunaCon, ICon RavenCon and BaltiCon. Also, consider CapriCon, MystiCon and StellarCon. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, and info on fanzines and clubs, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con five months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard. —Erwin S. Strauss

FEBRUARY 2013

1–3—**Foolscap. For info, write: c/o Box 31891, Seattle WA 98102.** Or phone: **(937) 242-5999** (10 am to 10 pm, not collect). **(Web) foolscapcon.org. (E-mail) info@foolscapcom.org.** Con will be held in: Redmond WA (if city omitted, same as in address) at the Marriott. Guests will include: to be announced. Written SF and fantasy, and SF/fantasy art: "Anything that's flat".

7-10—**CapriCon, 123 E. Wing #244, Arlington Heights IL 60004. capricon.org.** Wheeling IL. D. H. Wilson, K. A. Hollingsworth.

15-17—**Boskone, Box 809, Framingham MA 01701. boskone.org.** Westin Waterfront, Boston MA. V. Vinge, Snellings, Hertz, Dale.

15-17—**FarPoint, 11708 Troy Ct., Waldorf MD 20601. farpointcon.com.** Crowne Plaza, Timonium MD. L. Arenburg. Trek, SF media.

16-17—**PicoCon. icsf.org.uk.** Imperial College Union, London UK. Peter F. Hamilton, S. Swainston, Richard Morgan, Kate Griffin.

20-24—**ICFA, Box 3701, Youngstown OH 44513. iafa.org.** Airport Marriott, Orlando FL. N. Gaiman, Kij Johnson. Academic meet.

22-24—**Redemption, Ian Murphy, 61 Chaucer Rd., Farnborough Hants. GU14 8SP, UK. smofcon.com/redemption.** Coventry UK

22-24—**MystiCon, 3735 Franklin Rd. SW, Roanoke VA 24014. mysticon-va.com.** Holiday Inn Tanglewood. O. S. Card, L. Elmore.

MARCH 2013

1-3—**StellarCon, Box F4, EUC, UNCG, Greensboro NC 27413. stellarcon.org.** Greensboro NC. The Banes, Wold, Pederson, Allegra.

8-10—**FogCon. fogcon.org.** Marriott, Walnut Creek CA. The late A. Boucher, Bisson, S. R. Matthews. Theme: "Law, Order and Crime."

15-17—**LunaCon, c/o Box 432, Bronx NY 10465. lunacon.org.** Hilton, Rye Town NY. Michael F. Flynn, Wm. O'Connor, Leslie Fish.

15-17—**MillenniCon, 5818 Wilmington Pike #122, Centerville OH 45459. millennicon.org.** Cincinnati OH. Flint, Tom Smith, Clemens.

15-17—**RevelCon, Box 6924, Houston TX 77265. severalunlimited.com.** For adult fans of SF media. "Sleeping with the Stars."

22-24—**ICon, c/o Box 550, Stony Brook NY 11790. iconsf.org.** Hofstra U., Long Island NY. Guests TBA. Big on-campus event.

29-31—**MarCon, Box 141414, Columbus OH 43214. marcon.org.** Hyatt. Joe Haldeman, F. Paul Wilson, J. Dee. Finally back in March.

29-31—**MiniCon, Box 8297, Minneapolis MN 55408. mnstf.org/minicon48.** Doubletree, Bloomington MN. J. Czerneda, R. Tatge.

APRIL 2013

5-7—**RavenCon, Box 36420, Richmond VA 23235. ravencon.com.** Holiday Inn Select Koger Center. K. J. Anderson, R. Moesta.

12-14—**Windy City Pulp & Paper Con, 13 Spring Lane, Barrington Hills IL 60010. windycitypulpandpaper.com.** Lombard IL.

19-21—**ConStellation, Box 84324, Lincoln NE 68501. constellationne.net.** Dylan Nigh of Anime Nebraskon. Theme: "A New Hope".

19-21—**FILKONtario, 145 Rice Ave. #98, Hamilton ON L9C 6R3. filkontario.ca.** Mississauga (Toronto) ON. SF/fantasy folksinging.

26-28—**EerieCon, c/o Box 412, Buffalo NY 14226. eeriecon.org.** Grand Island (Niagara Falls) NY. Jack McDevitt, Carl Fredrick.

MAY 2013

3-5—**Malice Domestic, Box 8007, Gaithersburg MD 20898. malicedomestic.org.** Hyatt, Bethesda MD (near DC). L. King. Mysteries.

9-12—**ÅCon. acon6.wordpress.com.** Hotel Adlon, Mariehamn, Åland I., Finland. Tricia Sullivan. "Pronounced 'Awe-Con:' truly Åsome".

9-13—**MistiCon. misti-con.org.** Margate Hotel, Laconia NH. "A Harry Potter Convention Like No Other." Not officially sanctioned.

17-19—**Spectrum. spectrumfantasticartlive.com.** Bartle Hall, Kansas City MO. M. Whelan, C. Vess, McPherson, Whitlatch, de Sève.

17-19—**KeyCon, Box 3178, Winnipeg MB R3C 4E6. keycon.org.** Richard Hatch, L. Moyer. Celebrating Dr. Who and H. P. Lovecraft.

17-20—**CostumeCon, 1218 Florence Ave., Colorado Springs CO 80905. cc31denver.com.** Aurora CO. Masqueraders' annual con.

24-27—**BaltiCon, Box 686, Baltimore MD 21203. balticon.org.** Hilton, Hunt Valley MD. Joe Haldeman, N. Okorafor.

AUGUST 2013

29-Sep. 2—**Lone Star Con 3, Box 27277, Austin TX 78755. lonestarcon3.org.** San Antonio TX. The World SF Convention. $160+.

AUGUST 2014

14-18—**LonCon 3, 379 Myrtle Rd., Sheffield S2 3HQ, UK. loncon3.org.** Docklands, London UK. The WorldCon. ú95/A,C,US$160.

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