

The Space Eater

by David Langford

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For Paul Barnett who was first maddened into suggesting I should write a book

and Peter Weston whose delusion it was that I should write this one

Chapter One originally appeared in slightly different form in THOR'S HAMMER, edited by Reginald Bretnor, Ace Books, 1979.

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There is therefore but one comfort left, that though it be in the power of the weakest arme to take away life, it is not in the strongest to deprive us of death; God would not exempt himselfe from that; the misery of immortality in the flesh he undertooke not, that was in it immortall. Certainly there is no happinesse within this circle of flesh, nor is it in the Opticks of the eyes to behold felicity; the first day of our Jubilee is death; the devill hath therefore fail'd of his desires; wee are happier with death than we should have been without it; there is no miserie but in himselfe, where there is no end of miserie; and so indeed in his owne sense, the Stoick is in the right: Hee forgets that hee can die who complains of miserie; wee are in the power of no calamitie while death is in our owne.

Sir Thomas Browne, *Religio Medici*

Part One

The Training Ground

Wherefore I am a great king,
And waste the world in vain,
Because man hath not other power,
Save that in dealing death for dower,
He may forget it for an hour
To remember it again.

G.K. Chesterton, *The Ballad of the White Horse*

One

A mantrap bit my foot off; I dropped between two rocks because I had to, and took stock of the damage. Five years back I'd have fainted dead away as a million volts of pain came searing up the nerves: now it was just an irritation, a distraction. Uncomfortable, like the knobby rocks I'd landed on in the instinctive dive for cover. I fixed the tourniquet with my left hand and teeth—you *never* let the gun slip out of your right hand when in action, even if it's only the training ground. If you're right-handed, that is ... I was ready to stick my head up for a quick look at the objective, but just then there was a popping and crackling as the IR laser drew a quick line of bright sparks through the air. Superheated rockdust burst out in clouds where the line struck; one fragment scored my forehead and filled my eyes with blood. The years of battle training helped soak up the new pain, but I wasted more seconds tying a kerchief over the gash with one hand only.

An electric-discharge laser would need seconds to recharge. I hoped it wasn't a gasdynamic or chemical job—and stuck up my head. Nothing hit me during the quick look I allowed myself then, so I tossed a grenade and a smokebomb as far as I could toward the laser bunker and started hopping, slightly off the direct line of approach the IR flash had drawn in the air. The guess about the laser was wrong, though, because straight away another dotted line of ionization sparks came probing through the smoke, shattering rock in a continuous explosion. A good shot now could smash the directing mirror and put the damn laser out for the duration, but even a Forceman doesn't aim too well one-legged and I didn't care to drop again just yet. Instead I unclipped more smokebombs from my belt and threw them way to the right of the first cloud while I moved in from the left. Standard maneuver now was to shove a grenade right through their firing slit.

They saw me, though, and the crackling line came tracking over toward me, and I put on speed—Hopalong Jacklin rides again. Under the beam and skidding full-length through dust and gravel to the base of the pillbox, the one place where the beam couldn't aim—or that was what I was hoping. I smelled it then. Before my eyes went cloudy gray and useless I saw the little vents in that concrete right by my face, and realized that not only were the bastards using a chemical laser, but they were pumping the deadly hydrogen fluoride exhaust out right here, especially for goddamn idiots like me. Then the HF gas was stripping the skin off my face, scarring my windpipe and filling my lungs with bloody froth. There

was nothing to do but take it and wait for the end. And after a little while I died, again.

The thing about the training ground is that you *can't* win. It carries on and carries on until you're dead. This probably sounds a bit grim and off-putting if like most of the people out there you're a virgin where death's concerned: but for us seasoned Forcemen death is just part of our lives. The logic is pretty simple, after all. When you want a meal cooked up, and on hand you've got a trained cook and a guy who's never tried cooking, which one do you choose? Right. So when you want someone to go out and probably get himself killed defending you or filling your enemies with holes ... that's the core of Force training. Anyone loaded down with gut-fear—hormone squirts from glands with a case of the squitters—is going to be thinking about himself instead of the fighting; someone like that just can't do a clean, efficient kill. Poker players learn to keep emotion out of their faces, they say in the Force, and we learn to keep ours out of our glands.

So I lay there in the tank and craned my neck to see how the foot was growing. The regenerator fluid is thick, yellowish, and murky, but I could see I'd already sprouted a neat bunch of tarsal bones, coated with a misty jelly where the flesh was starting to creep back over them. The fluid filled my mouth and nostrils and lungs, which no doubt were healing at a good rate. The only real quarrel I've got with this death-and-regeneration business is that it's boring: even for fiddling little injuries the process can take hours. Once I was cut not so neatly in half by a riot-gun and spent five whole days growing a new me, from the belly down, like some stupid flatworm. Learning to die and live again is a necessary thing, though. Like they told us on the induction course, deep down in all our genes we've got this locked-in program that shrieks *survival* when death's about, and shrieks it so loud that you can't hear your other thoughts. Only way to stop that and get efficient is to get used to dying ... and then, maybe, you can start thinking about promotion.

That one had been my forty-sixth death. I reckoned I was used to it.

They let me out of the sickbay in the end, after all the usual unpleasantness (lying there in the tank is dreamy and nice if you can turn off your brain awhile, but being disconnected isn't so good). I marched off on my own two tender feet—the treatment leaves you uncalledoused, like a baby—feeling ready to rush that laser again and this time smear the crew good and proper. I'd been in some of those bunkers myself, of course. Sooner or later the crew always get smeared.

Next day we'd be starting a fresh course, Guerrilla II, on how to improvise your own nukes—the trick, I'd heard, is to get your charge of plute-oxide fuel shaped and imploded before the Pu poisoning catches up with you. Some of these courses are makework, I think, to soak up our spare energy, but they're all good fun. No need to catch up on studies that night, so I wandered into the bar for a juice and sat down by Raggett, a new guy with only half a dozen deaths. He still wore the death-pips on his arm: I gave up those decorations when they reached double figures, myself.

“Chess?” I said to be sociable. “Or we could grab a room for a bit of wargaming, if that doesn't sound too much like work.”

“I thought ... I thought I'd go into town,” said Raggett. He is a ratty little fellow, and he looked really furtive when he said this. Men from the Force can go into town any time they don't have classes or training—it's supposed to be a compliment, the brass trust us. But somehow there's a kind of feeling in the air, not even strong enough to call an unwritten rule, that the real pros don't waste time outside the complex. So I gave Raggett a twitch of my eyebrow, and he said, “I could use a woman.”

At that I remembered my last woman, maybe only three or four deaths into training, and at the same time I remembered Mack, the long-server who'd taken me into town back then out of sheer kindness (it had

been *his* first time in years—like me now, he'd slipped out of the habit) and warned me where I'd likely be rolled, or poked, or both. Mack, poor guy: he was wasted in one of the Continental raids. No pickup for recycling—you know what they say: it was France and meat's short there.

"How about the two of us going?" I said. "Town's not healthy when there's just one of you, and I think I know a couple of places."

"Well ... thanks, Jacklin! Hoped you'd say that. Can I get you another?"

I let him buy me a juice I didn't really want, and he told me that the latest stats had been posted, which I knew already only I was feeling friendly. Seventy-two percent of the new intake had dropped out on their first combat trial. Psych discharge: some people just can't take dying, you know, and most of that seventy-two percent wouldn't be much use for anything afterward. They sometimes said ... well, never mind that. It made me feel closer to Raggett, even with all those Ds of seniority.

"—great stuff," he was saying. "The vocal synth is really out of this world. You heard it?"

I blinked. "Heard what? ... Oh, a new tape. Sorry, friend, but music doesn't do anything for me. I used to follow the charts a long time ago, but I never get the chance these days."

There's always something new out of Africa in the music line, even if you don't hear much of the homegrown stuff these days.

"I was wondering about that," Raggett said. "I've noticed you seniors mostly stay away from the audio room, and I mean, you know, is this some goddamn unwritten rule I don't know about?"

I told him the truth, which was that I didn't know much about it either. "After I'd been in the Force awhile, the things I did before didn't seem too important. You get this feeling of being really in touch here, on the ball, keeping ahead of classes and scoring high in combat trials. Especially those. I mean, it feels a whole lot better inside than music and such."

Raggett's eyebrows crawled together, halfway to a frown, and I wondered if he was planning to give up all his piddling hobbies right away. I started wondering a couple of other things too, but they swam down out of reach inside my head before I could net them.

"Let's go into town, then," I said.

The streets were much the same, the lights were different. More of the shielded power lines get cut up every year—maintenance isn't worth the effort outside the enclaves. The back streets were still choked with the hulks of old cars; the route through them came back to me bit by bit as we went along, and I managed to keep the plan in my head a turning or so in front of our feet. Sooner than was comfortable, we were going through zones where the lighting was just about nonexistent. London's been a mess since long before the Force took over. I remember thinking that this part of town had gone even further downhill since my last time. Some places, back alleys especially, we were picking our way just by the nova lights in the sky. And then, as our footsteps sounded grittily in one quiet and smelly spot, there was a scraping of feet and three punks jumped us. Leftovers from a smashed Freedom gang, maybe. It turns out the Force technique of going all out and not caring about getting dead or injured works fine in unarmed combat too—I was a wide-open target as my fingers went in a V into the first guy's eyes and my right boot into the second's groin, while whatever Raggett did to the third left him a screaming lump until I kicked him to sleep.

It was hard to see in that thin mucky light, as we stood breathing hard over the bodies, but it seemed they were pretty young. Should've joined the Force if they wanted action—or maybe they'd tried and weren't up to it. As fighters they hadn't been much: I came out of it with just a dislocated finger which, thanks to the training, didn't bother me too much as I reset it.

“Hope they're not maimed for life,” Raggett said as we went on, still scanning in front, behind, on both sides, the automatic way you learn. I guessed two of them might be and the third wouldn't be walking straight for something like a week (no tanks for slummies, you bet). So what? They put themselves up as targets and we cooperated nicely by knocking them down. Good practice, too.

Then we were at the House, a place looking like any dingy terrace house in these slums if you didn't happen to know. I pushed the squeaky doorcom button and said, “Two guys here looking for company.” There was a pause while, I guessed, a bootleg black-light camera checked us over; then the door buzzed and clicked open. Inside it was like the foyer of some small, dingy club—or hotel if there were any of those left. The oil lamps leaked a yellow, smelly light. An ugly-looking receptionist who probably knew something about unarmed combat himself asked us what specs we wanted. A whiff of the death-happy feeling as I looked him over: he was tough, sure, but I guessed I could take him, no sweat...

“Blonde,” Raggett said eagerly. “Not over thirty—no, twenty-five.”

I remembered a name from that visit all those deaths ago. “Cathy,” I said. We slapped down the oversized wads of Force scrip he asked for, took the keys, and headed up the stairs.

What the hell am I doing here? I thought outside the door. The key rattled in the lock; I tapped a warning as I turned the handle, and as the door swung in, a choking blast of stale perfume came out. It took me straight back to the bunker and the HF exhaust for a second ... Inside, it wasn't the Cathy I remembered, but she was just as efficient, coming to me with a real-looking smile asking if she could help me get my clothes off. I like efficiency: she was an expert in her trade just the way I was in mine. In no time at all we were lying side by side on the huge bed while I looked closely at her gray eyes and pale yellow hair, and decided she was quite a good looker, really.

We chatted a while, lying there. She said professionally nice things about how I was big and strong and so on, and I told her she looked great, and I was a Forceman who hadn't been into town for a few years. She gave me an odd sort of sidelong look then.

“You know, we don't see very many old-timers here,” she said.

“Hell, I won't be thirty for a while,” I said, grinning.

“Mmm ... yes, quite babyfaced. But you know what they say about the Forcemen who've been under training a long while.”

I didn't know what they said about them, and asked. She twisted her face into a funny little frown, and said, “You maybe paid to talk all night? Can't you do that in your very own cell or whatever they keep you in?”

“OK, let's get on with it.” I wrapped my arm around her, and her hands started doing things up and down me and it was all very friendly, soft, and warm. She stroked me for maybe a quarter of an hour and I stroked her back, with a little of my mind away, thinking about improvised nukes and next day's course, and by and by she stopped. She just lay there with her head on my chest and sniffled. I felt a damp spot over my ribs then, and lifted up her head carefully. She was crying.

“Something wrong?” I asked.

“Something wrong with you. You ... you Forcemen! You’re *not* men, you’re not. For Christ’s sake, don’t you ever get it up?”

It came back to me then that that was part of it all, and I thought this was funny since I’d had a bit of a hard-on only that morning when I was rushing the laser bunker. But now I’d hurt her professional pride or something, so I told her I was tired and would try harder, and she stroked me and sucked me and tickled me without anything special happening. In the end I got out of there and waited in the foyer until Raggett came down with a big smile.

I thought about it all on the way back through all the rust and the concrete gone to sand, and it came to me that maybe when you get used to dying and everything, then you’ve got up above all the little weaknesses. I felt, you know, I’d really matured. The next day I put in for promotion.

Two

Waiting in the small gray room, I found my guts were in free fall while the rest of me stayed still. It’s not logical, but these interviews with Admin are tense things. Combat officers you live with, you die with, and we get along. Admin ... Here I was, very flash in the black dress uniform with all its silver braid and D stars, a morale booster if there ever was one, and the thought of the interview was vibrating me up to just short of the full-scale shakes. Waiting to have a tooth pulled had taken me that way in the old times.

It’s a place like most Complex rooms—square, the walls two-tone gray and glossy up to shoulder level, doors in a third gray, one blank and here the other one saying ADMIN. CAPT. SINCLAIR. A couple of chairs in gray plastic, a rubbery gray floor, making five shades of gray altogether—six if you counted the way my face felt. These twitchy civilians: twitchiness is catching. I wasn’t death-happy yet. I sat counting the grays, waiting, drifting off into thoughts about last week’s combat trial against the laser bunker...

Then there was that tiny click-scrape of the slack being taken up in a loose door handle. Reflex took over. As ADMIN. CAPT. SINCLAIR’s door handle started to turn, I snapped upright, twisting to expose minimum side profile to the opening crack of the door, left hand braced against the wall, right slapping my belt as it scrabbled for the shock gun—Ah. *Special Force Regulations 3/45b: Weapons may not be carried with dress uniform, “weapons” comprising all classes of offensive implement listed in Appendix H*. I caught myself then, and dropped out of the reflex sequence. *Civilians!* Forcemen *do not* open doors at you, suddenly, like that. By the time the tall gray door had swung all the way open, I was standing and looking what I hoped was relaxed. A balding secretary peered at me, sniffed, and said, “Captain Sinclair would like to see you now.”

“Thanks.” I followed him through another gray room thick with filing cabinets; it was only six or seven paces and in that time he glanced at me over his shoulder twice. Twitchy, twitchy. Another door...

“Forceman Jacklin,” he said into the room beyond, and I went in.

This was an even more cluttered office; I could guess what some of the clutter was hiding. Admin does not trust Combat even a little bit. Captain Sinclair was sitting hard up against the far wall, behind a massive desk that looked like something left over from the Siegfried Line and was probably a sight tougher. She herself was round-faced, blue-eyed, hair gray like vanadium steel. We’d met before.

“Forceman Jacklin,” she told me, tossing me a smile as if it were a banana. Admin also thinks, or pretends to think, that Combat men are plain stupid.

“Yes, Captain.”

“Please do sit down.”

“Yes, Captain.” There was one hard gray chair standing before the desk; I tried to shift it casually to one side and found it locked in place. Score one for Admin. I sat down, automatically scanning walls, floor, ceiling (nothing immediately over or under the chair, or nothing visible). Sinclair nibbled gently at her bottom lip.

“You’re applying for promotion to combat lieutenant.” Fine, great, first she tells me my name and then comes up with the big punch line about why I’m here. I nodded, half my mind still wondering what bothered me about the portable electric fan sitting on a filing cabinet to the left.

“The reason for your application?”

I knew that one all right. “Advancement of Force career.” That fan...

A shuffle of papers. “This is very interesting. Yes. You would certainly seem to be well qualified in course work, training ground practicals, yes: with one exception, the Anomalous Physics I course.”

The fan was trained right on my chair, not on Sinclair’s desk, and there was a black spot on the central boss between the blades. Probably a dart gun. Anomalous Physics I—ah yes, that was the MT course.

“That’s all right,” I said too quickly. I’d been in the tank after the Copenhagen raid all that week, but my good old drinking buddy Skeld had sneaked out the course texts and read them to me. Interesting stuff ... wait a minute, that material was restricted. Get Skeld into trouble if know about it.

“According to my records, Jacklin, you were hospitalized during AP-I last year. Have you ever been exposed to this material?” She began to fiddle with some electronic components on the massive desk.

“I can read up on MT in two days if you’ll give me temporary CONF clearance, Captain.”

“Then you aren’t familiar with matter transmission equipment, jammers, nullbombs, or any of the related devices?” It was more of a statement than a question, but I cleverly answered with a long-drawn out “We-e-e-ll...”

“You aren’t ... Good.”

Good? It seemed the right time to look puzzled, and I did; also just then I registered something I’d been not quite hearing ever since I sat down, a thin whine from, probably, inside the desktop. Even money it was the charge circuitry of a laser somewhere in there. Sinclair must worry a lot about death-happy Combat men.

“I’d better explain to you what all this is about,” she said. “There is a highly hazardous assignment—“

“I volunteer,” I said without thinking about it. Hazardous meant you maybe got killed. So what? That was the job.

She frowned, clicking the electrical bits in her hand. “Please. You’re supposed to be intelligent, for a Combat man: let me finish. This assignment has a security classification so high that even the classification is classified. They don’t want your killer ability or any of that nonsense; they want a Forceman with a high D rating, reasonable intelligence, good reflexes and --*what are these*?”

She shot out her hand with the components rolling on the palm. One was an MT distortion tube just like in the manual’s pictures. I showed off my classy reflexes and didn’t hesitate before saying “Don’t know ... electrical parts?” with a blank look.

“Yes. An open mind, shall we say, on MT technology.” She paused and looked at me with head a little on one side. About then I decided that what looked like woodworm this side of the desktop—a metal desk! -- must be outlets for unfriendly gas or loaded needles. So don’t go in over the top of the desk. That made three defenses.

“What’s the assignment?” I said.

“I don’t have details. Except that it involves the space program.”

“I thought they canceled all that a hundred-odd years back. When the power started to give out.”

“So did I. Do you still volunteer?”

“I volunteer, Captain.” I wanted to stand up and salute snappily, but when I tensed to do that she jerked, and one small hand ran like a spider to a button set in the desktop. Captain Sinclair was still worried.

Once in a while a Forceman goes death-happy. He doesn’t mind pain, he doesn’t mind death at all any more, and what’s left to do to him? Usually he won’t go for his mates, though; the old bad feeling about Admin comes bubbling up and he wastes a few *of them*. So Admin are scared of Combat, which makes things worse—the way dogs are readier to bite people they know are afraid of them. Admin would surely like to deal with Combat at a safe distance, behind armorglass walls or CC3V links—but that would be bad *formorale*, wouldn’t it? And so they have their little personal defenses.

“How does all this tie in with my promotion?” I said, staying seated and very still, like a good boy. But how did I look to her? Hard muscles, wavy brown hair, baby-blue eyes and a long nose that bent a little to the left—did that add up to the identikit of a death-happy killer?

“Yes.” (She used “yes” as punctuation, I thought.) “Briefly, the suggestion is that you assume the rank of lieutenant for the period of this assignment, to be made permanent should you return and then satisfactorily complete the course we’ve discussed. Yes. That seems to be the proposal.” She was fingering the AP components intensely; maybe being in the room with a Combat expert was getting her down all the more. Which led me to thinking how one should bounce right off the chair to start with, as ten to one there were hypos concealed in the seat, and—“Yes, sounds great,” I told her—and guessing the laser aperture to *be there* you’d have to dodge it and roll under the line of fire of whatever it was in the fan, around the side of the desk to avoid the gas or needles in the desktop which looked rigged to fire straight up, do it fast and she’d find there’s no time to touch that silly defense button—

The calculation must have showed, because that white hand scuttled for the button again. Surely she didn’t expect a Forceman *not* to solve her defenses when handed the problem—any more than, if given a form, she’d stop herself at least working out how to fill it in. As an academic exercise.

“Yes,” she said again, and her left hand stroked up and down her jawline. “That would seem to cover it. Yes. I’ll recommend your application, Forceman Jacklin: just a formality.”

“So it’s back to duties until the official word comes through?”

A little smile, adding to her wrinkles. Stupid Forceman, not knowing that! “No indeed. As a recommendee, you’re already under the security umbrella. You’ll be isolated from non-cleared personnel until further notice.”

That was bad. There are rituals that help keep the Force together: a one-man assignment, you say your good-byes and buy a few rounds of juice, name the pals who get your pay balance and wargame credits if they don’t recover enough of you...

“Has it got to be like that? Captain.”

“Yes. These are our orders.” A very self-satisfied look.

I wanted to scare her then, wanted to dance around that booby-trapped desk, tweak her nose and say *Boo!* But that would mean demerits and removal from the assignment (and a good lot of jeering from the boys as well, if she killed me on the way): I was curious now, I wanted to know whatever was going on in space to need a force of, it seemed, one. So I swallowed and said: “Permission to leave, Captain?”

“Dismissed, Forceman.” And the finger right on the button, tense and terrified, as I got up very slowly, very carefully, and went to the door. Just before I reached it, I stopped short for half a second and could almost hear her jump. Maybe she could almost hear me chuckle. Outside her secretary was waiting, twitchy but not so twitchy as ADMIN. CAPT. SINCLAIR, to lead me away. Off to isolation until I got a briefing from someone who actually knew something.

Once or twice in training there’d been fights in the bar or more often in the game room, nothing to write home about; two, three people killed, on their feet next day to face the jokes about “Hey, you’re getting slow—“ Culprits got tossed into the brig to cool off for a week; the brig was another of those bare gray rooms with a smell of disinfectant and no distractions at all to keep you from thinking what a wicked person you were. (Some of the fellows would always say afterward that they got themselves brigged on purpose—it was supposed to give you an edge in Sensory Deprivation I.) And the isolated quarters they gave me now weren’t one damn bit different from the brig. Temporary rank hath its privileges. I could almost hear Sinclair chuckle.

Three

The thing we all hate about Security is the hit-and-miss way they operate. Sometimes you feel it’s like a bomb with a one-direction trembler; kick *itthis* way and nothing happens, touch it with a feather *onthat* side and blam. So when we had this bet back in my early Force days and smuggled out the IR laser to burn our names on a few walls in the no-go area south of Oxford street, it was all ho-ho and what naughty boys you are, don’t do it again. But the next week, Shuttle the Armorer left a sheet of weapon specs in the Force bar, real low-level restricted stuff—and at the court-martial they busted him back to trainee. There is a trick they use in grenade training, when you’re throwing clear over the training-ground rocks (or sometimes it’s the maze ground at what was Hampton Court) and the other men’s grenades are coming back at you. You dive and dodge and throw, and once in a while someone forgets to pull the pin and you get a spare grenade coming over. If you like, you can arm it and throw it back. Only somewhere out there is an instructor with some very special grenades whose firing delay is not ten seconds nor five but about half a millisecond, and he surely does not pull the pin before lobbing it gently to

you. I heard this funny joke went right back to World War I. So you're out of grenades and there's one lying there and all you can do is grab it and ... Finding you've tangled with Security is very like that bright and clear-focused moment when you start to pull the pin.

In real life, of course, it's worse than that: Security works backward when it wants to. There we were, the month before Copenhagen, wargaming the strike plan for the city cleanup, tinkering the creaky suggestions of Admin into workable shape—and Security got cold feet. Thump thump thump, they went, stamping SECRET/MILIT/LEVEL5 all over the working papers, and we were all in the retroactive shit for talking classified material with nonparticipant Forcemen who happened to be there at the time.

It was Copenhagen that made me spend that week pulling myself together, as they say, after the riot-gun got me. Along came Skeld with the course material I was missing, mostly stuff on recognizing Anomalous Physics equipment (prohibited, dangerous, destroy on sight) with some notes on the few AP things safe enough to use. Keeping up made good sense at the time: now Security was coming from behind, the way they like to. Captain Sinclair, as subtle as a hole in the road, had made it pretty damned obvious that if I'd taken the AP-I course I wouldn't be getting this big chance. Which was why I should keep very quiet and not even think about it. Which was why I couldn't stop myself thinking about it.

It all came back to me so easily as I sat in the room that wasn't the brig. My injuries had all been down in the belly, to put it gently (further down than that, they hadn't been able to recover the pieces): the tank seal pressed against my collar bone and left neck and head sticking out as though I were an iron lung case. I could even lift my head and squint down through the slimy yellow to where rag-ends of me were floating free and growing slowly together. It was a mess. Skeld brought me the texts and turned the pages every night, and so I learned how AP was a dead-end branch of physics that had started out hunting for a matter transmitter, a gadget to flick your payloads from *here* to *there* without covering any space or time in between. (What a warhead delivery system that would be!)

MT was impossible, everyone decided. It came flat up against special *and* general relativity, half a dozen conservation laws, and also common sense. This was where things got knotty, because MT worked in a perverse sort of way when it shouldn't have ... what they reckoned after all the disasters was that the laws of physics and the universal constants were like settings on a big switchboard—condition codes for a computer that was the whole universe. MT worked by changing the settings, altering the laws, bugging up the universe. You can maybe just wiggle at the settings a little and something very odd happens to electromagnetic waves—that was the jammer we still used; it threw 99 percent of our battle electronics on the scrapheap and landed the Force with those missile guidance assignments we were supposed to keep in training for. Another loophole in the old physics comes when you tinker with the speed of light; quantum mechanical laws start falling like dominoes until all of a sudden it's bye-bye to the traffic regulations that keep electrons from falling into the nuclei of their atoms and going blooey. The effect of this one, luckily for a lot of us, is localized, but it's still close to total conversion of matter, total annihilation, the nullbomb. It was a nullbomb that cracked northeast America last century when their Project Hideyhole researched a bit too far—and that was the end of the old superpower balance. Five days of World War III because the rest of old North America blamed the Soviets for that megamegaton blast ... but the EEC went neutral and pulled through somehow—

There's a section in the course book that really boggles me.

I've had the recall training, I can call up every page, but this paragraph always looks twice the size of the rest:

From the examples given above, it may be seen that the restrictions on functional AP systems are few in number. We can postulate a coherent AP system in which the velocity of light ∞ tends to infinity while the

major relativistic relations hold good. For such a system the possibility cannot be ruled out that by the familiar relation $E = mc^2$, a single energy-producing nuclear transformation would by virtue of the enhanced c^2 factor release a quantum of energy which itself tends to infinity. (See also section xviii for a discussion of conservation-law failure in the context of hypothetical “over-space” external to our universe.) It does not seem possible to compute the effects of such a localized release of “infinite” energy into our accepted Einsteinian space/ time framework, but the consensus is that such effects would be at the least undesirable and potentially catastrophic.

Turn on an instant-transport gadget without turning off all of Einstein properly and ... well, I only hope nobody gets around to inventing that one, even by accident. A lot of MT/AP things were hit on more or less by accident, you see, which is a damn sight more worrying than, say, the Copenhagen city government’s worries. (All *they* had to bother with was Freedom gangs shouting “Fascist” and wanting to break up the few sticks of government they still had left. Some people.) After this high point, the textbook goes straight uphill into clouds of classification. There’s a hint about a restricted but workable matter transmitter—classified. There’s another hint of this less restricted, more useful MT that Project Hideyhole used once in space, which went very, very wrong—classified, but with a reference to “stellar instabilities.” Sure, I know what stellar instabilities are: you can see them in the sky every night.

And so on. It’s all a risky and a dodgy battlefield of science. If tangling with Security is like juggling booby-trapped grenades, MT research must be like slamming chunks of plutonium together to find whether you’ve got a critical mass. (Most people seem to think that’ll make an explosion—wrong! At point critical, plus just a bit, the chunks would melt and run out of your hands in a kind of blue glow, and as well as having cooked hands you’d be dead from r/a. No explosion. The guy in the next room has a chance.) Who was it that said, “the universe doesn’t just have more booby traps than we imagine, it’s got more than we *can* imagine...”?

Thinking about these things, trying not to think about them; I very much wanted not to blow this chance. “Quick, Jacklin, what’s this?” “Why, it looks like the central hookup of an AP jammer system—“ (and the picture flashed up from memory as I thought this, even though I’d no idea what lived inside the central distortion tube), “OK, Jacklin, just as we suspected, get out of here and await court-martial.”

Besides my own thoughts, this gray room’s amusements consisted of a hand basin and a toilet. From time to time, I poured water in at one end, and sooner or later let it trickle out at the other. Maybe if I was going to be here for long I could count time by the trickles, the biological water clock.

Then there was a knock; a plump orderly unlocked the door and came in with a set of clean fatigues over one arm. He dropped them like someone throwing out the kitchen rubbish, and backed away without saying anything. At least I could climb out of that creaky full-dress with its death grip at collar and crotch. I noticed there was still no sidearm on the belt, though. Next came a crop-headed pair from Security—the story is they even visit the bathroom in pairs—with an ID camera. The uglier of the two leaned against the door and picked his teeth while the other worked the camera: out popped a plastic badge carrying a picture of someone enough like me to get by. I had to sign four copies each of an ID receipt and a clearance acknowledgement form before they’d go. Total conversation: “Sign these.” The clearance form said how I accepted that Security had the inalienable right to hang me up by the testicles should I say almost anything to almost anyone. I blinked when I saw the classification levels the form said I could peep at now, though:
SECRET/MILIT/TECH/LEVEL9/EXCEPTIONS*AS*PER*PROJTUNNEL*ORDERS. It sounded great. I wondered what it meant.

This afternoon was just one excitement after another. The thrill of the Security visit had hardly worn off when the podgy orderly was back, this time with a tray of food, the mess-hall favorites we could only

label as Brown Soup and Greenish Veg and Gray Pie.

“You have to be cleared up to Sec 9 to talk to me,” I told him as he gathered up my old dress uniform to take it away. (I never saw it again.) He took the hint and didn’t talk to me, which was a pity. More time passed. A secretarial woman visited and asked my autograph to prove I’d read and understood the form she had with her, which transferred me to Tech (ProjTunnel) under someone called Birch. The transfer was to last “until termination,” which you could take whichever way you liked. More hours went past.

Then it was time. Another Security pair rapped on the door, showed their authorizations—the story is that not only do they visit the bathroom in pairs but they also need an authorization, each—and walked me down the gray endless corridors to an out-transfer gate. There I was signed for by another pair, as though I were a precious weapons package, or at least a can of r/a sludge for disposal. Out through the high metal door, a breath of cold damp air and a glimpse of the stars, and into the back of an armored car without windows. The car lurched off before I or my good friends from Security could sit down, and then it was three hours without a break, jouncing about in the light of a tiny fluoro that flickered out at every pothole. From the first turns I guessed we were heading north on one of the cleared routes, maybe one of the old ring roads, veering around the black spots in north London; then I lost track and probably it didn’t matter anyway. I was going where I was going and what would happen was what would happen. Kismet, as Sergeant Lall used to say (and “Allah akbar!” as well) before every strike until the firebomb got him for too long in that Irish peace action: sometimes there’s not enough for the tanks to work on, they need such and such a percentage of uncharred RNA.

Kismet.

Four

There was something funny about Project Leader Birch. I’d been dragged around half the country by Security goons, signed for and deep-searched before and after coming down the shaft to wherever this was, and the ranking officer was an oddball. I hadn’t met many techies, mind you ... No uniform. None of the hard, slick, efficient look you expect in Combat, not even the fussy neatness of Admin. I’d almost have thought—

“Forceman Ken Jacklin, I’m Henrik Birch, and as the man in charge I’d like to welcome you to the Tunnel project.” And he came around the desk, a plain desk with no defenses that I could see, and stuck out his hand. It was hard to believe, but this guy was as near *acivilian* as makes no difference. Handshakes! I took the hand and he came on with a bone-crusher grip; I had to squeeze back a little. We disengaged and separated as if our blades had been locked at fencing.

“Reporting for duty, Project Leader,” I said.

“No need to call me that. They call me Rik here; we run a tight outfit but it’s a friendly one.” He massaged his right hand gently.

He was tall, not quite up to my own 190 centimeters; he must have been fortyish, with lank black hair combed very straight, and pale skin. His cheeks were pitted like lunar landscapes, though, and there were purple smears under his eyes. He did not look like someone you called Rik. The office ... that didn’t seem like part of a friendly outfit, either: I couldn’t see any hidden weaponry, but the bare desk and the scrambler-lock dials on every drawer or cupboard in sight helped remind me that I was in the middle of a level-9 secret zone.

“But you’ll want to know more about the Kraz assignment,” he said before I could put together a question (at least he’d saved me the trouble of deciding whether I could stomach calling him Rik or not). “It’s a diplomatic mission really, rather *awkward*, you’ll see what I mean, but with luck it won’t be hazardous.” He pressed his lips together and looked at his watch. “They should be here in a second ... Yes, um, Ken, the affair really is of the highest importance. Matter of world security—revolting phrase. We were in a sufficiently bad mess already, with only your lot keeping Europe from blowing up or falling apart ... the last thing anyone expected was danger from *outside*, for goodness’ sake! Sorry, mustn’t ramble. The position’s been a mite tense at Tunnel since we made the contact—here they are now.”

There were footsteps outside, a knock at the door; a man and woman came in. Birch aimed a flashbulb smile at them: “This is Ken Jacklin from Combat. Ken, this is Rossa Corman; she’s from the special Comm auxiliary and she’ll be the other half of your team. This is Mick y Wui, Tech/1 in charge of AP systems. Mick y’s responsible for giving you a good smooth ride, ha ha.”

The “ha ha” sounded more like a nervous twitch than anything even Birch thought was funny. I scanned the newcomers. Wui with his wavy hair, stiff beard like a spray of fiberglass and blue eyes didn’t look Oriental; but, in a way, Corman did. She was small, with olive skin pretty near as smooth as that of some Forceman still babyfaced from the regrowth tank, and her eyes were narrowed as if ready for sunlight. I filed away details of her short, mouse-brown hair; Wui’s hearty smile; the tension that made Birch jerk like broken clockwork and Corman hold herself stiff while Wui didn’t seem bothered at all.

“I didn’t know there was a special auxiliary to the Force,” I said to defuse the silence that seemed to be building up.

“Another high-classification matter,” Birch said. “You’ll hear all about it in due course. Mick y, you’re the AP expert. I think you’re really the best one to fill in some background for Ken and Rossa now. Must have the background to understand the nature of the problem. Don’t forget the classification levels, please.”

Which reminded me: “There was a lot of fuss at Force South Bank about me not knowing AP stuff. Does that still hold?”

“Oh Christ,” said Wui. “Another Security cock-up.”

Birch said, “No, Ken and Rossa are fully cleared for general information—just not the contingency plans and working details of AP hardware.”

That was a relief. I reckoned I could just about recognize AP hardware when I saw it but no way could I spill data on how to make it. The contingency plans ... I wondered what they were. There was a twist in Birch’s voice when he used my and Corman’s first names, as if he wasn’t really too happy with the first-name policy; there was something of the same tone when he said “contingency plans.”

Birch went and sat behind his desk, and waved his hands until he’d steered us all into pulling the hard utility chairs from the wall and sitting in a half-circle in front of the desk.

Wui pushed back his hair then, and shook his head. “This is all level-9 stuff, of course. You probably don’t know it, but after everyone got out of the space business around about the turn of the century, there was a big push to move into space with matter transmitters. The Americans had a lucky break and set a big instant-transit gate working. Project Hideyhole: the ultimate safety bunker that started making World War III thinkable again for them. Step in here, step out so many light-years away. It was a leapfrog development, they missed out all the logical steps to it and never realized the hazards of setting

up anomalous-physics coordinate systems. Of course, what they were worried about back then was the world war everyone saw coming, the energy war. They wanted a hideyhole and, by God, they found one. They found another planet.”

This was throwing what I knew about history into a fresh sort of light...

“We don’t know very much about the planet because most of the records went with the eastern American seaboard. Poor sods had backtracked and found the nullbomb effect—and so they got their war after all. AP is most definitely not something to fiddle with. But a colossal number of NATO people had been shifted out through the stargate by then, out to this other place, supposed to be enough like Earth you could walk there barefoot after a few shots. Lucky them. They get to start again on a nice green planet out Corvus way, and we get the fag-ends of what they left behind...”

“Kindly spare us the personal opinions, Mick y,” said Birch in a tired voice.

“Why can’t people go there still?” said Corman. “Did they somehow lose contact after the East Coast Incident and the five days?”

Wui pushed four fingers through his hair again. “That was what shut them down, it’s thought. The AP transient disrupted the gateway, but by then it had been open for eighteen months and they were beginning to see what the damn thing was doing.” He started telling points off on his fingers. “Stellar instability, they call it in the records. Solar flares. Skin cancer up 800 percent. We were the lucky ones. The red shift was behaving oddly for those who were still watching it, and the 3 degreesK microwave background radiation in space was starting *topulsate*. Meteors in swarms, we had: something was going wrong with big G, the gravitational constant. Imagine; you punch a hole that size through space and the whole universe ripples and shudders. We still didn’t know how lucky we were, but they were beginning to make connections by then, MT theory starting to catch up with practice. So they started playing with the hypothesis that their interstellar subway might have side effects. It was a big one, too, a portal nine or ten meters across, from the junk that’s on record as having gone through. A big cancer in space/time, sitting there metastasizing. They didn’t, you understand, they didn’t consider it *expedient* to shut down the gate by way of experiment. It had to be done for them. So that was the Superpower Incident when they invented the nullbomb and all contact was lost. Afterward the U.S. went isolationist and over here the Force—“

Birch was making cool-it signs, beating out imaginary flames with his hands. “We do know our history, Mick y.”

“Yes, well, after all the troubles, just when maybe someone might have considered giving the stargate another try, the nova light from Centaurus got here. Very pretty it was, they say—it’s cooled down a little now. And year after year, the others. Meckis and Canning tried to get it on a theoretical footing around ‘55; that gate jogged stars at certain points in the main sequence and *pow*! There’s some sort of random factor involved as well, but I think they guessed at six percent of suns as liable to be affected. A few hundred of the ones you can see with the naked eye out there, maybe more than a thousand million throughout the galaxy, God knows how many in the universe: the propagation seems to be damn near instantaneous and much as we’ve tried, no one can find any grounds for tying in the inverse-square law. If only I could look into the galactic core now...

“Welcome to your heritage, folks. Doesn’t it make you proud to be human?”

Birch had his elbows on the desk, his chin in his hands. “Doubtless you’re quite right about past thoughtlessness, Mick y, but I do deprecate all this *posturing* in what’s supposed to be a factual briefing.”

Wui shrugged, grinning.

“You’ve explained the lights in the sky,” I said, shifting uncomfortably on the hard chair. “Where does that get us? What’s the mission?”

Corman looked up, frowning. “Could you tell whether the sun of this second world was affected? The sun in Corvus?”

“I was coming to that. We’re treading much more carefully these days, with a lot more theoretical guidance than the wonderful, brave pioneers I’ve been telling you about. There are small uses of AP that don’t muck up the scheme of things in any significant way. Devices like the jammer—that simply has a local effect on low-energy e/m radiation and quantum levels. The nullbomb, though it’s hardly a small use, simply has a local effect on, um, atomic stability. We have a third AP application which we think is safe to handle—a somewhat limited matter-transmitter gateway, too small (the theory says) to set the continuum twanging the way Hideyhole did.

“It’s small. It’s restricted. It wobbles violently over large distances, unless you can anchor it at the far end. And so it’s next to useless for most purposes—push something into the tube underneath space, and the point where it comes out will be different every time. We thought it was sheer luck when we hit the Beta Corvi system first try. It wasn’t, unless sheer luck is what makes water run downhill. We—oh, you’ll have to ask Cathy Ellan for the maths, but effectively we homed in on a weak point in space. Which means *they’re at it again*. There’s a world out there; the old records called it Pallas because Corvus is a raven and you know about the raven and the pallid bust of Pallas ... The people are not simply surviving, they’re experimenting with MT themselves. Making weak points in space and hanging out flags for us without knowing it.

“Central Command thinks they’ve got to be stopped. I suppose I agree ... Otherwise we might wake up one fine morning to see a nova rising in the east. And that’s the current aim of Project Tunnel. We started in search of pure knowledge, you know, possibly new energy sources. We end up, I’m almost ashamed to say it, we end up sending a gunboat to the colonies. *O tempora! O mores!*” Wui was enjoying himself no end; I was wobbling between enjoying his speech and wanting some discipline, when Birch cut in again.

“_Please_ ,Mick y. Ken, Rossa, you’ve heard enough to appreciate some of the background and the nature of our present problem. It’s imperative that these colonists be stopped, or at least persuaded not to continue MT experiments.”

“Have you tried asking them?” said Corman.

“Have we not?” said Wui, and he sounded bitter. “We lobbed in a mini-transmitter satellite, beaming warnings about AP and MT on a continuous loop. They couldn’t have missed it. In fact they didn’t miss it—as far as we can make out, they blew it clear out of orbit.”

“Could be your gadget malfunctioned, went into a decaying orbit or something,” I offered.

“Then so did the second *and* the third. Radio silence from Beta Corvi II except for gibberish which sounds machine-coded, plus intense microwave activity once in a while: and they knock out our satellites.”

“We decided we had to take decisive action,” said Birch. His eyes flickered as if he’d remembered

something he'd rather not have. "We submitted a tentative plan of action to Central Command in Zurich..."

"Who piddled around for weeks," Wui said with a bit of a rush, as though quick to lay down a smokescreen. "It seems the hawk and dove factions argued to the last semicolon. Never mind the fate of the universe, this is politics, this is the important stuff. Oh God: every decision a compromise. The mission plan's already a botch. One lot wanted to nullbomb the planet right off, the others reckoned that even our radio messages were probably imperialist interventionism," he said happily.

Corman came back to the point in her thin, clear voice: "Perhaps now, then, could you tell me where I and Ken Jacklin come into this botched scheme?"

"I've been waiting to hear that too," I said.

"Send a gunboat," Wui muttered, wriggling his fingers.

Birch sighed. "Yes. A gunboat. We have a multiple plan, a compromise. The first thrust comes when a faster-than-light vessel from Earth moves into orbit about Beta Corvi II, about Pallas, and overawes the settlers into acquiescence. Or at least, *tries* to."

Wui mumbled something that sounded as if it could have been "imperialist intervention."

"But—" I said after a pause.

"But there are no faster-than-lightcraft," Corman said.

"No more there are. It's a deception, a stratagem; the concept can't be precisely unknown to you as Force members. If it fails, the plans provide for second and third lines of attack." Birch was looking shifty again, and I noticed Wui carefully not looking at me or Corman. This was nothing at all like the machined-steel precision and discipline you get in Combat strike plans; it seemed woolly and treacherous. The sort of thing Admin and Command would dream up behind their multilayered defense-in-depth of red tape. One thing in particular was nagging at me, the most gross and obvious thing of all.

"Why me?" I said. "Why a special comm auxiliary? Why not a couple of smooth-talking types from Admin or even Command? My training is to get in there and simply kill the buggers..."

Birch looked even more uncomfortable. Wui looked at Birch. I'd asked one of the right questions. Birch cleared his throat three or four times, noisily. "You are very highly qualified indeed for this mission, Ken. You've taken forty-six deaths in Force training and combat; you're hardened to the point where pain and trauma barely touch you. Believe me, this is very important to the plan."

He stopped.

"Why?" I said again.

"The third safe MT application is what we call, ah, the minigate. As Mick ey was saying, it's sufficiently restricted in effect to be completely safe to use. Completely safe. A portal in space connecting here with Corvus. Yes. There are certain problems still, of course, the power drain, oh, and the limited aperture. What's the figure, please, Mick y?"

Wui licked his lips. "The minigate opening is only one point nine centimeters across, Ken. Which is why

we need you. Do I really have to put it in words of less than one syllable?"

Five

They gave me a room that looked as if it was meant to make me go soft. I had to tip the thick foam mattress off the bed and stuff it into a cupboard to get anything like the regulation Force bunk. And then it wasn't so easy to sleep; the adrenalin was still gurgling somewhere inside, like in the waiting minutes before the training ground. I discovered something I hadn't known about dying: you may not mind it when it's all strobe lights, laser flashes, artillery and thunder, but there is something very different about—well, about what friendly Wui and Birch and Central had planned for me. They wanted to take me apart and put me through a hole one point nine centimeters across.

"You did volunteer for extreme hazard, after all," Birch had said while I was still chewing it over. I couldn't put together the right words to tell him there was a difference between taking your chances with guns or bombs in a big raid and the sort of dissection they were offering.

Wui had started to say something about the efficiency of anesthetics, and then he'd stopped. It looked as though there was a surprise waiting for me there, too.

The Comm woman, Corman, she'd taken it without even changing expression. A shade paler and she could have passed for something carved out of snow. Slipping over the dark edge into sleep, I had quite clearly a picture of her melting and running, one frozen bleak eye still watching me while the rest of her was a whirlpool being sucked down this hole that would be a tight squeeze for my middle finger...

The big artery that comes arching out of your heart is wider than that.

I slept, and the dream came sneaking up on me like a stealthy night attack. I don't dream much, though heavy sessions at wargaming can leave me with battle plans and strategy maps twisting in front of my eyes for long nights when I'm not quite asleep or quite awake: but sometimes one of the bad ones comes along.

My first time out. The night forest training ground, where once again the game is to stay alive as long as you can. A rank, damp forest with the sweet-sour smell of vegetable rot. I was moving over this soft leaf mold, moving because the IR sensors would pick me up as a hotspot in the damp night if I held still more than a few seconds. I was moving very quietly, because there were sonic pickups too, wired into the same auto-fire systems. Little rustles came from every side, and there were itchy insects that crawled down your neck or up your nose. Somewhere in the square mile another dozen or so trainees were scattered: I heard one scream not too far away on the left, and I heard the flat crack as the machines fired on the sound without any hesitation ... The night was warm and close and prickly. I was gasping for fright and wondering why the sonics didn't home in on that huge sound. Maybe it was safe to take a pace forward, a pace back, keep moving but stay out of trouble? I tried that strategy for a few thousand years, or it might have been a hundred heartbeats, feeling a clever fellow in the odd moments when I wasn't just feeling a scared one, and something hit my shoulder hard and fast. The sound of the shot came flitting through the leaves as I fell, awkward, off balance. Got to crawl. No feeling in my left shoulder anymore. Seems cold, clammy; but further down the sleeve's getting wet and down there it's lukewarm like mess-hall soup. Something screaming inside *I don't want to die*. No use telling myself I wouldn't get out of here till I was dead for the duration. Crawling ... right elbow slithering in the flaky mold ... just enough feeling coming back into the left arm to let me know someone had hammered a red-hot poker through the shoulder and turned it slowly around. A whiz, a bullet overhead. Crawling too slowly. Change direction, get off track, get into bushes. Is it really going darker? Hand parts the bushes and something in there bites. A kilovolt at least, the bastards. I want to lie there and cry. My shoulder's blazing now, pain

and acid running along the veins, it's so hot I should be able to see my way by its red light. Die now, Ken, die and get it over with. Things can't be any worse...

I take a deep breath for the next effort and things get worse, another shot like a mailed fist in the face which I find has whipped out two molars quicker than any slum dentist. Dribbling blood, cheek in tatters, jaw hanging ajar with a broken hinge ... The pain's all over me now, radiating from the centers in shoulder and jaw, crosstalk on the nerves till I can't tell the broken parts of me from the whole ones. They all hurt now. There are tears running along my nose and dripping from the end, and somehow I'm still crawling, and things keep right on getting worse. Through thorn bushes that rake at me everywhere until even my good right hand seems just rags of gristle hanging off the bone, under some sort of wire stretched forty centimeters off the ground (missed *one* trap then), on and on with the feeble nova-spotted starlight getting dimmer and the insects bumbling and bumping until, as I scrape for a hold again with that battered right elbow, the ground under it opens up. Free fall for a gut-churning instant, and another tremendous bang between hip and groin, and ... Night.

That should have been the end of it, but the worst and longest part of the dream is the worst and longest part of the real memory: conscious again, hanging there in the dark, propping myself up as comfortably as I could with one arm, with no chance at all of comfort because the huge steel spike in the pit had gone through my pelvis. I was pinned like a butterfly, I couldn't slide further down the tapered spike, I hung, head down, with the smell of damp earth and spilled guts, and I couldn't die. When I moved, the pieces of bone that had been my pelvis grated against each other and against the steel. I stayed that way a long time before enough blood had run down my arm and down the great spike to let me forget it all, to let me die.

"You watch yourselves," the sergeant had said before we went in. "There's some little traps and surprises in there." Yeah, sergeant. Thanks, sergeant.

Afterward it wasn't so bad. Nothing's quite so bad as dying that first time. I felt pretty cocky afterward in the tank when I heard I'd lasted longest of that whole batch; the monitors didn't clock off my heart until the seventeenth hour, and I hardly wanted to run off at the mouth too much about how I'd spent most of that time leaking away in a pit. So sixty-something percent of that trainee batch got their psych discharge right then, and as usual they reckoned most of them would never be good for anything again; my mind was still ticking along, though I think not quite the way it had been, and I stayed on. If nothing else, the Force guarantees you food, and enough of it; you can't rely on that outside.

But there is something about that dream of my first time out. Since then I've died many and many a time, and I don't go through all that fuss now. I just take it as part of the job. But that dream ... once in a while it comes back. It's not only that it's the worst of things-chasing-you dreams and the worst of boredom-dreams run together with volume and chroma turned right up. Once in a while it comes back and I get a replay of how I felt that first time. I don't have feelings like that now. They're alien, they're not real. My heart doesn't bash against my ribs like something wanting to be let out, but in the dream it does. I don't go crying my eyes out with pain, not even when I take a bullet through the palm of the hand (try it sometime—that's a bad one), but in the dream I do. I can take dying in a proper, reasonable, businesslike way ... but in the dream I don't.

There's an old, weak Ken Jacklin down there somewhere. He's not me. He's not me at all. The worst thing about the bloodstained dream is that while I'm caught in it, I'm him again. And knowing that makes it a million times worse.

I crawled out of the bed, eyes sore and sticky, head feeling as if someone had put another steel spike clear through it and was wiggling the thing gently from side to side. The room had a basin: I set the cold

tap whooshing away and leaned over, splashing water onto face and eyes, spitting the bad taste from my mouth in brownish gobs that whirled around and vanished down the drain. Afterward I got some sleep, that jagged and exhausting sort of sleep that leaves you without any actual memories of dreams, but with a feeling that all night you've been trekking over mountain ranges and running through broken country without knowing it.

Six

The Tunnel setup was a lot like a tunnel, yes, or a system of tunnels: there were no windows anywhere, and the damp heaviness in the rough-finished concrete passages to tell you it was way underground. Wui said over breakfast that it had been a U.K. government bunker that wasn't used for more than a month because the big war went straight over the heads of the EEC people when NATO cracked; instead we had the collapse and the Force picking up the pieces. Behind every third door there were stacks of rusting tins, or crates of biscuits—"Sanctuary for three rare and almost extinct species of weevil," said Wui—stocks that, like the place, were never really needed.

"Of course some of them in Central say Tunnel's not needed either," Wui said as he cut more slices of the gritty bread. "Word is, there are three official research establishments left on this bloody island—and a good minority of those buggers in Zurich Central think that's three too many. Look around you ... see the enormous staff living here in idleness!"

He wanted a grin and I gave him one. Besides Wui and Corman and myself, and Birch at a table of his own in a corner, there were about twenty people sitting at the chipped plastic tables. Security ate with Security and Maintenance with Maintenance. Some of them sneaked looks at us. Add one: the dour cook behind the counter, ladling the porridge and measuring out sugar and salt. Add two or three more for the guardshift I supposed must be on duty at the entrance lift.

"The atomic energy research center down at Harwell used to have ten thousand staff before the collapse, I read it somewhere," said Corman. (I still couldn't think of her as Rossa or Wui as Mick y, and I doubted Birch's mother had ever been able to call him anything but Birch.) She was still frozen-faced, feelings tucked behind a scrambler lock. I'd have guessed the assignment ahead had her stiff with fright, only she'd looked much the same before our good friends spilled the messy details.

"They still run Harwell," I said, remembering. "They turn out all sorts of stuff now. The Force medic tanks, they make those there."

Wui said, "Don't I know it. We had to requisition three for the plan—the first didn't work after we'd taken it apart and put it together again. Rather small pieces, you see. Harwell were almost stropo about supplying the second; I suppose they thought we were black-marketing the things. Can't have the peasantry getting reserved medical privileges, and all that."

"Of course not," said Corman, deadpan as ever. "Central started out with ideals of building something from the ruins, they say, and now they're as corrupt as any of the old governments."

"Hey, careful, those is fighting words," Wui said, nervous and joking at the same time. He looked off to one side and I could guess the table there was full of Security.

I pushed back my plate. "What now ...Mick y?"

"Now, yes, now you get the guided tour of the wonders of technology. See the decaying equipment. Thrill to the incompetence of the whole operation..." He got up.

“Please,” Corman said. “This is a serious matter for one or two of us.”

“I don’t think it’s much of a joke myself,” I said as we left the canteen with that feeling of many eyes on our backs.

“Oh God. You think you’re the *only* ones with worries? Every time I go into the AP lab I know I could change three circuits and wipe this country off the map. Every time I use the minigate I expect something even worse. And all the time between shifts when I’m doing nothing, I know some sod 162 light-years away might be about to shout ‘_Eureka! It works!’ over his little matter-transmitter while that goddamn instantaneous pulse goes out and this time one of those millions on millions of novas is the one right out there. Apart from that, I haven’t a care in the world. Ho, ho. Life is all one merry joke.”

“Do Security run stability checks here?” I asked; it was the right thing to say, or the wrong one, since Wui shut up and we went on a fair way with only the gritty sound of concrete underfoot. The corridor was low-ceilinged and dim; the yellowish lights high on the walls were set just too far apart, and some were missing, so the soggy yellow light kept fading and coming back all the way along. In one place the left wall was glistening with damp, and what looked like fungus was growing where it met the floor; all the way it stank of old cement falling to sand. Way behind us, I could hear someone following.

“Here we are.” There was a rough-welded steel wall blocking the way, with a small door set in the middle; the corridor was well made but old, this wall was new and shoddy. A plastic box carrying sixteen unmarked buttons in a square was hung askew on the door; Wui hunched himself over it and did things. The footsteps came up behind us as he straightened up. *Aclick-buzz*; the door hinged in and light spilled out. Corman and I followed Wui through, stepping over a high doorsill; the follower behind came too, and turned out to be a woman in standard dun overalls, young, taller than Wui or Corman, and pudding-faced. Her features looked like they’d been stirred into the middle of the face with a big spoon.

“Oh, there you are ... missed breakfast again?” Wui said. “Cathy Ellan, our resident genius.” He reeled off our names. We were in a squarish space between two partitions, and the second looked massive. There was an enormous round door like a bank vault—in fact it looked like professional work and probably *had* been liberated from some old bank. Another grid of buttons on the partition at the side, this one glowing with alphamerics, 0 to 9 and A to F. Fuse boxes and power switches on the concrete wall, and heavy cables. Ellan shut the first door while Wui tapped a code to unlock the second.

“Why the fortifications?” I asked.

Ellan had a squeaky, pedantic voice. “We had anticipated a gateway into vacuum; we did not want to evacuate the entire complex. Likewise, *wemight* have emptied the North Sea or the Atlantic Ocean into our laboratory. Our fears were groundless, as it proved, but other undesirable things could still pass through the gate: we chose to install the safety locks and keep the option of cutting power from out here.” She waved a hand at the switchgear on the wall.

“I sure am enjoying the guided tour,” I said not too loudly. Ellan looked sour; I was surprised to catch a tiny smile from Corman. *Good on you, Rossa*, I thought. Meanwhile Wui was grunting as he pulled on the big round door; it swung out slowly; it was more than two meters thick. Undesirable things, eh? The opening tapered from maybe two meters high and wide to the point where even Rossa had to crouch; we went in one by one, hunched up, and stepped down into the biggest room yet. Wui snapped switches and strip-lights flickered, came on full. It was an enormous hall, maybe designed for underground government sittings. It was an incredible mess.

The walls were clogged with racks of electronics; in a couple of places they pushed out into the room like library bays. There were sagging cardboard boxes stacked with electrical junk, trolleys and scar-topped benches littered with large and small parts, steel cupboards with still more stuff spilling from them and, all over the floor, bright blobs of solder, colored insulation and integrated circuits squashed like insects with lots of legs. There were computer consoles and printers, a traveling crane running on tracks up near the high ceiling, other pieces of machinery that meant nothing to me. And near the far wall, surrounded by meters and meters of the only clear space you could see, power lines thick as my arm vanished into a big gray case the size of an office desk. The one clean surface in the room was the flat, shiny, stainless-steel top of this thing, up there at the end like an altar. More or less centered in that surface there was a black spot. I guessed it might be 1.9 centimeters in diameter.

Wui moved fast, out to one of the cluttered trolleys not far away. “Sorry, security,” I heard him say. He grabbed a couple of assemblies from between the dirty coffee cups there, stuffed them into a cupboard and hit the red RANDOMIZE button of a scrambler lock. “One or two things I’m not supposed to let you see, that’s all. But feast your eyes on all the rest. Real tribute to our disorderly minds, isn’t it?”

Ellan said, as though she were talking in a lecture room: “We prefer to be judged by our achievements. From this laboratory we have sent three messenger satellites into orbit around Beta Corvi II. We have constructed a functioning space station concealed at the L2 point of that planet-moon system. And once our specialist effort has arrived we expect no trouble in dispatching the, ah, manned mission.”

“The way Birch said it, ‘dispatching’ sounds like about the right word,” I said. I was even less happy now than I’d been. This was a long way from Force polish and efficiency: but maybe you shouldn’t expect it from research equipment...

“Now who’s making funny jokes?” said Wui. “See there—that’s the 1.9-centimeter hole of such fame in story and song. We’ve fixed it vertically because one big worry’s always been that the far gate would intersect a sun. If that happens, *wehope* there’ll just be a blast of radiation straight up ... see the cables strung up there? Cut them and everything shuts down. My God, though, think of how it would look from outside, you’re sitting there in the Fens and this, *thissunbeam* comes out of the earth like a geyser, solid light straight up into the sky. Probably blind you, of course; but just think of it. What a sight.”

Corman said, “Is this really relevant?”

“It is not,” said Ellan. “There *isno* question of that happening. We have a short-range gate permanently operational at the far station; this one is tuned to it and aligns at once when adequate power input is supplied.”

(I had a picture of Ellan with all her proud speeches bottled up for years because nobody new was ever cleared to hear this stuff. Now we were getting the full blast --)

Wui snickered. “Yes, that’s right, you have to change trains now. This is the main line, takes you 162 light-years; the last few million kilometers you go by branch line. All seems one trip, of course.”

“That’s not very clear,” I said, liking it still less.

Wui stuck his fingers into his hair, rasped them through his beard, and tried again. “Look. This system here is a power eater—all the energy corrections for stellar and orbital motion show up as extra power drain here. We can’t afford to *keep* it turned on, but if we turn it off we lose contact and have hell’s own job synchronizing with a given spot at the other end. We’d never have hit the right solar system in the first place *ifthey* weren’t fiddling with MT and biasing the far gate their way.”

“The mathematical expression is perhaps more clear than the verbal—“ began Ellan. Wui shushed her and carried on. “Now we’ve worked through our long-range gate and put a short-range one on the far side. Low power drain, nearly zero in fact: just two MT portals connecting a couple of places with the same gravity potential and something like, what did I say, a few million kilometers apart. (There are reasons not to let them get too close together.) Now we’ve no problems: this MT here operates on the same wavelength, as you might say but Cathy wouldn’t, as the one we’ve hung out there. Turn this one on and there’s an instantaneous link between portal A here and portal B out there—that’s this MT system. And all the time portal C out there is joined to portal D also out there. And the AB anomaly is tuned to CD; B and C go into synchronization. And so what we pump in here goes instantly ABCD and pops out where we want it to go.”

“How about if you drew us a picture now,” I suggested.

“I don’t think that’s needed,” Corman said. “Instant transit from here to there, you say. No unfortunate side effects except to the passengers.”

Wui licked his lips ghoulishly. “Yes, right on. When we can offer first-class travel with waitress service and all mod cons we’ll do just that. Meanwhile ... we call this route ‘second class.’ Probably not funny.”

By this time something had started turning over in my own head. I know I don’t always think too fast outside skill areas like combat and weaponry, but usually I get there in the end. “Pump,” I said. “You were talking about pumping things through that hole.” (Grim picture of minced Jacklin being shoved into the portal with an Archimedes screw.) “Does that mean there’s a pressure difference as well as everything else? If so, why?”

Ellan: “The question is not so much pressure as potential difference. Force must be exerted to displace objects into regions of differing potential.” She stopped, obviously convinced she’d handed out a full and perfect explanation. But Wui translated: “I can’t understand that, Cathy. Look. Escape velocity from Earth is eleven-plus kilometers per second, so if we threw something into the hole at that speed it should come out standing still at the other end. We’re pushing things up a tall, tall hill, from the bottom of Earth’s gravity well, we have to do enough work to accelerate you to escape velocity just to get you out into free fall.” He made pushing movements with both hands. “Like Sisyphus. All the work of pushing you up an infinite hill to shift you the few centimeters apparent distance from one side of the portal to the other. Once, our pusher piston, it’s the thing like a boiler there—see? Hanging from the crane? Yes, that’s the one. Once, it broke down before a structural component had been pushed through. The part fell back from infinity and came out at something close to your actual eleven kilometers per sec. Smashed the crane to hell. But don’t worry. The pump’s foolproof now, we think. And for special cargoes like yourselves *wecan* cut down the potential hill by pouring in energy at this end. Don’t ask me how that works. It’s AP and nobody knows...” He sagged a little when he got to that part.

Great. Now I could imagine pulped me squirting all over the lab if the pump wasn’t quite as foolproof as Wui wanted to believe. Even Corman had something to say, with her usual frozen voice: “Second class sounds a little optimistic as a description of this form of transport, don’t you think? Even the Scottish mail coaches don’t often break passengers’ ribs.”

Wui seemed to be thinking. Maybe the cold and damp of the silent lab was getting to him the way it was getting to me. “Look,” he said. “I don’t want to overwhelm you with technicalities. *You* won’t have to worry about the transit—we’ll see you through safely and that’s a promise. For God’s sake let’s forget about the gadgetry for a minute.” He kicked a large capacitor out of his way as he walked to another rust-flecked steel cupboard and rummaged inside, in a dusty cardboard box labeled NYLON

GROMMETS. “Here. I liberated these from some of the old stores in this dump. They’re not bad—have one.”

Silently we all, even Ellan, took the bars of chocolate he handed around. It was so very damned easy not to think about what these friendly lunatics had in store. So much easier to forget everything, go death-happy, see if I could take everyone in Tunnel before they got me. Corman looked at me again as she stripped off a faded purple wrapper, and I caught another ghostly smile on her strained face. I saw how her hair came to a point, what they called a widow’s peak. I smiled back. The chocolate had powdery white patches on it here and there, but tasted very good. I found myself chewing each square into very small melting pieces, and sucking at the pieces, thinking about A and B and C and D.

Seven

Those days in the Tunnel bunkers switchbacked between a crazy rush and times of shattering boredom when all I could do was sit in the damp room and brood. More equipment kept arriving and being checked down the entrance shaft. Birch let us know he thought the story was leaking back at what in his old-fashioned way he called UN Central Command: level-9 secret or not, there was a panic blowing up. “Push this Kraz operation through bloody fast before we all get fried,” was pretty much the gist of the notes from Central, though they used longer words. Birch must have seen the question when it was still halfway up my throat, because he carried on, voice getting higher and faster:

“They have cleverly saddled us with the name of Kraz so nobody will connect the operation with Beta Corvi, Kraz merely being another name for that very star. I have it here quite clearly in writing. Corvus, the Raven or possibly the Crow, is a southern constellation, which means you cannot see it, and the name Kraz for Beta Corvi is of uncertain meaning but is taken to refer to some part of the raven’s, or it might be the crow’s, body. Unquote. Write it down, do not forget it, and ... never mind. Your next stop is Dr. Ngabe.” And he rang for an escort to take us away.

“Think Birch is showing the strain,” I said to Corman as we followed the shaven-headed Security goon to medical quarters.

“Of course he is; they all are. Birch and the AP staff must have been years at this business, and they’re acting like caricatures of real people. The air down here is full of an endless scream that you can’t quite hear.”

“I suppose you could put it like that. You always look calm enough yourself; maybe it hasn’t got to us yet.”

A pause. “I envy you, Jacklin, did you know? I have had to control myself so tightly for so long, I’m not sure that I could laugh or cry if I wanted to. You ... you’re so solid and stoical, it’s obscene.”

For a moment there I wanted to tell her all about the dreams and old memories, and how I was afraid they got in the way of me being a first-class Forceman. But it wasn’t the kind of thing I could squeeze out into words, not offhand when walking with someone I didn’t understand at all. We came to Medical without either of us saying any more, and the stolid guard opened the door.

Dr. Ngabe was large and black, perhaps thirty-something, his dense hair just starting to die back at his temples. He was also the specialist effort someone had mentioned, a surgeon brought in from central Africa and (I supposed) some proof of a hint Wui had dropped: that there was African money behind Central for this operation, isolationism or no, and that Africa was quite happy that any little mistakes like nullbombs should stay on foreign ground...

Dr. Ngabe smiled whitely, and another old memory tweaked at me—right back from when we were street kids through the famine days, and food or clothes parcels came from Zimbabwe and the other places. We'd sneered at the senders, rich and smug and (mostly) black: I'd forgotten all that till now, when up floated hazy reasons for not liking this Ngabe. Maybe Corman was feeling the same. The hell with that.

"Dr. Ngabe?" I said with a bit more of a smile than I might usually put on.

He gave a sort of almost-salute, one hand flipped vertical and down again. "Mr. Ngabe ... if that matters. You must be Forceman Jacklin and Force Auxiliary Corman." I nodded, biting back a snappy "Lieutenant Jacklin, thank you..." Rossa nodded. Ngabe rubbed his stubby-fingered hands together and asked me to come into the surgery.

"The facilities here!" he said as he closed the door. "I have never seen such, well, inadequacy. Do you know, I had to have one of the technicians weld up three holes in the autoclave before we could even sterilize instruments ... Now take off your clothes and lie down, please."

Just wait, I thought as I stripped. Just wait till you see the AP lab where you'll have to work. I got up on the couch.

"Extraordinary," Ngabe muttered as he worked me over. "I very rarely have the opportunity to study patients resuscitated by tissue regeneration ... the technique is used only sparingly in my country, we have such problems of birthrate, alas ... Yes, I feel I could have predicted the characteristic complexion, the atypical callousing ... Of course this mole can have no malignant tendencies?"

"No. None. We don't talk about that much," I mumbled. That was one of the risks, you get a few rogue cells multiplying and, well, it had happened to my big-mouthed drinking buddy Hoare in the tank next to mine once. Hard to forget waking up from a night of regrowth, turning your head to say "Hi there" and finding something man-sized but quite shapeless in the tank next door. The thing had been still alive, they said. I don't know what they did with it.

Ngabe drew rapid lines with a blue spirit-pen, down and across my body. "Well, it seems I can do nothing for your health. Quite the reverse." He chuckled uneasily and asked me to get off the couch and onto the scales. "Hum, yes, this is the important measurement. The logistics problem of reducing, what is it, 176 kilos to transferable form. More than once I have thought a butcher might be better qualified for this special task. But never fear. You won't feel a thing." He patted me on the shoulder. "Now stand here, against the height scale. I must record the planned pattern of incisions." He produced a Polaroid camera and took half a dozen shots. "Thank you so much," he said.

He sat down and made notes in a small book, shaking his head once or twice, while I got dressed. Then he thanked me again, showed me where the door was, and added: "Do ask Rossa Corman to come in now..."

I waited out there for her, wondering whether her examination really was taking so much longer than mine. In the end she came out; the man from Security grunted as though someone had just turned on his power supply, and said "Briefing now in Room 17." Which, it seemed, was back where we'd come from. I decided this particular Security person had a face which made my own look delicate and sensitive.

Aside to Corman: "Got some pin-ups of you, did he?" No reply. Well, I hadn't expected her to fall

down in paroxysms of hysterical laughter. But thinking about her as a woman as well as someone from Comm set me wondering again about there being so few women in Combat. A fellow from Psywar had had a theory, full of things like the life force and the death wish and something he'd invented all on his own called the Valhalla Complex, but when the dust had settled you didn't really know anything you didn't before.

Room 17 was darkened, with Wui attacking a small projector somewhere at the back, the light from underneath making his face a devil-mask. "Come right in," he called. "All ready to go, or nearly so. Our home movies; the space program in a one-point-nine-centimeter nutshell. Cathy, do your suave hostess imitation and show our good guests to their chairs. Ohshit, dropped it again..."

While Wui clattered and cursed, Ellan came at us out of the dark, looking sullen as usual, and told us where to sit. "This will be extremely high-classified information," she said. "Micky Wui's attitude gives entirely the wrong impression where security is concerned."

A voice from behind: "Stop that talk, luv, we're all cleared down here. But you two, this is one of the things you forget over on the other side. Diplomats have to forget all sorts of things in a tactful way, and you're going to be diplomats..."

Ellan said sourly, "The need-to-know principle..." and the screen came alight.

The AP lab was up there, just as we'd seen it or maybe a few percent messier, but with that ugly great cylinder sitting on the MT rig stage center. "Here's our piston in position, it moves inside that housing to shove material through the gate." Another slide: what looked like a length of steel pipe lying on the floor. "That's our wizard's staff. That's the heart of everything on the other side. We opened our peephole way out in clear space, lucky to get close as fifteen million kilometers from good old Pallas and its moon, and we pumped this through." A sketch, maybe a cross section down the length of that pipe, badly focused and with unreadable captions. Wui tried adjustments and made the picture worse. "Forget that. See, the 'staff' has an MT aperture *atthis* end—once we'd got that to Corvus we could tune in again any time. Aperture at the end, a meter from the MT circuitry *here*, closer than that and even MT interferes with itself via the jammer effect. 'External' battery *here* to keep it operating. You see, the circuits are small—it's not a tunable, velocity-compensating, long-range, super-charged custom job like the one down in our lab—small circuits, sealed and, don't forget this, booby-trapped; all in a one-point-eighty-five-centimeter tube. The rest—"

A picture of another and much longer staff that was a tight bundle of incredibly thin rods. "Second stage. We squeeze this lot through the aperture and then spin them." Picture of rods separating as the bundle spins: turns out they're linked by almost invisible spider-filaments at top, middle, bottom, like a fine line drawing of that fencing they make of wooden stakes joined up by three straight horizontal wires. The thin cylinder of rods expanded lazily, slide by slide, becoming a circular fence in space—an open-ended cylindrical cage with centrifugal force holding the filaments taut. "Now our mechanical spider gets going, a long job, squirting fiberglass threads soggy with resin; they harden in space and sunlight, like butterfly wings." Drawing: from the original central tube a spiral of thread goes around and around the spinning framework of rods. "In the end ... a nearly solid cylindrical shell. Now we slow it down..." More drawings. Two more superthin bundles of rods opened like umbrella-skeletons to plug one end of the cylinder, and then the other. "More thread spinning to seal both ends of the hollow working space we've now marked out. Still not the sort of seal you can pressurize, of course, the whole thing still leaky as CC security and anyway all the air would fall back through the gateway. But now we don't lose anything we put through. Tools drift off into space too easily. Now here's FACTOTUM ..."

A new slide, a photo of some really weird machine with jointed arms. "Industrial macro/micro

robot—hard to get these days. We programmed it—programs are even harder to get—we programmed it to build something small and tough, a seed we could plant through the one-point-nine-centimeter aperture. And the seed built Intermediary One which begat Intermediary Two which, in the end, built us another FACTOTUM out there. Then we were all set—“ Pictures of more and more exotic machinery taking shape out on the other side, obviously they had a camera out there by now. The old working space torn apart and a much huger cylinder assembled. “We simply kept on transmitting raw materials like struts up to one-point-nine-centimeter diameter, sheet steel and aluminum in thin rolls, all sorts of small parts, liquid resins, the technical stocks controller couldn’t *believe* the stuff we got through. Thought we’d eaten it, I suppose. And now—“

More slides of mechanical wonders and delights came and went. Seemed the Corvus base now had a smart computer setup, banks of comm gear, a mini-workshop for making satellites, full pressurization and life-support systems in the new enlarged hull, and of course two FACTOTUM-built Force regeneration tanks. I trusted the robot a lot more than I did eager techies like Wui; the design was old enough to be, maybe, reliable. Which still didn’t mean I was one hundred percent enthusiastic about this jaunt.

“...floated the whole station into L2, the Lagrange point behind Pallas’s moon ... not stable like the orbits around L4 or L5, but better hidden...” An old-fashioned-looking sketch up on the screen, showing Earth (title crossed out and relabeled *Pallas*), Moon and the libration points where gravity and orbital motion balanced: L1 just this side of the moon, L2 just the other side, L3 a few million miles from Earth the other way from the moon, L4 and L5 out to the sides in what they used to call the Trojan points...

“This is bad,” I whispered half-joking to Corman. “I didn’t mind so much, volunteering to get killed, but they’re more efficient than I thought first time out. Got a horrible feeling this might actually work.”

“I volunteered for this too,” Corman said in a blank voice that might have meant anything.

Wui was showing pretty pictures of Beta Corvi II taken on the way in by his space-going junkshop (which, it seemed, was supposed to be called the *Ambassador*. It figured. No one ever used the name). None of it seemed much use. It’s hard to look at a picture just like the old blue-and-white ones of Earth, and see from that why people down below should be unfriendly to your satellite transmitters.

The screen flared white. “That’s your lot,” Wui said. “Now you know all about it, and as diplomats you should have some altogether different memories, so try and forget this—and take in the official story as written by Birch and company.”

“That was impressive,” said Corman, a thing that I thought Wui had wanted us to say, which was why I hadn’t said it. More and more I was slipping into a feeling that Force loyalty didn’t mean jumping through hoops for everyone in Tunnel.

“See you at the ‘real’ briefing,” said Wui in a voice that sounded like a wink. Ellan was still mumbling something about the need-to-know principle. Shaven-head from Security was still at the door when we came out.

“My instructions are that you should report to Medical,” he told me.

“Hell, we’ve been there.”

“My instructions are that there’s been a special delivery of material and that Forceman Jacklin only should report for inoculation.”

Corman looked tired suddenly. "I can guess what that is," she said. "I'll stay here with the AP people."

I followed shaven-head, thinking about the need-to-know principle and thinking too that everyone who mattered seemed to know a damn sight more about what was going on than I did. Sometime soon I ought to have a private chat with Rossa Corman: she was the nearest thing here to someone on my side, or that was how it seemed.

Dr.—Mr. , I remembered—Ngabe was none too happy. "I have found my assistant is a medic/6," he grumbled. "The lowest of the skilled grades. I am not accustomed to such cavalier treatment ... It is for a trained nurse to give injections, not a medic/6 nor yet a surgeon. Roll up your sleeve."

I sat where he pointed and rolled up the sleeve. He opened his bag and took out an aerosol can printed in curly lettering I didn't recognize. Lying on a plastic tray, he had a hypodermic filled with something yellowish. Ngabe chose a spot on my arm, sprayed cold stuff on it, gave the syringe a practice squirt into the air and then stuck it in slow and hard. "5cc," he said. "This is a restricted drug, I am told, and I have no idea what ultimate effect it may have on your metabolism. I am warned that you *may* become briefly feverish, that your sensitivity to pain may increase slightly, and that the major effect, which is classified, will persist for many months. I trust you will find this information as useful as I do."

I let down the sleeve again. "That's all you know about the stuff?"

"That is all ... Almost all. I am told that the amount I have injected into you today represents enough currency to pay my salary for two years and a half. Good luck to you."

I shrugged. "Thanks. If I get feverish I'll come back for some pills."

A huge grin from Ngabe. "It is not for surgeons to prescribe pills. Ask my medic/6; he will see to such things."

"Not if I see him first." And I was off again down the same bleak stretch of corridor, annoyed at myself for being friendlier to Ngabe than I might have been to some local quack. Behind me, Security kept pace and made me want to try the old ploy: fake stumble, back-kick, a dislocated kneecap for him and spin around to finish him off in my own good time. What I needed was a workout on the Force training ground. It looked as though I wasn't going to get one for a long time.

The lights were turned up in Room 17 now, and half a dozen chairs had been pulled together at the front. Birch, empty chair, Wui, Ellan, empty, Corman. "...not expecting trained diplomats, naturally," Birch was saying as I slid into the chair by Corman. "Ah, Ken, so good of you to drop in. I was saying that your pose should be convincing. The old-time astronauts tended to be air-force test pilots and the like, not the diplomatic sort at all."

Corman translated: "You and I are uncultured ruffians, Ken, and therefore precisely what the colony will expect from visiting Earth people."

"I see," I said. "When they ask us how we got across all those light years, we look wise and say 'Dunno.'"

Corman: "This gives them such confidence in us that without hesitation they will abandon MT research, simply because we tell them so."

It had to be the sloppy attitude in this place: I'd never join in backchat like this when it came to an

officer's orders in Combat.

Birch said: "Look. We're being driven to an old political technique. It's called the big lie. The people out there have apparently not linked MT with the novae in their sky. Again, apparently, full details of the old colonization gate were not made available to them: they're working blind in the mere knowledge that it can be done. Probably they want to come home. Firstly we need to *stop* their MT research, and the idea is that a big FTL ship from home will cancel the whole need. Consensus at Central is that a message couldn't have the same effect. We need a big vessel, a manned one..." His eyes swung between me and Rossa, and when they met mine they had that frank, luminous, honest look of someone who's trying to put something over on you.

Wui said: "Never mind it's all a hulk with nothing but a few attitude jets. It's the thought that counts."

Birch was leaning forward, elbows on knees, tapping his fingertips together. "Yes, Mick y. We're limited to a war of propaganda. The first step is to *overawe* the people out there—"

"Stop a minute," I said. "From what I heard, they were so overawed by the satellite transmitters you sent in, they just knocked them out."

"The first step is to overawe them with the big 'ship.' They'll be warned it's coming—when you arrive there, the computer will throw in another satellite. Listen." He took a cassette player from his pocket and poked a button. The squeaky voice that came out was Ellan's: "Attention. Attention. Attention. This is a message to all people on Beta Corvi II. A vessel from Earth will arrive in the near future, using the faster-than-light drive, which outmodes the highly dangerous matter transmitters. MT should not, repeat, not be used for any purpose whatever. The visiting craft will be manned. The people of Earth look forward to this new contact with their colony. We repeat: please do not make further use of anomalous-physics devices, which can produce disastrous effects. Message repeats ...*click beep* Attention. Attention. Att—" Birch shut off the player and put it down carefully on the floor.

"What d'you think of Cathy's technique?" Wui said to the meeting at large. "Could have made her fortune on national radio in Africa..."

Birch shushed him. "Now you're going to say, and I admit, that this plan is a bodged one. It is a compromise from Central, but a computer-calculated compromise (they say) and we are not to argue. With you two actually out there on the spot, there can be a proper dialogue. If you become absolutely convinced that the "big lie" is not succeeding, you are to hand over a version of the one-point-nine-centimeter gate as the only safe and practical MT system we know. Let them test that and explore its limitations." He looked at Wui. Wui looked at him. It was another moment when I knew I was being left out. Of what?

"Ought to send Wui ...Mick y, if you want an MT teacher out there," I offered.

Wui flashed a smile. "First, I know too much. They might take me apart and use the know-how to build nullbombs, even deduce the old disastrous gate all over again, which would tend to spoil the point of your jaunt. Secondly, I might not function out there; I might just lie around and be a vegetable like whatever ghastly percentage of your boys drop out on their very first death trauma. *You* two should be able to cope with that."

I raised an eyebrow and looked over to Corman, back to Birch. "What?" he said. "Ah, Rossa. She is *special* Comm auxiliary and thus accustomed to trauma." He stopped. That explained everything. What more could he add? Back to that damned Plan: "Ultimately, of course, should everything else fail, we still

trust that Rossa will be able to transmit data back to us using her special talents. Then Central can plan further action as necessary.”

Corman looked up. “You mentioned contingency plans, plans in the plural, when we first talked about this. Now we have one plan of action—‘overawe them’—and one contingency plan—‘give them a minigate.’ What are the other contingency plans?”

“They are entirely dependent on feedback from your contact operation,” Birch told her blandly. “It would not be profitable to discuss such remote contingencies at this stage.”

“What’s important now is that you get your lines right,” said Wui. “Right from the first ‘Hello, we’re from Earth, stop your MT experiments because we’ve got something better’ to the final ‘bye-bye.’ We’ll go through some possible scripts after mess—you be you and I’ll be a mean, distrustful Pallas colonist.”

I shook my head, trying to free it from the webs they were all spinning. “Mean and distrustful is the way I feel,” I said. “This whole plan of action is wooly ... disconnected ... feeble. If CC approved it there must be teeth somewhere, but I can’t see them and I don’t like any of it, one little bit.”

Corman clapped her hands very slowly and silently, still staring at the floor.

Birch’s lips wriggled around. He leaned forward, looking frozen and savage. “Forceman Jacklin,” he said, “I have no doubt that you are an infinitely wiser strategist than the whole of CC and their computers. Have you considered the small, strategic point that sending you to Corvus is part of a compromise to please the nonaggression lobby in Central? Have you considered that if we can’t make these ‘wooly’ makeshifts work, there is a faction that would be delighted to abandon the minimum-loss-of-life guidelines and sweep the whole problem under the carpet in the interests of ‘Earth security’? Mick y can tell you how we could do exactly that to the whole damned untidyplanet, to ten dozen of them if CC gives the word. Every problem solved ... at ... a ... stroke.”

Wui nodded with something like sympathy. But was Birch’s speech just a shade overdone, the angry look in his face too good a performance to be true? I thought about that textbook passage on infinite energy release, and shut up for the time being.

Eight

I was on my own in the dark, with cold feet. The damp air creeping from the old, crumbling parts of Tunnel; it sneaked under my door, across the floor and straight through the bunk’s flimsy sheets. But my face felt hot ... feverish? The days had rushed past too quickly to count. Now, tomorrow, they were opening up that tiny doorway in space (Wui had giggled, said something about Alice in Wonderland, shut up as suddenly). Tonight was still T minus one, which was what they called it in the formal reports Birch put together for Central; and I was in the dark. Everything here was too complicated. Every datum had two meanings, with the important one hidden. People said things and thought different things. Worst, I was thinking thoughts I didn’t quite want to say out loud. My brain turned things over and over like an old petrol engine that never quite fires but goes around tired and gasping until at last the power gives out. I didn’t want to be a person whose thoughts were all complicated, tangled, sick: at the far end of a tunnel years and years long I couldn’t remember having been that way. It had been a bad time before the Force.

In the Force I got killed every once in a while. In the Force I felt safe. Peer group, the shrink called it, all of us thinking much the same way, all of us saying just about what we thought (except to Admin, but that’s different). Sure there’s lots of technical stuff, courses to soak up, strategy plans, weapon drills ...

that's all fun and games like the wargaming, it's not *complicated*. And then there were the good times, the jokes, crossing the wires on Security. Even when it all gets out of hand—I remembered Alan going berserk with an *axe*, for God's sake, an axe because the quartermaster wouldn't issue him a jacket that fitted, he caught up with him in Admin, secretaries passing out everywhere, hacked through his thigh and shouted, "Ho ho, the leg is off!", we all laughed at that one ... Yes, even when it gets out of hand it's something we all share. This mob in Tunnel lived behind high walls of their own, or in tunnels. And in the Force there was one special time we never talked about much, and that might have done a lot to hold us together: the times in the regrowth tanks after a D. There is that old gag about beating yourself with a gunbutt because it's so nice when you finally stop. Maybe that was part of it. You're strung up on pain like high-tension wires, red-hot corkscrews hauling at your gut; then there's the blackout and you've notched up another D, and *then* ... that time just floating there in the yellow gunk, no need to think, no way to move, so sleepy and so good. If the tanks weren't expensive and restricted as well, you could clean up a lot of minds better than the shrinks with a regular dose of the big D and the tank. Might even stop people like the Tunnel staff being so goddamn complicated and knotted-up.

Maybe I'd already been away from Force South Bank too long. I was getting hungry for that old, clear-cut Force feeling; when you start thinking around and about it the way I was doing now, it has to be a sign that things are changing, going wrong. I was changing and I didn't want to change. I was a happy, efficient fighting machine, but the damp air down in Tunnel was creeping in the corridors, into my reflexes, into my bones.

The reflexes were still mostly there, I found as a muffled thud came from the door and I was suddenly on my feet in the clammy dark. My hand was enough used to going without weapons that it barely twitched toward where my belt should have been. Instead it found the light plastic chair and hefted that as I moved to the bolted door. Another low thud, not dull enough to be a fist beating on the door, not sharp enough to be knuckles: a bunch of fingertips, then. Someone whispered through the door: "Ken? Ken? Mick y here. Are you awake, Ken?"

"What's the matter?" I said to the crack between door and jamb, not standing where the door would hit me if it burst open. One hand held up the chair, the other slid along the wall to the light switch: *click* and I blinked as the glare took hold of my dark-adjusted eyes.

"Party," said Wui none too clearly. "Coming out party for the Project, just a few of us, last chance we get. *Come on!*"

Well: I hadn't been sleeping. And whatever happened now was going to be canceled when the door opened tomorrow on that twisty tunnel 162 light-years from end to end. "Eat, drink, and be merry, for tomorrow you die," was what one Admin major used to say to us, smiling wide to show any number of not-too-good teeth; he'd always looked disappointed when we just nodded. Maybe he thought his nutshell version of the routine was some kind of joke you laughed at.

"Sure," I said into the crack, put the chair down, and went for my clothes. You learn to dress fast in the game, and in a moment I was whipping the door open, checking up and down the dim passage—OK. Wui gave me a grin. He was carrying a cardboard box that clinked.

"Where's this party?" I said.

"Ssshhh! First we get Rossa." He moved down the corridor and I followed; he was swaying very slightly, maybe just tired. In the yellow nightlights it was hard to tell. Two doors down: "Ssshhh!" again, and he tapped with the ends of his fingers. "Rossa? Mick y here. Come to a party, Rossa?"

She answered soon enough to convince me she hadn't been sleeping either. I could imagine her lying with her strained face looking straight up into the dark. Soon she peeped carefully around the door (not even bolted!), shrank a little as Wui dropped a friendly hand on her shoulder, and fell in behind when he moved on. "What sort of party is this? Anything is better than lying there, but it had better not be psychoactives. With my job I daren't touch them—"

I filed that one away for future reference. "Don't know," I whispered back. "Wui's got bottles in there: juice, maybe. You don't think he'd have alcohol?"

"Why not? That's not supposed to be psychoactive in the way I meant. I used to rely on it a good deal in the bad times."

Forceman Jacklin would have said: "What bad times? What're you talking about?" I was thinking differently enough now to keep quiet. Rossa Corman was wound up very tight inside and I didn't want to hit the wrong lever. The picture in my head came from when we were rigging clockwork timers for another improvised-incendiary test: someone had poked too hard with the long-nosed pliers and six feet of coiled spring had whipped out to slash his cheek. Got a big laugh. I still remembered that whiz and twang...

Then we were at a door where Wui didn't knock: he pushed straight in, and white light spilled from the doorway. The low voices inside turned out to be Ellan and Ngabe talking together on the bunk; over in a corner there was Patel, a tech/4 from the AP lab, sitting cross-legged and staring into an empty plastic cup.

"Started already, eh?" said Wui cheerfully, putting down his box against the wall. Inside were dusty bottles. "Did themselves proud, those government planners—all the necessaries for a five-year piss-up while the war burns itself out overhead. I've got Scotch and vodka and gin and rum and orange juice. Plenty more where that came from."

"Medical stores?" said Ngabe, smiling.

"Well, no. There's this storeroom on level 2 with PRIVATE: EMERGENCY RATIONS on the door, and I never figured why anything as revolting as emerg rations should have two locks on it. The Science of Deduction, aided by the resources of the AP lab. Do I hear applause?"

Ellan's mouth was hanging open. "If you used a welding torch on that lock—" She sounded almost satisfied at the thought of Wui getting himself in bad.

"Security would bust me, yes, I know. The ancient family of Wui has more subtlety than that. No, I wheeled down the FACTOTUM, used the micromanipulator arm and didn't leave a clue. Now, for God's sake, let's drink it."

There were more cups on the table. Wui splashed brown liquid into one and took a swig. "Ahhh. This stuff would burn holes in space without any MT gear. What are you drinking, friends?"

"Juice," I said automatically. Wui looked at me with his head on one side.

"For myself also," said Ngabe. "Tomorrow, after all..." He stopped. Maybe surgeons don't discuss fine details of their attack plans in front of the, so to speak, battlefield.

Corman had juice with the white stuff called vodka in it. Patel filled his cup to the very top with Scotch

and took it away to his corner like a kid who doesn't want to share. Ellan tried the gin. Two, three more techs drifted in. Wui sank his drink and poured another, bigger one. "A toast," he said after a short gap of silence. "A toast of victory or glorious death to our brave pioneers. *Lechyd da* ." He waved his cup in the air; so did Ellan and Patel; Ngabe lifted his up about five centimeters, very precisely, and let it down again.

"The science of deduction," said Ellan sourly, "tells me that you have already taken a statistically significant sample of the liquor."

"It's the responsibility," said Wui. "The re-sponsibility. It's not just some storeroom, we're picking the lock that holds the universe together and if you do that you need to get drunk once in a while. You like efficiency. You should know this is a more efficient way of drinking than goddamn fermented fruit juice. You, Ken, why aren't you drinking? Have a drink. Might be your last."

"Thanks, but it isn't something you do in the Force."

"Waste of opportunity. Best hangover cure in the world you've got, damn zombie tanks, opportunity like that and you don't drink." He shook his head droopingly and seemed to remember something. "I had a friend," he said.

"When was that?" Corman asked without any particular emotion.

"I had a friend got cut up by a Freedom gang. They put the knife into him quite a few times—not efficient Cathy, do it right and you only have to do it once." He rambled on, pouring more liquor into the cups one by one. "Bleeding, peritonitis, all that, he died in forty-eight hours. Put him in a zombie tank, he'd still be here, but he wasn't *privileged*, was he, oh no." He leaned over suddenly, slopping vodka on top of my orange juice. "You're privileged. You get the super, restricted hangover cure. Now drink."

Ngabe sipped gently at his own cup. "I should remind you, Mr. Wui, that Mr. Jacklin's combat training would probably permit him to dissect you quite thoroughly without the need for surgical instruments."

"Never mind," I said. "I'll try it." I tried it, and choked at the bite. ("Stir it in," Ellan said. "The spirit floats." I put my finger in and stirred.) The first time for this hard stuff, and maybe the last. Outside the Force you couldn't afford it, inside you mustn't. It wasn't too bad, anyway, and made me feel a bit happier about not being the same person I'd been before Tunnel.

"*Lechyd da*," Wui said again, and I asked him what it meant. "Welsh for 'good health,' *yousaes*," he said with a grin. "Wui's a good old Cardiff name."

We talked about liquor in general, and Patel explained how he made something he called fruitjack from "liberated" juice. The techs talked about Security and Wui came up with some stories about them ("So I looked at the piece of secret equipment they'd impounded from my room and put under double guard, and you know, it was the spare light socket I wanted to put over my bunk—") that had even Corman grinning. By then we'd all taken a refill or two, and even Ngabe had decided to try just one after all, and the atmosphere had shifted into a friendly haze with everyone talking loudly about different things. Cathy Ellan came and flopped by me on the floor, looking more puddingy than ever: "This project is so tremendously important to me," she said. "I've always had pure mathematics as a hobby, and Tunnel lets me work with it..." In two minutes she'd explained without actually saying so that she was the only worthwhile theoretical brain in Tunnel, and Wui was over her just because he was a glorified technician who happened to be good at converting something called AP matrices into solid hardware. "...Can you imagine the matrix calculations in cases where the fundamental physical constants can all be treated as

variables, and none of your small fiddly Einstein corrections either? It's absolute freedom, you should be able to set up any AP framework you like within the limits of consistency and quantum connectedness. Poor Mick y doesn't really *understand* these matters, of course. Now Birch," she blinked hard, "that bastard Birch vetoes all the best experiments. *Itold* him, the worst has already been done with the big gateway back when, and we're still here. Don't you think so?"

"We're here all right," I said. "I didn't understand the rest."

Wui flopped down facing us, making a triangle on the floor. (Corman was talking to Ngabe now, and looked interested; Patel and the techs had taken a bottle away to their private corner.) "What's she telling you, Ken? Nothing classified, I hope." Wui was now speaking very slowly and carefully.

"I was telling him about the need for more pure research. I just don't accept that there are things we shouldn't tamper with. Rik Birch is so hidebound. We should have grown out of that twentieth-century attitude by now, don't you think, Ken?" Every time she finished a sentence she tapped me on the knee.

Wui: "Birch ... Birch couldn't care less and you know it. He's a yes-man. That's what I don't like, he puts on all this earnest stuff and he just rubber stamps everything that comes down from Central. Have 'nother drink." This time Wui spilled a lot of gin on the floor as he poured.

I felt very subtle and cunning, even though the room was starting to sway, as I asked: "What do *you* think about Tunnel, then, Mick y? What's Birch not telling us?"

"Wheels within wheels," said Ellan and giggled. "Give the man a medal. The Things with which mans should not Medal. Birch's *rectitude* has its little loopholes, doesn't it, Mick y? Like the loopholes in space. That's a joke, probably."

"So there's a cover-up, isn't there? Corman and I aren't the whole story? We're just a political what-d'you-call-it, something to shut up the peaceniks while—" "Something went *click* in my head so clearly I could almost hear it: the sound of a safety catch being flipped off. Everything stood out small and clear and bright, like the view down the wrong end of telescopic sights. "That's it. Christ, that's it. We're the delaying action, we make with the sweetness and goodwill while you keep working on the final solution. That's what they called it in the old wars..."

Wui was shaking his head so hard he nearly fell over. "Oh God, this is terrible. What are you doing working all this out? You're supposed to be a Forceman obeying orders tick tock tick tock, none of this bloody analysis. And you're wrong, *wrong*. At least mostly..."

"I can even see how you're going to do it. Everyone keeps telling me how much weapon potential there is in this AP junk. You're going to touch off their sun, aren't you? Of course, that's it. Beta Corvi goes nova just about five minutes after you figure out how to do it without setting off another billion at the same time. *Blooey* goes your problem and Central's problem and all the problems the poor sods out there have got, *including*"—I wagged a finger at him in triumph—"including the tiny little business of Rossa Corman and stupid Jacklin."

"That's a terrible thing to say," Ellan said in a sleepy voice. Behind her, Patel was loudly telling the world about a batch of fruitjack that went wrong when some preservative in the juice killed off his yeast. Real exciting stuff.

"You don't know how wrong you are," said Wui, who was sweating slightly. "Yes, there is a sort of final contingency plan, final solution if you like, nothing so gross and bloody coarse as you think. Much, much

cleverer. You two are important, else they wouldn't be sending you. Comp knows why, Central knows maybe, Birch just knows you're important and it bugs him not knowing why. I can't put it together. Force zombie killer damn expensive; special Comm talent more expensive, oh shit. Not supposed to undermine morale. Sorry. But I'll tell you the real secret. We convinced Central too bloody well MT's dangerous. This shot has to come off because next week, next month, they'll be closing down Tunnel..."

The walls were reeling, and thick layers of something not quite transparent had got between me and people's faces. "Everything's just fine, you say. You don't know why, you don't know anything about what Central's got planned, you're just sure it's fine, yeah." Suspicion. They were pumping me for vital, secret data. They'd doped me, maybe. "Something in the drinks ... what's in the drinks?"

Wui didn't look too good either. Flushed, moving in jerks, voice a long way off. I turned to check on Ellan: she had a steady smile like a carbon arc that was beaming between us off into space. Wui said: "Drinks loaded with C₂H₅OH the wonder drug. Puts hairs on your chest. You got to trust someone. Hell, even times you have to trust bastard Birch. Central, too, they may spend all the time worrying about U.S. nationalism, Soviet revivals, or Africa wanting the rest of the world which they don't, they blather about that but the strategy comp's an old one and a big one, it's got a good head on its shoulders—hey, that's a joke, head on its shoulders..." He hiccuped. "Comp planned this one to please everyone, maximize human life and all the rest. Whatever they do to you, remember that. Try some rum now."

"I think I'll just ... sit here a bit."

"Suit yourself."

"Africa's great problem," Ngabe was saying somewhere, "is that too often our tribal links cross national boundaries. For example, the Ibo—"

Ellan twitched and suddenly seemed to notice we were still next to her. "You know, the *gravitic* properties of the minigate offer a fascinating range of, of, things to do with it. Compression of the potential hill ... and then the state of the conservation laws should the one-point-nine-centimeter circular aperture become contiguous with an event horizon ... Now, the entropy question is an important one in this case, but setting that aside, it might be like pinching off—"

"Yes, Cathy," I said without much enthusiasm.

"Shut up, Cathy," Wui said carefully and casually. "We don't want any of that stuff tonight. The skeleton of pure maths mustn't invade our feast, ha ha. Ken, lemme tell you, beware of our Cathy, the merest sip of fruitjack and it's theory of numbers. Half a glass turns on the advanced tensors and whatsit, general relativity; any more than that an' she sprouts the Meckis & Canning AP matrices, looks pretty on realtime display but don't help too much when it's time to press the button, find out if you've wrecked space/time or not ... Ah hell, whatstheuse. *Bequiet*, Cathy. Got to get sleep..."

"The big D," Ellan was saying softly to nobody. "The devourer. Not black, though, not black at all..." She had a pretty way of talking about dying, you had to give her that.

I decided then to stand up, which might have been a mistake. Any moment I expected the TILT light to go on and the whole room to go dead while I rattled down to the floor and through a black hole into the dark. Ngabe was still talking to Corman, sitting by her on the bunk, but I hadn't heard her reply for a while. Patel saw me get up and decided to show he could do it too. I'd never seen a face quite that color before; he lurched across to the hand basin just in time, and stood there heaving.

Wui stood up too. “What’s your final contingency plan then?” I said.

“Can’t tell you. Sorry, Ken, would if I could, just can’t tell you. G’night.”

He more or less fell against the door and somehow opened it in the process. Two of the techs held him up, helped him out. Ngabe said, “Myself also, I must sleep. Thank you,” and followed quietly. Corman looked at me and shrugged. “I have just heard sixty-three separate reasons why this country is almost intolerable to a man from the civilized world.”

The colder air from the corridor made me feel slightly more functional, though there was still a thin whine in my head. “I’ve heard a few reasons why we shouldn’t ever get distrustful of anyone. Only most of them boil down to ‘because I say so’ from darling Wui. Goodnight, everybody—“

Ellan was still sitting, beaming at where Patel was imitating a recycling plant. I went out, and Corman came after me. It was a little hard to walk in a dead-straight line, and it seemed to get harder when I made a point of trying to; I hoped it didn’t show. What still showed was where my inhibitions had dissolved in Wui’s rotgut: “Why are you here anyway?” I heard myself asking Corman.

She took it seriously enough. “Here, now, because you and Wui came knocking on my door. But you mean here on Tunnel, on operation Kraz?” I nodded. “It’s not an easy question to answer. They warned me in Comm that I’d be volunteering for ‘high hazard and extreme likelihood of termination’—such a lovely way they do have of putting these things. So naturally I volunteered.”

I slowed down, wondering if I’d walked so fast as to miss a step or six in the logic. “You ... You don’t want to come back?”

“That is a dreadfully precise statement. Yes, absolutely yes. I don’t insist on termination but I very much want not to come back. You must know the way it is in Comm.”

“Look, I didn’t know there was any such thing as Comm Aux until a few days back. All I know now’s the name and a few oddball things they’ve been saying here. Let me guess: it’s a special talent arm, one of those weird parapsych units, something like that. Astral radio, Wui said the other day.”

“Correct again, Forceman Jacklin—oh, Ken if you prefer.” (I must have wrinkled up my nose. Jacklin, yes, but “Forceman” gets me down.) “Now ... I think the sensitizer should have taken effect by now. The story is that a link between you and me might be useful if we’re separated: but I’m afraid the real idea is for you to be a loyalty monitor making sure I transmit nothing but the truth ... Are you very drunk? Surely not enough to cancel reception, anyway: so let me give you a private demonstration.” She slid up her left sleeve carefully, and I saw the forearm was pocked as if by dozens of injections. Maybe she doped? No, she’d said—

“See this pin,” she said, pulling one from the lapel of her issue tunic. She held it poised over her arm. “Ready?”

“Ready for what?”

Corman didn’t say anything, but the hand holding the pin went up and down like a piece of machinery stabbing—her arm? my arm? I grabbed hold of my own left arm, whose sleeve was most definitely *not* rolled up, but where there came a sudden pattern of tiny pains, a dotted pain-line down my forearm just like the dotted line of blood points coming up on hers. I pushed my sleeve up and gaped at where, even in this weary yellow light, there were no marks to be seen.

“I transmit,” she said. “They use me for special applications, myself and a very few others. Central allocated just one of us for this operation, one Comm Aux freak. We’re less reliable than radio, of course, being mere flesh and blood, but because we’re not radio, the AP jammer doesn’t block us. Also because we’re not radio, 162 light-years won’t delay the messages...”

I thought about it and wasn’t sure I liked it. “You sit there sticking pins into yourself and send ... Morse messages? Sounds, well, strange.”

“The pin is simply for demonstration, for testing. Testing, one, two, three,” she said and laid three specks of pain in a triangle on the back of my left hand. Three specks of blood on her own. After the sudden, tiny stabs there was a faint residual ache that faded faster than if I’d stuck pins in myself.

“OK, I believe you. No need to shoot yourself full of holes.”

A smile. “Why, congratulations. I’ve known new officers from Command take the sensitizer and have me or one of the others make her hands into pincushions all day. ‘Do it again,’ they grumble. ‘You can’t fool me like that ... it’s hypnosis, isn’t it? Stands to reason.’ Thank you for your credulity...”

“I’m drunk, remember. Drunk to the point where I nearly believe Wui’s line about how everything’s just lovely and don’t worry your little head about ordinary boring routine like tomorrow’s jaunt. Say, though, if you don’t use a pin for military comm work -- ?”

“Military and diplomatic, Ken. Why, a tiny pinprick hasn’t the power and reliability, you see. To push secret material through, we need a loud clear signal, don’t we? The receiver person might *imagine* a pinprick, or she might *miss* a feeble thing like a pinprick. Isn’t it lucky that the clever people in Comm have nerve inductors and suchlike electrical ingenuities to ensure a clear, *strong* signal?” She shivered slightly, maybe from the damp air that moved sluggishly down the dim corridor.

“Pain used to bother me a good lot when I got into the Force first,” I said. “Got used to it after a little while. Pain threshold goes up, conditioning helps you ignore it, and I suppose there are drugs too if you need them.”

“Ah, but think about it. The transmission depends on what *I feel* and so I have to feel it properly. *Our* pain threshold is kept down, conditioning helps us notice it more carefully, and yes, there are drugs for us too, but another sort. That’s my way of being used to pain. Most people don’t undergo much pain from day to day. Forcemen learn to ignore it. We look right into its heart—“

She was talking in faster and faster jerks. I had a ghastly view down a red-lit tunnel into my own dream where the pain couldn’t be ignored. Suddenly it didn’t seem at all funny that Rossa looked on everything with that stiff frozen face.

“Do Comm Aux personnel ever kill themselves?”

“Sometimes. It does no good, of course. *You* should know that.”

“Oh. Oh, I see. And the next best thing is—a high-hazard mission.”

The ice-jam in her face broke up for half a second and another smile came through. “I can’t imagine why they say all Forcemen are dim brutes like bears. Or is this just the drink talking? I really must be a little off sober myself to be saying all this. Good night, Ken—and I suppose I’ll be seeing you tomorrow.”

We'd slowed to a halt outside her door, and now she opened it. I checked my watch. "It's after midnight. Suppose I'll see you later today. Maybe ... well, maybe tomorrow will never come. Good night..." I supposed I had to say it: "G'night, Rossa."

The door closed and I weaved my way back to my own bare cell, head packed full of confusions about pain and people and C₂H₅OH. Door bolted, clothes off, mouth rinsed, light out. There I was again, alone in the dark with cold feet: but in other places I felt warmer than I had.

Nine

The morning of the last day might have been the worst wakening of my life, or it might not. My heartbeat sounded up in the head *thud thud thud* as if some lunatic surgeon had rerouted a few major arteries that way. The thin laboratory smell of Wui's liberated spirits was still oozing through me and out of the pores, stale in my sweat and stale like some cathouse girl's perfume from throat to nose (that must have been the gin, disgusting stuff). Cold water on the face; across the corridor to shower in more cold water that was gritty from the Tunnel well. Memory full of blank spots, rubble and craters. Fumes were still boiling up from my stomach or wherever as I went to breakfast, the drumbeat in my head playing a slow-march *thud thud thud*. As for the thought of food, I had what the textbook calls a strategic delayed committal situation. I hoped Wui, in particular, was feeling worse than me.

There was a new atmosphere in the mess. No one actually pointed the finger at the poor suckers who were going to be eaten by this machine with a circular gullet 1.926643 centimeters across (Ellan rather liked to quote the "precise figure," which seemed to sum her up). Nobody even stared at us for any length of time, but there was a barrage of quick glances like sniper shots. At one table: Wui, Ellan, Rossa, myself. Some faces were missing from the room; Birch never ate with mere staff if he could help it, Ngabe (we guessed) felt the hangman shouldn't breakfast with his subjects—not that that bothered the AP techs—and Patel was still happy on Ellan's floor where she'd left him. Others were already down in the lab warming up the equipment. Might as well have stayed in bed myself, since I got there to be reminded that by doctor's request I wasn't allowed food.

"Technically you shouldn't have had anything for twenty-four hours before the operation," said Wui, poking lumpy porridge around his bowl. "Technically, mind you, I doubt that calling this 'food' would really stand up in a court of inquiry. What fun they could have with the case. 'I put it to you that this is not porridge but radioactive mud from the eastern-NA disaster area.' 'Objection! R/A mud is sterile but Tunnel rations positively crawl with life ...'" He went on so brightly that I was sure he felt lousy; for once he didn't actually eat much.

I was allowed one (1) large glass of water and Rossa the same. I couldn't tell from her refrozen face whether she'd have eaten if there'd been anything to eat; but then I couldn't tell whether I'd have been able to finish a plate of r/a mud (yes, there was a sort of likeness) either. Only Ellan seemed much as usual, eating steadily and chattering about mathematical affinities between AP minigates and singularity points, and a remote control exploration program she'd mentioned a couple of times before: it was all pretty impenetrable. "*The discoveries we've made!*" she said. "I know, I've expounded all this before; I only wish I could tell you more details—come back safely and perhaps I can. Provided, of course, they don't shut down Tunnel. The shutdown proposal is the most incredible folly. The potential of the minigate alone might be sufficient to take us back to the so-called golden age of the twentieth century. If you only look at the general-relativistic implications..."

I finished my glass of water, whose chill squeezed me hard and painfully somewhere in the back of the brain. *Thud thud thud*. "I've heard a lot about implications," I said. "The way they seem to figure it is,

you can do just about anything you like with your minigate and it's all wonderful until someone builds one wrong and gets a nullbomb instead, or until someone lets the far gateway drift into a sun and gets a beam that slices Earth apart, or if not a sun then maybe, what was it you were saying, a black hole..."

Ellan winced. "Yes, Ken. Let's not dwell on that aspect of the matter. My position is that of the pure researcher who takes no moral standpoint on her discoveries; but yes, the hazards are too great for general release of data."

Rossa leaned forward. "Tell me, Cathy, do you take a moral standpoint on the small formality we're going through later today?"

Wui and Ellan looked at each other. "Just following orders," he mumbled.

"The matter is one of expediency and we have chosen to accept the decisions of Central Command," said Ellan very stiffly: "I don't know any other answer. Nor do I believe we should allow emotional or political factors into our thinking. It's so important to maintain the pure, scientific viewpoint." A pause, while she licked her lips. "I wouldn't have volunteered for this. I do wish you luck."

People were drifting out of the mess now, all of them giving us a backward look as they went. "1500 hours, isn't it?" I said to fill an expanding silence. Wui looked at the wall clock and nodded. "Yes. 0820 now. At 1400 we have a three-minute look through the gate to check Corvus clock sync and programming. Scrub up for Ngabe half an hour later if all's OK, as it damn well should be. Ken goes on the table at 1500 sharp and we open the door for him at 1530, a ten-minute connection."

"Even that is *absurdly* expensive in power terms," Ellan put in. "With raw materials it was often easier to fire items through the gate by explosives than hold it open to use the pusher piston and pour in energy to flatten the potential slope..."

"Gather ye budgets while ye may," said Wui. "Tomorrow the closing order may arrive ... Thirty-second opening at 1600 to check FACTOTUM has decoupled the tank and connected number two. Rossa on the table 1700 and through half an hour after, if all goes well. This is the fullest schedule we've ever had for the AP lab, but there shouldn't be any problems."

"_How_ many regeneration tanks are there? I seem to remember someone remarking that you acquired two and broke one," said Rossa.

"Ah," said Wui, "but with great furtiveness and illicitness we've programmed FACTOTUM to mass produce tanks as required. Can't synthesize that disgusting fluid, worse luck, but there's plenty in stock. We now have three tanks here, two built by FACTOTUM while we were testing it, and two out there manufactured on the spot. All in the interests of speedy transit, no taking it in turns."

I made a bit of a face at the thought. "What about testing the ones we'll be using?"

"You're going to be the first person passing that way. You test 'em ... Our test models work fine and they're identical: one of the Security goons let himself be knocked about, you know they get bored down here and start fights. We put him in a tank and he came out good as new. Better than new. It seems he was terribly proud of an old scar down his cheek, nasty thing from eye to chin that he'd picked up way back. Now there's nothing there for him to boast about, poor fellow. The tanks work fine."

"The tanks *here* work fine," I said not too loudly.

Wui grinned and slid off into something about a Central rep come to deliver an inspirational message to us. “Address before the battle, that sort of thing, stir your hearts to noble efforts.” And could we be back in good old room 17 by 0900?

“Couldn’t they send us a letter?” I said. Wui grinned. Yes and no.

“See you later,” he said. “Both of you: we might not get to talk again. This is a tip. You’ve had all the official briefings now; I just want to say that *should* you move to the contingency plan with the demonstration MT, it’s fantastically important that you monitor the demonstration personally from the Corvus station and nowhere else. That’s more than I should say. Bye for now—“

He moved away quickly. With time to kill, we went back to our rooms wondering: I drank some more water and tried to decide whether the stuff in the room tap tasted worse than in the mess, or maybe the other way around.

0900. Room 17. On the dais in front of the film screen they’d put a very expensive-looking desk in real polished wood, and behind it was a man in a very expensive-looking uniform that tweaked at a memory of mine. Again there was a ragged row of seats, Birch and Wui and Ellan and Ngabe and Rossa and me. Patel came in after us, looking like a prime candidate for the tank, and there were a couple of stray rankers from Security and Comm. The man on the dais drummed his fingers silently on the desk, over and over again, staring above everyone’s heads into the dimness at the back of the room.

Birch stood up, face sagging with what looked like boredom. “Marshal Julius Taggart, Central Command executive planning chief.” He snapped his fingers, and the man on the dais twitched, stood up and started to talk. Yes, it was Taggart, half a square meter of ribbon on his chest—and he was supposed to be the guy who ran things up at Central and even talked back to Comp. This showed the top brass took Tunnel seriously. But there was something just slightly odd about his voice.

He said: “Citizens. It is a great honor to address you today on the eve of yet another of the difficult and often dangerous missions by means of which the UN Special Force maintains order in Europe and environs. I will not detain you long. I merely wish, on behalf of the Central Strategic Command group which I have the honor to lead, to express our warm appreciation for the constant dedication and commitment with which you, and other members of both the civil and military arms of the Force as it stands today, have carried out and will continue to carry out the necessary tasks, no matter how hazardous or complex, which help us maintain peace, law and order. Central Strategic Command finds itself in a proud and lonely, and often a difficult, position, in that we must plan in detail every aspect of the missions mounted under our aegis; be assured, my friends, that the largest electronic computer system remaining to us has processed the plan of action you are about to embark upon and has minimized hazard, maximized efficiency, in pursuit of that old goal of the greatest good of the greatest number. We have forged the plan of action and we have complete and unswerving faith in your ability to carry it out. We have given you the tools and we know you can finish the job. Without your support and that of others like you, Central Strategic Command would at this moment in time be helpless against the rising seas of anarchy. Cit_graaaak_ -- “

He froze with the *graaaak*. He flickered, and so did his desk.

“—zens, the Central Strategic Command and the Special Force in its entirety salutes you. We know you will not fail. Go on to victory!

“Thank you for your attention.” The thing on the dais bowed very formally and sat down. Birch tried to get some applause going, and even squeezed some dregs from Patel and a slow-clapping Wui. I heard

Ellan say something to Ngabe about a power load test. After that *graaaak* and flicker ... I should have guessed it when we got in here without having our nostrils fluoroscoped and fillings removed for security inspection. Taggart didn't waste his time giving pep talks even to dynamite projects like Tunnel. Taggart simply had himself holographed, and more fool you if you thought it was the real thing. Now the image had settled back as before, the drumming fingers in an endless loop, synchronizing with the fading *thud thud thud* somewhere behind my temples. *Hell*, I realized—

Rossa whispered it to me first. "I do really think he could have managed a personalized holo for something as important as we're *supposed* to be. That has to be an all-purpose speech for whipping up enthusiasm anywhere, anytime, any mission." A tiny snort that might have been a giggle choked off at birth. "Graaaaak!"

I nodded hard and fast to show I'd thought that far too, but wished I hadn't as the *thud thud thud* slipped into phase with the nods and my head told me it wanted to fall off. Every time I talked to Rossa I felt more and more that we were some sort of conspirators ... well, the system was screwing us, or was going to, for the greatest good of everybody except us (thanks for that line, Marshal). Maybe some conspiring would be a good idea if we could find anything to conspire about in this damnable fog of plotting.

More physical checkups followed. We were weighed and measured again while Ngabe grumbled some of the same grumbles. This time his medic/6 was about, fetching and carrying anything Ngabe wanted, but not apparently allowed to do anything of the work. He was a dim-looking man with small eyes, and when standing still he hummed something I couldn't quite hear. We never got to know his name.

The midday meal was another glass of water. My stomach felt as though they'd connected it via one of their little MT gates to a supply of good hard vacuum. Rossa gnawed at her lower lip in between sips: I could tell that because she gnawed just to the point of pain, and little pinpoint pains were flashing on and off in my own lip. "You're biting your lip," I told her when I'd worked it out.

"So I am." The lip bulged as she ran her tongue around the inside. "Sorry. I do this sometimes. At least my migraines don't trouble me *too* much; I do hope they won't trouble you either..."

Wui looked up from a plate of soya chunks that smelled a damn sight more tasty and attractive than the same dish yesterday and the day before and the day before that. "Did I hear a word or two that might be classified, my children?"

"No," I said. "Tell me, Rossa, doesn't it get a mite confusing with you and all those others in CommAux transmitting away. Should think I'd be picking up white noise from all those inputs." What would a white noise of pain be like? Like napalm all over?

"I don't know whether that part is classified ... no, I don't see how they can tell you some of it and not the rest. The sensitizer is, well, personalized. We give RNA samples, and there's a terribly creaky old organic-synth robot that replicates the stuff..."

"I see. Your very own private coded dope, none other is genuine. Just for me and somebody else back home, here. I wonder who. That another classified thing, Mick y? Mick y?"

Wui was lifting his plastic fork with what looked like a lump of volcanic slag on the end of it. He put the lump down again. "Oh, Birch had a brainstorm about that one. It is just so typically Birch ... He thought about it this way and that, he thought about how signals of vast classification level would come through should you find out anything really interesting—and he decided he didn't really trust anyone in Tunnel to

know more than him about anything such. So he'll be taking the shot himself—when you're safely through the gate and with the what d'you call it, the antidote ready all day and all night in case heavy pains should come through..."

"Cutoff dope, we call it," Rossa said. "The official term is something along the lines of 'gamma-coded RNA phage.'"

"Could be fun," I said. "We can maybe stick the odd pin into Birch when the outward trip's over—keep him on his toes. I can stand it if you can stand it, Rossa..."

"You don't *have* some of the places where I'd like to punch old man Birch," Wui said to her darkly. "This caper means he's fixed himself a billet as the only Corvus information line if Tunnel closes ... God, nearly 1300 already. I'll have to start the check sequence if Cathy hasn't done it all three times, and I expect she has. Report to Medical in half an hour, then, folks. Wear your best pajamas, uphold the pride of the Force in distant lands." He smiled, all nerves and no humor at all: "Didn't they say 'join the Force and see the world'? Yes. Well, remember what I said." He went out of the room almost at a run, as if he couldn't stand to be in the same room as us anymore.

"He looks so dreadfully guilty," Rossa said.

"My guess is there's some other little thing they haven't told us. Maybe the second-class transit doesn't work as well as they'd like. Maybe there's a big chance we end up as a couple of hundred kilos of frozen mince going around Mars or Pluto." I could see I was talking like Wui to stop myself thinking too hard about where in a bit under two hours the pathway of my own life was coming to a narrow exit, which was perfectly round and 1.9 centimeters in diameter. "Maybe it's all a big hoax, and every month when the Tunnel food runs low they draft another couple of suckers to be sliced apart—really the MT rig is a gadget for converting people to soya granules, and ... oh, never mind that." I didn't have to look at her. "You're biting your lip again, and hard."

"Once I suffered terribly from mouth ulcers, you know; we had the synthesizer turn out a vitamin cocktail and that seemed to help. I used to start the ulcers when I nibbled at my lip for ... one reason and another. But it doesn't make much difference now, does it? I hardly have time to get a good ulcer going, even if I have two hours longer than you. Sorry. I'm rambling. Doesn't that clock go slowly?"

I looked at it. 1304. "Suppose we could start walking very slowly to Medical; or maybe we could have some more water."

"Medical, yes. Ken, have you noticed that we don't have escorts anymore?"

"We know our way around now. This dump isn't too big."

"I never heard of Security loosening their nasty grip on someone just because they knew their way around. I think ... I think it is that feeling they have in the cells before an execution. I knew a prison guard once: he told me they truly hated the last night before a firing squad, with the corridors stinking of death, and the worst job of all was taking out the condemned person to the yard. They avoided that job if they possibly could."

I said: "Sure. We're the condemned ones. I got that all right. Now how about discussing something else, anything else at all?"

By now the others had gone from the little mess room, all of them, and left us there. Behind the serving

hatch, the chef hauled at a steel blind that came rumbling down like a guillotine. Maybe guillotines don't rumble, but if they did, they'd sound like that, if there were still any guillotines anywhere. The digits on the big square clock shifted quietly: 1306. A feeling like cold fog. I looked around and around: all the colors I could see were Force drab except one bloody splash of ketchup substitute on the next tabletop. Rossa looked gray herself, and I guessed I did too.

"Ken. There is nothing else I could conceivably talk about this afternoon. I want to know ... I think I know all I need about pain, but they are so careful in CommAux. Once or twice in the bad times I've seen—I think I've seen—death out on the edges of the pain, like a fuzzy blue mountain at the horizon; but I've never come close to the foothills. This will be something new. What's it like, Ken, when you ... terminate? *You* must know."

What's it like? What's it like, the moment when you go to sleep? "Nobody ever asked me that before," I said slowly. "Usually it hurts before, and it's pretty calm and nice in the tank after. I don't know too much about between. The ways I've gone ... sometimes there's a slow pain burning and you sink through that until it goes out. Sometimes there's a hell of a big pain, sudden, like a flashbulb going off and straight into the dark. That's the best way."

"Then the dark is all there is to fear? There's nothing of consciousness between the end and the new beginning? I can surely stand oblivion ... if that's *all* there is between."

"It's all you ever remember, don't worry. Sometimes I've had a feeling, as if a dream had sort of whizzed by when I wasn't there to notice. Only ever remember the feeling, though, not any dreams."

One of her eyebrows slid up a millimeter or so. "That would please Hamlet, wouldn't it? It was dreams that worried him. Aye, there's the rub."

"What? Oh, the play thing. Suppose he found out in the end?"

The eyebrow went down again and left her face its usual stony mask. "That Hamlet had the good luck to be fictional. It's real people who have to worry about finding out. And you know that, sometimes, when a person finds out, her body comes fresh and new out of that tank while her mind stays behind..."

"Yes, but—" I remembered Raggett telling me, a long time ago in another world, about a 72 percent dropout rate for the new batch of first-timers. "Yes, but you've been specially picked. That's because of all you went through in CommAux, I guess: you can stand any amount of shock after that."

"Perhaps. Ken, very recently you spoke your mind about Central and their unspeakable master plan. It was wooly, you said, it was fuzzy and full of holes. I don't want to find myself slipping through one of those holes and becoming a hulk that has to be force-fed and cleaned up like a baby. Slipping through a hole, that should really be a joke, shouldn't it?"

Another memory surfaced like a foul gas bubble bursting through mud in the swamp training ground: one of the things you got to hear after a while was that dropouts didn't get quite that kind of treatment. A vegetable, sure, but not a vegetable for life. Whatever happened to them was over inside a week, and the rumor that was never said too loud was that parts of those hulks went into making a thick yellowish stuff I'd floated in many a time. A story like that, you either believe it or not. I opened my mouth and was just smart enough to shut it again before anything came out.

"About time we got to Medical," I said instead; and we went without either of us saying anything much else.

Ngabe wasn't there; maybe he too didn't want to start socializing with the condemned folk this late in the day. Especially as he was something like number-one gun on the firing squad. (Another stray thought: the blank round in just one of the squad's guns, that was supposed to let everyone go away thinking *they* hadn't helped finish someone who wouldn't get the tank—though I reckoned you must be able to tell from the recoil. For us, all the rounds were live ammo ...) The stupid-looking medic/6 issued us with hospital gowns and things like plastic socks. Without ever looking me in the eye, he asked if I'd taken anything besides water today. No, I said. Did I want to visit the lavatory? No, I said, and then realized I did.

"Cubicles over there. Alcohol rub, all over please, then put on the sterile gowns and footwear," he said in a tired voice, and pointed to doors off the surgery. We did what he told us. I damn near froze to death with evaporating spirit all over me, and the fumes didn't help either. The stink first reminded me of how I'd had a throbbing headache and then reminded me extra hard by kicking the headache into gear again. I pulled the gown around me, shivering, and remembered another thing about the morning: lying in bed not quite awake, not wanting to wake because somehow you know you'll feel bad ... there was something of that feeling in the time between and the dreams that might be prowling there. The thin plastic of the gown wasn't much help; the stupid socks had elastic to hold them on, but were loose enough that when I walked I rustled like someone moving through dry leaves.

"I suppose I must look as silly as you," Rossa said out in the surgery. "What do we do now?"

"Wait till you're called," said our friendly host, who was sitting in the only chair. I hitched my rear up onto the couch (which made him give me a dirty look, but he didn't say anything); Rossa got up there too and we sat about half a meter apart. I couldn't think of anything I wanted to say while the life and soul of the party was over there not looking at me. We sat there.

After a while there was a twitch ... that was the word to put to it, anyway. Everything inside me twitched, the room twitched, the light in the air twitched on its way to my eyes. It was like—it wasn't like anything I'd felt before, but the feeling was that the room and everything in it had been like a film projection—and someone had slapped the screen hard from behind, sending a quick ripple through the fabric. The clock said 1400. When I turned to Rossa she was looking at the clock face too.

She said, "1400 was the time Wui mentioned, wasn't it?"

"At it in the lab again," the medic/6 grunted, as if that explained everything. Down there a machine was trying to—what had Ellan said? -- to change the gravitic potential of all space. Up at ground level the special landlines from the nuclear installation at Sizewell would be throbbing as most of its output got diverted to Tunnel.

"They've opened the door," I said. "Hey, Corvus is just down that corridor now."

"If it's working as it should," Rossa said as if from 162 light-years away.

"If it's not working we bloody well won't have to take the trip..."

The room went quiet again, except that the medic started scratching himself on the side of the leg: it seemed to make more noise than was reasonable. Then there came a second twitch, not exactly like the first. Maybe someone had taken a poke at the imaginary projection screen from the front this time instead of the back. The clock read 1402, but that changed to 1403 as I looked. A three-minute peep through the gate. Everything going according to plan. Another memory from one of the briefing sessions: "

...compromise between necessary tissue deformation and maintenance of cerebral integrity ...”
(Imagine a sausage.) Both of us were shivering still, but it might have been the leftover chill of our sterilizing alcohol rubs. Maybe.

Time went by. I could have used a visit to the lavatory but didn't want to have to ask permission like some goddamn trainee. The medic showed how he had resources to cope with boring waits: he stopped scratching one leg and started on the other.

1425. A knock on the door. It was another of the pinheads from Security, who said: “Message from Dr. Ngabe—all on schedule, scrub up at 1430.”

“It's *Mr* . Ngabe,” I told him as the medic scuttled off with a bag. He didn't say anything; he went to the now-empty chair but decided he should just stand to attention by the side of it.

“When do we get a look in?” I asked him.

“Orders are to escort you down for 1450,” he said, and his mouth shut up as firm as the vault door down the corridor. Real VIP treatment we were getting here, smiles and courtesy all the way. I looked at Rossa, at the guard, at the clock, at nothing in particular. Just like the wait before you go into action, I said to myself loud and clear inside my head. Except it wasn't excitement, it wasn't even fear; just a sort of sick empty feeling that couldn't be 100 percent due to the day's tasty no-calorie diet. 1435. Daydreams of how if I jumped for the shelves to the left I could put a good heavy reagent bottle through Security's teeth before his hand got halfway to that sidearm ... I wasn't thinking that way so much now, already. Reflexes sagging, battle instinct flabby with too much of the dreaded drug H2O, and I still needed a piss. 1440. I shifted my weight because of a cramp, and wondered how Rossa could keep as still and quiet as she did. Security shifted his weight too. Ten to one he was daydreaming about how he'd plug me very neatly through the temple if I made a dive. Hell, wouldn't bugger up the project one bit, would it? Just scrape the brains off the wall and take them down to the lab with the rest of good old Jacklin for Ngabe to work on. Could be that was Security's job anyway, delivering us as handily dead meat ... well, he'd said “escort” and not “deliver,” that was something. Ngabe would make it quick and easy, I reckoned, some kind of painless pill, doctors always a damn sight more squeamish than their patients. 1445...

“Time,” the guard said, getting up and motioning us through the door. They'd really planned it all, accidentally I hoped, to be as intimidating as possible, down to that last walk to the wall where the firing squad would be waiting. Security walked behind us. You could feel every particle of loose grit on the cold concrete when you moved over it in those hospital socks. This time the walk wasn't into dank silence: a whirring hum drifted up the passage, and I could feel a current of warmer air. In the lab the electrics would be hot and fans would be cooling them. Over the sill of the first door, where a Security woman was standing in front of the fusegear to guard it from enemy action. She and ours swapped some obscure information without words—just a couple of dumb animals, wonderful how they understand, you'd almost think they could talk. Ahead, white light showed through the inner circle of the big vault door. It was warmer still and the whirring louder. My guts couldn't shrink any more than they had, but I could feel them trying. The male guard knocked on the pitted metal wall of the last partition; the thick steel soaked up the blow with a dead *clunk* . He tried again, slapping his whole hand against the wall, three times. If they never answered the knock we'd never get off the ground.

Rossa started to talk then, low and all on one note. “Did you ever read the ‘Ballad of Reading Gaol,’ Ken? No? No? I suppose you wouldn't have. That's about an execution, a little too prettified to be true; ‘_we waited for the stroke of eight, each tongue was thick with thirst_.’ *I am* thirsty but it's only 1450, isn't it? I thought of it because there's a line or two in it for you, Ken, for us...

'For he who lives more lives than one,

More deaths than one must die.'

I found when I tried to say something back to her that my tongue was stuck in my mouth, dried up like an old rag that had glued itself to the washhouse floor. So I was thirsty too. And *Istill* wanted a piss. And Rossa's mouth quivered until I was afraid she was going to stand there laughing herself out of control. She did come out with a kind of strangled giggle before catching hold again...

All of which rather spoiled Wui's gag as he moved into view, longish hair and stiff beard black against that hard white circle of light, and raised his voice above the humming to call out: "The doctor will see you now—"

Ten

There were arc lights blazing down on the chilly steel table where they'd made me lie. It had wobbled on its wheels as I got up there, which wasn't encouraging, and I was hardly cheered up a lot when I noticed the drainage channels on all four sides of the working surface. Waste not, want not. Everything was blurred by the lights; it was easiest to stare straight up between them and not try to think, but out of the corners of my eyes I could see Ngabe and his medic/6 checking out a trolley of instruments that clinked, including a couple of big, nasty saws, and Wui doing things at one shoddy rack of equipment after another. The double doors to the storage complex beyond the lab were standing open; they'd taken Rossa away down there, maybe so she wouldn't have to watch me being processed, maybe because they thought a woman shouldn't peep at naked me. (Of course, there was Ellan—I could hear an irregular beep-beep as she punched things into a video terminal—but somehow I reckoned Ellan saw human bodies as chunks of 3D geometry ...)

The lights threw everything out of perspective as I lay there with the steel sucking every last drop of heat away where I touched it. For the duration I was just about colorblind, everything blinding white or blacker than black with vague gray shadows in between. The glinting highlights made the machinery I could see look sinister; even the familiar grab-arm of the crane looked insect-jointed and alien. That must be the "piston" in place over the MT rig over to my left. And I was still learning that going out on the training ground to meet the big D, adrenalin squirting from the glands like a geyser, was not the same as lying with hot lights above and cold metal underneath, waiting for it to come to you. I wasn't even sure of my own sense of time, one thou-sand two thou-sand three thou-sand ... how many goddamn everlasting thousands did it take to reach 1500? Around and around in the head. Bright. Cold. A draft from a fan somewhere. Beepbeepbeep, whirr, confusion of footsteps, a low hum of power, Wui muttering to himself, worst of all the tiny chink-chink of metal things being rearranged on top of a surgeon's instrument trolley. One point nine centimeters. One point nine centimeters.

One of the arcs went into eclipse as Ngabe came looming, dark eyes showing between his surgeon's cap and mask.

"I want you to relax completely, Ken," he said in a deeper voice than I'd heard from him before. "It's nearly time. Close your eyes. Try to go limp, utterly limp, try to become relaxed and sleepy..."

I went as limp as I could, and discovered that being all tensed up had at least held a few areas of my skin from that damned freezing tabletop. Eyes shut. Fine. A drop of sweat tickled me as it oozed through hairs in my left armpit. Where was the anesthetic, then? Ngabe went on slowly, quietly, soothingly; I didn't need any eyes to feel he was leaning further over, as if maybe he wanted to climb right on top of

me. A tiny pricking high up on my chest, perhaps the touch of a monitor electrode, or the pen that was going to mark the incision paths, or—

An icicle slammed clear through my chest, and I screamed.

Once upon a time I had fallen onto that bloody great spike in the pit. The spike was nothing to this. I could feel my heart as it ripped across—eyes open to the dazzle—hand going up without my needing to tell it to, going up to take Ngabe by the throat, then losing all its strength before I could get a good grip. Quick photoflash sight of flat steel handle sticking from between my ribs, thick red tide spilling out and over; then *thud* somewhere at the back of my head as it pivoted down to the table and hit. I could feel body systems shutting down, arc-lights going gray, and at my side a steady dripping that tickled like the drop of sweat crawling in my armpit, like a runny nose. Vision grayed out, but that solid column of pain held me fixed to the steel table, limp like so many kilos of cold meat. Sounds came echoing down a long tunnel to me, first a strangled sort of cough and then Ngabe muffled by his mask—

“Interesting, highly interesting. I am most *impressed* by Force reflexes. My throat is quite bruised; another second or so and he might seriously have damaged me!”

Wui: “For Christ’s sake, did you have to do it like that? I can just about swallow the doubletalk on skipping additional drugs to get lab conditions for the tank—but I imagined you opening a vein, not making like bloody Jack the Ripper.”

Ngabe: “Keep back, please. Keep back from the sterile area and have the transfer containers ready. This was the quickest termination I could reasonably devise, you must understand. Now...” (Coldness pressed against me here and here and there; but everything was cold cold cold ...) “Yes. I pronounce Forceman Jacklin clinically dead. We proceed.”

Not yet, I wanted to shout. *I’m not dead yet*. I couldn’t. Dark and cold. Even my thoughts were seizing up and thinking was like pushing through stiff jelly. I’d never known. I’d never known before, the moment when I died. I felt the knife grate on bone as it pulled free: that was bad. Hearing faded as Ngabe was asking for the number-six heavy scalpel. Poor Rossa. Her turn next. Thank God they didn’t process her first, her and her broadcast. In cold and silence and dark I could feel the first slashing incisions, *zip, zip*. Pain signals don’t make much sense when they’re the whole universe and seven-eighths of your brain is trying to make dead lips open and scream, but I think they were still scientifically gutting me when everything shriveled to a white-hot core of pain somewhere in my belly, and then went out.

Part Two

Death and the Raven

The circles of the stormy moon

Slide westward toward the River Plate,

Death and the Raven drift above

And Sweeney guards the horned gate.

T.S. Eliot, *Sweeney Among the Nightingales*

Eleven

...low over the choppy water that showed like a puckered gray sheet in the screen, red bar of the altimeter reading to one side, blips that were other missiles cruising over in this same wave, far off to the left and right. I've seen the ground-level viewpoint on the simulations too, of course, swarms of little bullet-shaped cruisers with their tiny, silly wings coming over the horizon at hedge-height like a cloud of flies. You stand ready to swivel the laser cannon's mirror whichever way the first one comes, or pump the brainless interceptors into the air aiming just the right distance ahead of the bright ramjet trail. I was in one of those bullets now, and the first thing you must do is scatter, weave, evade—if they *do* strike lucky and trigger your nuke the chances are it's a fratricide incident, radiation shock from your fireball swatting away your mates to right and left, above and below. The neutron shower is bad medicine too, heating the plutonium cores until they're useless lumps that can spread contamination but never make a proper fireball of their own ... Shoreline ahead, below, cliffs almost too close for comfort with a sudden updraft as you cross the edge, green fields—

The laser cannon were popping off now, vertical lightning bolts with jagged ionization paths twisting brightly for milliseconds after the flash. I kept on dodging, lying there at full length, feet working the attitude flaps, hands on thrust and soar sticks (each capped with *the* red button, and there's a backup prox-fuse in the nose cap), staring straight down into the tilted mirrors that let your eyes focus on screen and meters without strain. Landscape was streaming past underneath like blowing cloud: brown fields now, scraggy bushland, desert sand and rock, lasers striking up from invisible holes, thicker to the south.

I felt terrible.

A near-miss whited out the screen with its ionization for maybe a second, a long time in this sort of war; it cleared in streaks; could have been luck, could have been my dodging wasn't random enough. A computer a good sight smaller than Central's would have sorted out my evasion pattern in nothing flat and tossed a laser spear to plus or minus half a millimeter into heart, brain, left testicle, you name it; but this whole wave carried jammers and micro-electronics was interdicted throughout the strike. Jammers are an AP thing; they screw up communication and quantum effects both together; I felt it like white noise behind the eyes. If I could have scratched there—but anyway there's no room to move in a cruiser, the lining's custom-built, warm and close, just the screen and red emergency lights burning in the cozy dark. An interceptor, heat-seeking probably, got on my tail and I dropped dangerously low to scrape it off against a high dune—these things follow your hot exhaust clear into the ground if you can lay the trail low enough, no room for subtle logic in them—WHAM and the concussion hit me from behind and to one side—

That was how the game was played. A microcomp would have played it better than me in the cruiser. A microcomp would have tracked me better in the interceptor, in the laser foxholes, and not only knocked me out easy as swatting a fly but made damn sure it scored maximum bonus on the fratricide scale as well. But jammers were running full time on both sides now; the big machines were down for the duration of the attack; we both had to play with the next best thing, soggy thoughts crawling about the heads of your actual human beings ... And why did I feel so terrible?

The few scraps of circuitry in a cruiser use little acorn-sized valves; they keep tinkering with other substitutes for micrologic, like Babbage clockwork or that twentieth-century dead-end called fluidics. The old ways are the best ways, our instructor used to say with a smile on just one side of his face. Old-fashioned cigar hull looking so like that century's cruise missiles you couldn't tell the difference without a measuring scale to show you how ours are longer and fatter to squeeze in the old-fashioned control system: me. Even the rusty old micronuke a little way up the axis from my head, a subcritical mass waiting to be supercompressed when I hit the red button ... or was it? was it? We've never spilled the

cruiser swarm south over the Libyan deserts in realtime yet. It's enough Africa knows we could. No need to rock the boat. I've been on these missile runs from both ends, time and again in the simulator, dodge and weave low in the air, follow the contours of the dunes to the cities and military bases way down south ... every time a simulation in another of the training grounds, every time doped a little to keep you off-balance so you take it as reality. We all knew that if ever the time came it'd be the same procedure, into the capsule, click click click as you're slotted into your cruiser: maybe one day you find yourself in that swarm coming over someone's horizon and you'll never be quite sure until the final whiteout at ground zero. And, of course, I supposed, perhaps not even then.

My head hurt. Maybe it was the jammer twanging at the atomic energy levels, flipping e/m photons end-for-end and stirring my forebrain like an unscratchable tickle, deep down in the sinuses. I ached all over, in fact, more than you'd ever expect from the cramp in this journey time. A sick feeling...

But there's no time to think whether it's real or another run on the training ground. Hugely complicated patterns of interceptors were crisscrossing in the sky ahead, and the laser barrage was like a thunderstorm under the clear sky. I didn't watch all this in perfect focus, you understand; the tiny screen glowed with blue sky and yellow-brown desert below, fuzzed more than usual by the jammer, bright streaks or fast-moving blips where lasers and interceptors were clawing after me. Down lower still where lasers couldn't track and windblown sand rasped at my belly—concussions again from behind as some of the following wave was clobbered—and through, again, as I'd done in the simulations before, through the continent-wide Tibesti Line with interceptors stalling and looping the loop as they tried to shake off their launch velocity and dive back on me. A patter of fused sand on my ablative hull: one had come down quite near me there. This low-approach trick was a winner and bloody difficult to bring off; and one day the Tibesti Line might be improved with endless picket-fences of high steel poles to discourage the maneuver. (A dull and deep-down pain all over, all through. Don't tell me they've come up with a new secret weapon, the fearsome pain ray, something like that.)

Time to choose targets. No diving interceptors now, not in the populated zones where the lion-colored desert had switched to bright patchy green; low over the cities it'll be interceptor planes instead of missiles, and more laser cannon in the Places Which Must Be Defended. Roads unreeling under me; new white city with patches that were greener still, even blue pools of water (I was really low, oh, that everlasting ache): imagine roaring low down the main street buzzing coaches and bicycles—not likely, with those powerlines dangling from pole to pole, unguarded powerlines! rich sods ... No, *there*, there it was, flat painted design like a kiddy toy over the rim of the city: airport. Planes still scrambling, silver blips peeling themselves off the runways: it couldn't be anything but a military airport. Hit that or go for the industrial zones about 20 km further in? Aching decision; everything dull and dreamy; it was a game I was playing because I was bored so much it hurt and there was nothing else in the world that I could do.

Planes everywhere now. Full thrust, low again, they won't fire down on their own houses. *Ping*: someone was firing up but not with anything heavy. *Ping* again. Then out over the open road, planes on the dive, a massive rattling and I was being thrown about like something in a pinball machine. I dodged faster, faster, the world going around me on the screen, shots hitting my hull a dozen rounds at a time and WHAM an air-to-air missile had crippled me all in a millisecond. Even if I failed altogether, I'd engaged this squadron long enough to let some other cruisers through to the industrial zone. (Why, oh why, was there so much dull pain crammed into the cruiser here with me?) Going down now, a long ragged glide that would trickle me onto the edge of the airfield. If that was the fuel dump there, I reckoned the fireball would swell to take it in, the blast would total the control towers and every plane in the open. They were still taking off, one every few seconds. God help anything in the air within a thousand meters. Last moments. Last things. Time was stretching thin and my nerve ends felt the same way, stretched to the point where they hurt forever. Earth and sky turned over like some infinitely slow and ponderous machinery. The Egg sat there in front of me, waiting to be hatched. Another rattle. Even more distant and

dreamy, lurching, falling ... (_Compromise between necessary tissue deformation and maintenance of cerebral integrity_) One hundred meters up and falling. The screen was gray and far-off, and my thumbs on the two red buttons pressed down, and down, and went on sinking through a million kilometers of slow grinding pain until the final white-out of the fireball that should have been the welcome end of everything but instead went on, on, on, brightening and shifting to poisonous yellow...

I was awake, and I wanted to claw my way back into the dream. I was caught in that last painful moment: when you've been concussed, say, and you've drifted forever in bad dreams until consciousness gets switched on like a too-bright light that makes the mess so much worse. It was not good. I was falling, for a start, and had to remind myself how Corvus station was falling all the time without ever moving closer to that poxy little moon. The light *was* too bright, even filtered through the yellow slime of the tank (must be a plastic sheet holding the stuff in?); I couldn't close my eyes, mainly because there weren't any lids. *That* had happened to me before; it wasn't any better here than at home. I could feel, a little bit, the close-fitting coziness of the tank: what was even closer-fitting was the sick pain that was clamped onto everything of me that I could feel at all. My hangover after the Tunnel party had been grim, like an invisible helmet squeezing at my brain: spread that over as much of a body as I had here (I couldn't move to find out, and the feelings in arms and legs could easily have been ghosts), screw it down a few turns tighter and throw in a generous sprinkling of good old-fashioned nausea ... It wasn't just being knocked about like in all the Ds before. I felt broken in every part until I'd never be the same again.

I wondered if Rossa had had the dreams she'd worried about—and if so, dreams about what? I supposed she was here, alive, somewhere, about two hours less recovered than I was, maybe staring straight up without eyelids to cover herself and feeling these same pains (hey, if that sensitizer was still working I must be picking up her problems as well as my own—not fair). None of this seemed to matter too much, though. Birch's merry crew had managed to hurt me more and deeper than I'd thought I could ever be hurt again. Scalpels, bonesaws, heavy cutters, whittling me down to something they could stuff through a tunnel 1.9 centimeters wide and, how long was it? Had they left a chunk of memory behind on the lab floor? How long? Pulling out the answer left me dead with exhaustion: 162 light-years, yes, I could go to sleep now. And back down into the endless sick dreaming.

(Growing up and getting beaten up—the two meant much the same then—in the big slum zones out in Richmond, Surbiton, Kingston, the whole collapsed area of southwest London. Envyng those bastards in the fortified enclaves with their guarded powerlines while we had homemade methane converters, oil lamps, open fires or just plain darkness come the nighttime. Getting laid a couple of times before the Force, but those were fuzzy memories that never came quite clear—like how I remembered I'd had this big collection of number plates off the abandoned cars all over the roads, but I couldn't remember why I collected them. Full color, 3D replays of every one of my first forty-six Ds, and again and again it was back to number 47, arc lights, cold steel underneath, Ngabe with his terrible bright scalpel --)

When I woke up the second time, it wasn't as bad. The new eyelids helped, and I lay there a long while just blinking them. Fingers: I was pretty sure I could feel my fingers wiggle in the gooey fluid when I told them to. Toes: not so certain at all. But I could swivel my head a little now, from side to side, not really seeing anything except strips of brightness somewhere outside the yellow. I still felt like something that had been smashed, yes, but now there seemed to be a fresh coat of paint covering the broken surfaces: I was shiny-bright and flimsier than I looked, like steel armor shell-pierced and repaired with a fiberglass patch, the way you might do it to cheat an inspection. Without actually trying it, I knew not to wriggle anything too fast or hard just yet.

The third time was the worst, but it was a familiar sort of worst. The jointed arms of the tank machinery whipped a plastic film around my head; the needle went into my arm to “partly de-inhibit the coughing

reflex” (*Mk III Regeneration Module: Subjects ’ Manual*, p. 64). Air hissed into the bubble and the tank waited patiently while I coughed my lungs out and the bubble’s outlet tube sucked away the gobs of yellow nastiness I spewed through mouth and nostrils. Starting to breathe again just isn’t a nice business: it took something like an hour for me to settle down and live in the ordinary way, chest hurting like hell. Through the plastic bubble I could see, in a distorted fishbowl view, that the rest of me was safely there as I remembered it.

By now I reckoned I could probably walk away from the tank any time I had to, even though my bones still felt creaky and fragile, like an old set dug out of the graveyard and palmed off on the black market. It could be that some of the feeling was being transmitted along from Rossa: *Isupposed* she was in the other tank out there. Of course they might have cocked up the connection to tank 2 and left a crawling puddle on the floor for me to find when I was good and ready. There must be a floor, after all; my head was clear enough now to report that one direction was surely down, though not very enthusiastically down. Low-g, a tenth standard or something like that. They’d quoted me a figure for the spin on this thing, but that had slipped away ... I kept getting feelings of having forgotten something without being able to locate obvious gaps anywhere in my memories. You do lose some RNA en route from termination to the tank, especially if pick-up’s slow in coming. And they say that if you avoid thinking of rats, say, over the period of a dozen Ds then the memory of rats slides clear away. Big argument in the bar one night about whether that was ordinary forgetting or a tank side effect, and someone suggested we all try not to think of Sgt. Pickersgill for a whole year—see if we could all forget him. Some hope.

I dozed, woke, dozed, talked to myself over the hissing air systems, listened to the chug and whirr of activity deep inside the tank, and in clearer moments kept thinking over how very thoroughly Tunnel, and Zurich command, and the whole damned Force had managed to screw me.

I’d climbed hard to reach the Force and the good life. Someone said once how the old Scandinavians reckoned heaven to be like Combat routine, working together and fighting and dying, and starting over again on the next day. After the bad time, the first death in the pit, I woke good as new and ready to take on anything they sent up against me, and there was the pass-in ceremony and the first D star to wear and much backslapping from old-timers I respected. By the next session I was mad keen to get out there on the training ground and notch up more points for my platoon on the merit board. Each time it was less of a shock, as I soaked up the hypno course that helps you shift attention from pain like turning a page in a book. The perfect Forceman, just ripe for promotion, and now they’d broken me. *Younever* feel less than one hundred percent fit when the tank’s finished with you: now I was all back together and terribly afraid the deep aches were with me forever. OK, that’s duty, carry out orders as read, even when they look downright silly ... only there was going to be an afterward. Force missions don’t fail. Afterward came the trip back. Downhill all the way into Earth’s potential well, as Ellan would say, and on this trip it wouldn’t be second class, but third or fourth. No Ngabe to carve with surgeon’s precision, you bet. There’d been gaps in the briefing, too many, but I could fill *this* one quite clearly: returning, we’d be processed by good old slapdash Ellan and Wui, i.e. by their programming of the FACTOTUM robot here...

Click-whirr-click. The stimulus electrodes pulled away like sticking plasters. The massage arms unfolded and began to work me over; the yellow gunge was draining away. The tank was finished with me and pronounced me fit. I still felt lousy.

Twelve

Corvus Station wasn’t exactly built for people, which was reasonable, as it hadn’t been built by people either. First impression: I was in a big cylinder well over a hundred meters long and something like fifty across. Hugest room I’d ever been in—there was a star of striplights on the flat surface at this end, where

the tanks were, and a few more lamps on the ceiling/floor nearby, but the far end was always in twilight. Over most of the inside it was lumpy with equipment, all looking rough and jerry-rigged, the whole a mess making Tunnel's lab seem like Force barracks ten seconds before inspection. Gravity wasn't up to much, and I had to hang on to the tank's side while I wiped myself down and got into the worst-made dungarees I'd ever met. The air stank of machine oil, epoxy resins, half-cured plastic, frying electrics and a touch of plain rot—there was an evil-looking stain under one of the tank/pipe couplings and I wondered whether some of those memories I'd missed had spilled on the floor right there.

The whole interior mess started to make sense when you saw the metal rail running along the cylinder's axis: FACTOTUM with all its special purpose arms was hanging off it like a spider or an octopus, ready to reach anywhere on the curving floor by tracking along and swinging around from above, the high central rails being as above as you could get in this dump (jump higher than that and you dropped to the floor on the other side). So it was nicely planned for FACTOTUM, less good for anyone wandering through the junk on foot. Or you could leap about in the tiny gravity like a comic book hero: I tried that with a cautious jump straight up, and the place keeled over sideways until I came down squashily on some plastic sacks of fluid way over from where I'd started. Something in physics they called Coriolis force? Hell with it—safest to stay on deck.

Time to follow instructions. There were more plastic bags heaped by the tank, with gobs of not-quite solid food in them; I forced some down, and supposed it must have come through the minigate like myself. Even I had to taste better than that muck. Toilet facilities were primitive and none of this nonsense about privacy—your efforts went straight through a double lock into space, it seemed, which cheered me up no end by reminding me of the old stories about divers in decompression tanks. You know, one day the toilet valve doesn't work right and some poor fellow's guts get neatly sucked out of him. Wouldn't you think an experimental, quote, faster-than-light ship, unquote, would have recyclers and such? That could be part of the Big Lie, we can come and go so fast we don't need to worry about supplies. It certainly *looked* experimental, with its crawling mess of gadgetry put together by FACTOTUM from bits as long as you like but never more than 1.9 centimeters wide...

(Wui had had a machined-steel ring that fitted his middle finger comfortably; he said it was a scientific instrument, anything that went through it would go through the minigate.)

I had an attack of pseudo-coughing then, which wasn't like anything I'd felt before. There was the feel of the rasp in the throat, the quick pains in the chest, the after-ache, and all the time I wasn't coughing. When I heard the sound in the other tank, it wasn't hard to guess what was up. I went and found Rossa lying like an insect in yellow amber, intact—I was glad I hadn't had to see her in the regrowth phase—the plastic bubble around her head, the cough-spasm already over, her breathing steady. The sight of where her hair was starting to return set me scratching the bristly stuff sprouting on my own head. Don't suppose she could see me through the murk and distortion, but it was good to know she was there.

A touch of nausea was coming back, the piffling "gravity" playing now-you-see-me-now-you-don't with my inner ears so they were never quite sure whether I was falling or not. Sometimes I was: try to stand in Corvus Station with your eyes shut and everything can seem absolutely still and calm until *clunk* you're chewing a mouthful of steel weld from the nearest machine. To keep my mind off the internal wobble I went exploring.

Corvus Station didn't have any windows.

It was too big. There just wasn't any need for it to be so big.

It was dotted with manufacturing machinery—I could recognize lathes, drill presses, flow-welding gear, an arc furnace, a whole shop floor of silent equipment. What the hell was it all for? (A guess: Ellan had mentioned remote control exploration, or experimentation, something along those lines. It was always hard to disentangle what she meant from the long words. Could be they'd tried some experiments out here on the Kraz budget, while Central was still muttering about what to do for the best.)

One reason for some of the heavy gear showed up when I reached the far end, the dark end. In the flat surface there was a bloody great airlock, bigger than the vault door on the Tunnel lab—must have been one hell of a welding job for FACTOTUM. Now why should this lunatic deathtrap need a way in or out any wider than the narrowest doorway Rossa or I could wriggle through? I made my way back through the derelict shop floor with another question on my mental list, and a shapeless suspicion that somehow, some way we hadn't even started to think about, CC's master plan was set to screw us again.

FACTOTUM decided, or its computer decided, to make a move while I was still coming back from that first trip to the far end. Hanging at crazy angles from the axis rail, it spiraled from the bright end and the tanks to the dark end and the strange airlock, and back again. That was all; a routine inspection? I suddenly wanted it to take notice of me, though, and shouted after it as it whirred overhead. The metallic echoes traveled up and down the cylinder for whole seconds. They made the place seem even lonelier.

I carried on exploring: the tanks, an easy landmark; a couple of pressure suits which had to be a lousy fit for one of us since they were the same size; reserves of bagged food and water; a computer console that never stopped winking to itself; and away from all these, across the cylinder where it wouldn't interfere with electronics, the original narrow "staff" holding the minigate's guts. As I came closer to it, I felt the white-noise tickle of the jammer effect, and my vision acted like a TV screen tuned slightly off-channel. The minigate's tubular housing was clamped down, with couplings for pipes and such. Just now the aperture was sealed and of course the expensive gateway at the Earth end would be turned off. A and B and C and D. Take the cork out of the minigate now, without Earth tuned in, and our air would whoosh into vacuum millions of kilometers away in this system—assuming I'd understood Ellan's and Wui's explanations. There was no way to switch it off: sealed, trapped, "eternal" battery—I guessed that was so you couldn't cancel the jammer effect and use electronic probes on the secret innards.

Next I found a plastic case near the comp console: there was machine script stamped on it: KRAZ PHASE II DEVICE SAMPLE & SPEC+++SECRET/MILIT/LEVEL9+++DESTROY IF NOT REQUIRED. Inside was a microfiche that at some stage had been rolled up tight, and an odd little circuit board not quite right as an electronic board, more like the MT configurations in the book I shouldn't have seen. (I got the idea that the actual physical pattern of signal carriers around the distortion tube is important in MT—electronics you can lay out any old how, usually.) This had to be the sample gadget we waved at Pallas colonists as a last resort—in which situation we were supposed to be up here while, down below, they tuned into our onboard minigate. That plan still didn't make me feel too happy, computers or no. Still: one thing they do spell out in the Force is that if you get insufficient data there's a reason, and rather than keep thinking of queries you should devote your time to morally rewarding activities such as picking your nose. You just have to hope that the reason you're not told everything isn't because part of the plan is to stuff you deep into the shit...

Also there was a finger-thick steel tube about twenty centimeters long: it was marked AMBASSADORIAL CREDENTIALS FOR DELIVERY TO PROPER AUTHORITIES. That I'd known about.

It was around my third bowel movement since leaving the tank—there wasn't a clock here—that FACTOTUM came whirring along to adjust Rossa's tank pipelines. Lenses peered down from it. The yellow goop drained away, probably jettisoned into vacuum, and the lid flipped back, and ... all the same

things as when I came out. She ignored me until she'd cleaned up, pulled on the too-huge clothes and taken some water; I vaguely wanted to help but obviously I wasn't needed. With her dungarees was a bulky armband or bracelet that hadn't been with mine but must have had a mention in her briefing: Rossa made a face and put it on. Then she sat shakily on the edge of her tank and said, "Dr. Livingstone, I presume?"

"The name's still Jacklin. You all right? How d'you feel?" She sighed. I'd missed another password. "I feel ... I feel as though I've been ground into small particles and reassembled with the wrong kind of glue. Which is just about correct, isn't it? Doesn't it seem to you that you could come apart at the least violent motion -- ?" She shook her head with a quick jerk; it must have hurt her because it hurt me too.

"Take care of yourself," I said as I grabbed my own head to stop it flying off the way it wanted to. "At least we made it pretty much in one piece." That wasn't quite the thing to say, either.

"Eventually. And *now* what do we do? When I volunteered for the next thing to a suicide mission, I never thought past ... the next thing to suicide."

"What Ngabe did to us ... I wouldn't call it suicide, no way."

"I'm not going to think any more about that. It was obscene, yes, but if only it had been the *end*. Like a mountain ridge: you climb up and up toward the supreme moment when you reach the top, and instead there's another ridge up ahead. And there's nothing to do but go slogging on, however much it hurts." She shivered.

"Rossa ... keep hold of yourself. This isn't the place to go sick—damned if I stuff you back in there when there's no one else here to talk to."

She looked up at me, quick and sudden like a bird, eyes bright. "Is that a promise? If I had an accident out there—" She waved at the mechanical junk that stretched away into the half-dark.

By now I was starting to get the idea that Rossa had flipped a little, maybe was going death-happy in her own peculiar Comm way. I groped around for the right things to say—sometimes you could talk a man down before he went right over the brink. "Look. You signed up to get away from Comm and their little torture kits, right?"

Rossa nodded. I carried on, speaking quieter as I got more afraid of what I was saying. The computer might be taping all this. "Look then, you've got away. You're 162 light-years away from them now. I can't *torder* you to stick a pin in yourself to signal back if you don't want to. You needn't take the rough road back home at all." My own wobbly feelings about duty and how I'd been screwed up came into focus as I was talking. "That's it. We do our best with the blasted plan, but whichever way it turns out, if that place out there is even halfway livable, you can *stay* there. Bloody hell, I'd stay there myself rather than trust being stripped down by a FACTOTUM program..."

Well, why not? Maybe I was trying to commit myself while I still remembered in full how bad it had been.

A sniff: "You're a Foreman. *You* will end up following orders, whatever you say."

"You know yourself what bloody Operation Kraz orders say, I mean what they don't say. There's no order says we have to go home, none at all." I put on a sour grin there. "Suppose that means they don't see us getting that far."

Something like a smile, this time. “That still leaves them ahead of me, Ken. I never really thought about getting this far.”

“Ahead of me too. I’m a Forceman, remember? Never do any thinking at all. The hell with the operation for now. You’ll feel better if you eat.”

I went for some chunks of the super, vitaminized, mineralized, high protein, carbohydrate balanced and fairly disgusting food mix, and we ate more or less in silence. Except Rossa muttered something about “if anything could make me feel nostalgic for Tunnel—“

Afterward I told her how I’d explored, and found the things that had worried me didn’t make too much sense to her either. Which was encouraging—I’d had the thought that maybe it all made perfect sense but I was too stupid or trip-shocked to see it. Rossa frowned a little when I came to the too-big airlock, and said: “They must have ejected the satellites by that route. No ... they needn’t be at all big, need they?”

“Way I understood it, they hadn’t much more than a tape-loop, transmitter and compressed gas jet to take them around the moon. No hurry—they just fall into Pallas orbit after a few weeks. The one to warn them we’re coming might not have got there yet.”

Rossa looked even more thoughtful. “I have the *feeling* that we spent a long time dreaming in those terrible coffins. I had dreams...” But she didn’t offer to tell me about them, and I didn’t ask. My own playback of a cruiser run had been a lot worse than anything actually happening in the dream should have made me feel.

A week in the tank was big bad medicine. I’d only known one guy stay in longer, and he could never think straight afterward. But physically, I guessed, we’d been smashed up more than he had—perhaps we’d been in longer than a week, two weeks, three weeks? It was too late to ask how much of a rebuild job either of us was now, how much nonessential muscle and bone had been shoveled into disposal drums back at Tunnel—like the whiskery old Force gag about how to lose ten pounds of unsightly fat. The fluid was a kind of liquid flesh matrix, it said in the manual, and it could replace one hell of a lot.

Rossa might have been thinking along those lines too. A little while afterward we were sitting together, aching together, keeping close for warmth in that echoing steel cave, waiting for something to happen; and she said, “Ken. We are not the same persons who went into that Tunnel laboratory however long it was ago. That Rossa Corman is dead now. What’s sitting here is nothing but an imitation, a zombie.”

“Come off that,” I said. “That makes me an imitation of an imitation to the fortysomethingth power—you’d think I’d have faded right out. And zombie is just another turd word the slummies throw at Forcemen when they want to know how it feels to have their teeth sticking out the back of their neck.”

“I hope you’ll let my teeth stay where they are if I say it’s almost fair comment. Ken, you *are* different. You don’t seem to think or react quite as a human should. And you know what they say about Forcemen who’ve passed too long a while in Combat...”

Some kind of memory connection was trying to join up in my head, but couldn’t quite make it. I could almost feel the dud contacts sparking and smoking inside. “What do they say about us?” I asked her.

“I’m being irrational,” she said almost to herself. Her hands were locked around her knees as she sat by me on the hard floor; she tightened the grip a little more. “But I am so hollow; I left so much behind in the sewers underneath space. It’s cold inside my head now. If there were something warm enough to make

me real again...”

“It’s not too cold really—there’s a sun out there somewhere, a giant G4 the briefing said.”

“Precisely,” she said, voice like an icicle with sawteeth. “That’s what they say about you. Here we sit all these unthinkable light-years from home, three-quarters wrecked by that terrible trip. I am seriously worrying whether I’m even still human, and you don’t seem able to understand. I go fishing for some hint of human contact, anything at all to make this bearable, and you respond with the celebrated Force impersonation of a dead fish. You said the right words a minute ago. I’m a zombie, perhaps, but you’re forty times a zombie.”

I spread out my hands in as much of a peace gesture as I could manage. “OK. I’m a bit slow on the uptake with new people. That’s because I’ve sweated through training with a lot of guys who’ve come to think much the same way as me. That’s all. Just spell out what you’re saying. You ... You want to screw or something?” I could feel her, warm against me even through a couple of layers of coarse FACTOTUM-made clothing.

“You sound so thrilled by the prospect. But that’s as basic a contact as you can achieve—can’t you wake up and feel that?” A pause; another tiny smile. “Try it then. After all, if only Einstein’s conclusions still stood, I can’t have done this for 162 years at the least ... and that’s a long time.”

“In the Force we’ve got this tradition of volunteering for ‘unusual and hazardous’ missions,” I told her and wondered whether I was joking. Somewhere there was a clack of metal on metal as the robot manipulator did its housework, which at the moment meant dismantling the classified Force tanks.

So we ended up trying it, lying on the wads of soft plastic sheet that were the nearest thing to bedding we could find in this dump. I tried as hard as I could, because it seemed to me Rossa needed help; she just lay there and wound her arms tight around me with an awful look of desperation in her face. We tended to jounce off into the air, still locked together. And nothing happened, nothing at all; I liked her all right in a sort of way, but I’d definitely moved past this kind of thing, this sort of distraction from getting ahead in the Force. But she was warm, and very small without the clothes, and holding her was, well, restful. I couldn’t help wondering...

Afterward things seemed to have changed between us. I felt a little bad because I hadn’t been able to give Rossa what she wanted. I expected her to feel bad in something like the same way because she hadn’t had it: instead she grew brighter and smiled more, and didn’t push me that way again. As time went trickling past, and the comp console lights winked faster and faster while FACTOTUM made more and more of its dangling trips about the station, I fumbled my way to the thought that maybe Rossa had got me pigeonholed now as someone unfortunate and feeble, and maybe she’d managed to boost her ego just with being able to think that. Or maybe not, of course; I still wasn’t too good at unraveling people.

Thirteen

“The next question,” she said, sitting cross-legged on the lumpy plastic, “is the question of how big Central’s big lie truly is. Everybody was all too ready to use that phrase, wouldn’t you say? Very well—what’s the most outrageous version of the truth you can think of?”

“Oh ... We aren’t really 162 light-years away after all, we’re just out in orbit, and they’re testing something that’s bad for people, something like an AP reactor they don’t dare try down below—hey, yes, that’s why we feel lousy, it’s not the trip, just the side effects of this AP thing. How’s that?”

She wrinkled up her nose in a way the old frozen Rossa of Tunnel wouldn't have. "Terrible. It must be possible to attack the question with Occam's razor and minimize the number of assumptions."

"Maybe. It's official bullshit you're talking about now, remember. Admin's minds just don't work the logical way you want, and Command's no better..."

Corvus Station shouted at us. It had taken to doing that: machine-made syllables put together by the computer in an unholy crackle. "ATTENTION. THREE HOURS TO ORBITAL SEPARATION, REPEAT, THREE HOURS. THANK YOU." Sooner or later we were going places.

When the echoes had stopped playing tag up and down the big cylinder, Rossa went on: "What I see as the redundancy in the scheduled plans is the way in which we're to try big lie number one, 'we're an FTL ship, Earth has sent a gunboat' and all that, but should that not seem to be working we're to hand over, *actually hand over* an MT device to 'show the limitations' of it. Why trouble with the first if the second is so convincing? Why such careful preparation for the second if the first is supposed to convince at all?"

Sometimes I wondered why Rossa had been in Comm and not Central Strategic. OK, OK, I knew, she had her special talent. She'd had a good look at the case of stuff for our number-two story, as well. I opened it and gave the two items the once-over again. It didn't tell me anything new.

"It's like Birch said, a compromise," I offered. "Hawks and doves pecking bits out of each other in Central, and Comp putting a bit of every plan suggested into one big package of snafu. What else d'you expect?"

"I don't really know. But I've been a carrier for some extraordinarily high-level messages: they play them straight into me on the nerve inductors, sometimes ultra-coded, occasionally in plain Morse." She stroked the heavy band on her arm. "Can you imagine what it's like to be strapped down in Comm with the messages playing through you, trying to scream in Morse code, only your voice isn't able to keep up? Never mind that. I've seen behind the scenes; I know that Central is horribly devious and cunning, and that you can't trust any assumption when they set a computer-vetted plan into motion. We are assuming, as you say, that we are in the Beta Corvi system, that there is a colony world testing MT out there, that we're needed as ambassadors, that that device in your lap is no more or less than what we've been told..."

"We can check some of those," I said. "First let's bore a hole in the hull and take a look outside." That didn't sound like a wildly brilliant notion, as we were afraid the damn station could be a bit leaky already. The floor had patches and seals everywhere like pockmarks, some lumpy enough to trip over: seemed FACTOTUM could do just about anything but not always very well. "Then I can put this under the microscope and find out how it's really designed to turn everyone's MT rigs into chewing gum ... I did take a sneaky peek at some AP manuals I wasn't supposed to see, so I can tell it's the rightsort of gadget all right."

I lifted out the flimsy little circuit board with its precise pattern of whatsits around the central distortion tube you found in all AP circuits—or all their photographs, anyway. More fizzing deep down behind my eyes. I'd looked at all the photos in the book; I could even remember all their captions if I pushed hard enough, surely, if my recall still worked, if enough of those gray cells had survived the knife.

The trick of recall is to let go of the memory you're holding onto, and to make quick grabs into the gray fuzz on one side or the other—

“Jesus Christ,” I said.

Rossa lifted one eyebrow, a trick of hers I envied a little bit. “It’s some kind of fake after all?”

“No. Well, it could be, maybe, but ... Jesus Christ. It’s not a minigate circuit board at all, the pattern’s all wrong. It’s a nullbomb.”

A very long pause.

“I do believe I should have been in Central Strategic after all,” she said almost gaily. “Now isn’t that absolutely right, doesn’t that make such exquisite sense? Phase one, overawe them and tell them not to be such naughty children. If that fails, your conscience is clear and it’s phase two, let them ‘test the limitations of MT’ ... and what happens then, Ken?”

“They lose a big chunk of continent. I mean *big*. Little place like Britain wouldn’t be worth salvaging after a nullbomb incident. Christ, total conversion, I still can’t believe it. And the bastards didn’t tell us.”

“They could hardly ask us to annihilate ourselves as part of their little cautionary lesson, could they? No—we were supposed to remain up here. They didn’t want to sacrifice us after all—even Wui had qualms there.”

“If the orders finished me with the enemy I’d have gone in and done it, maybe ... except I’m not getting too happy with CC’s orders and what they do to people. Clever sods, the whole problem tidied under the rug at one go. All makes sense now; well, all but one thing.”

“You mean the size of this dreadful place,” Rossa said. “The size, and all its machines. Really I incline to your theory, that our good former friends used it for dangerous experiments—didn’t I hear Cathy Ellan mention black holes once?” She looked around as if expecting to see one pop out of a cupboard somewhere.

I wanted to believe that was all we had to worry about; I couldn’t quite. “There’s another thing they let slip in Tunnel, only they clammed up bloody quick. There’s *smore* in the way of contingency plans. Wasting half a continent isn’t their last trick—what d’you do for an encore after that lot?”

She shrugged, impatient. “I should imagine they’d return to square one and send more ambassadors, possibly with a threat of nullbombing from space. That, thank goodness, should not be our problem. Our problem is what to do about *this* infernal machine.”

“ATTENTION. TWO HOURS TO ORBITAL SEPARATION, REPEAT, TWO HOURS. THANK YOU.”

“We had a group leader once in Comm, who sounded very like that machine,” Rossa said. “He was loud, and he spoke slowly, and it was still almost impossible to understand him.”

“Yeah, sure, change the subject ... Look, we might just smash this thing now, or we could use it to frighten them, say how Central can drop these in dozen lots any time it wants—“

“Don’t smash it, by any means; this is a kind of bargaining tool, Ken. Mightn’t the threats make our colonist friends work twice as hard on their own MT research to duplicate the weapon, though, or manufacture a counteroffensive? Mightn’t it be more effective to follow that original schedule and have them destroy themselves—end their troubles and ours?”

I clamped my teeth together. “I hate to say this, but ...*no*, I won’t hand them a nullbomb and go for wipeout on that kind of scale. I might have done it if I’d been ordered in clear, but Central’s really got up my nose with this double-bluff business where you don’t even tell your own troops. The hell with Central. I say we play it by ear and do the best we can.”

A big sigh, the sort that makes you sag like a deflated punchball, and Rossa clapped her hands very slowly and silently. “Perhaps I’ve misjudged you. You sounded almost human then. I think I agree.”

“So all we’ve got to do is get there, or get from L2 into orbit anyway, and see what they think about us.”

We sat there. Nothing else to do while waiting; very definitely the station wasn’t built for people. I’d have been happier if I could even press a button on the console to start us moving—but I wasn’t even allowed that.

“ATTENTION. ONE HOUR TO ORBITAL SEPARATION, REPEAT, ONE HOUR. THANK YOU.”

I started prowling around again; Rossa sat where she was and a few times I caught her looking at me. What I’d thought of was something that might cheer her up a good bit more;*there* was the minigate receiver all this had grown from: in five minutes I could unclamp the whole thing and smash it. No gateway, then, between here and Point Arbitrary all those millions of kilometers away; no operating gate for Tunnel to tune into; if I’d caught hold right of what they were saying back there, no gates working in this part of space meant they’d never be able to lock onto us again. Like childbirth—I could cut the cord and cut us off forever. All we had to do to say goodbye was turn off this *gate* and stop MT work on Pallas. That was all. No sweat.

Of course, the advertised booby trap might tend to blow holes in the deck, and if we were smeared now there wasn’t any coming back, not now that FACTOTUM had tied up one security item by slicing the tanks into tiny pieces. Well, it was something to think about.

“ATTENTION. THIRTY MINUTES TO ORBITAL SEPARATION...”

“ATTENTION. TEN MINUTES ...”

“ATTENTION. FIVE MINUTES ...”

After five it counted down by minutes; at the one-minute mark it changed to a counting off of seconds.

“That damn thing just loves the sound of its own voice,” I said, wishing I could pour something into the speakers. Rossa nodded, but I saw she was nodding in the compulsive rhythm of this stupid seconds countdown.

At zero we had an exciting anticlimax, a smallish hissing, and Corvus Station tilted: the walk to the darker end wasn’t a level one anymore, but just a little uphill. We were on our way. Again.

Fourteen

Imagine this huge twirling cylinder thousands of kilometers out behind the moon. It’s rough, it’s lumpy and in general a godawful mess to look at, because it was all built from inside through a 1.9-centimeter keyhole. It’s spinning around the long axis every half minute or so, that’s where our miserable little ration

of gravity comes from; it's twirling very slowly end-over-end too, because all the nudges this way and that it's had from kicked-out satellites or through the gate haven't quite summed to a zero spin *on that* axis. Good thing really: wait long enough and sooner or later Corvus Station is going to be pointing any way you like to name—so that's when you give the gas tanks a squirt and nudge the whole ugly contraption a little further onto a curve that falls away around the moon...

You *have* to imagine all this, as a passenger; I had to imagine it; there were still no windows (hull flimsy enough without them), no videoscreen with a view of outside (too much trouble to have FACTOTUM make video tubes as well as all the rest, maybe). Sometimes it was enough to make you wonder if we really were tumbling about in our own backyard, out there with the other junk like the L5 hull they never finished and the power satellites that had been breaking down one by one over the last eighty years. Nothing much seemed to change inside the hulk, except that as days passed I tended to sit or stand further and further away from Rossa. I was ashamed to come close. The cretins who stocked this place hadn't bothered with frivolous stuff like soap or a water recycler. After my time in a crack Combat platoon I wasn't happy about letting myself stink.

Being grimy seemed to worry Rossa less than me, although she wasn't used to it: or perhaps that was why. Her life story came spilling out in one of those sudden fits she had, when she seemed afraid to stop talking—as though the words were making some huge wild beast keep its distance.

While I'd been a slum kid looting old wood, upholstery, and books to burn in the cold weather, she'd sat on good chairs in warm rooms and *read* books. "My father was in Government service and we lived in the Kensington enclave—we could even use electric fires on some nights."

"Why the hell're you in CommAux if you've got *tiesthere*?"

"Oh, a silly thing: I broke my ankle. A Pott's fracture, they said; at the time I thought it must be the worst pain in the world. I was very young then. For days and days I was wailing in hospital because there was an anesthetics shortage; then CommAux came on their routine ward check with a gray man they called a sensitive, another branch of the talent. He touched my hand and fell over writhing with a broken ankle he didn't have. So I was a transmitter; and that was the end of my life story, really, until Tunnel."

"They drafted you, classified you, locked you up in CommAux?"

"That's about it. Father tried to pull his strings, and they snapped in his hands; Central was too big for him..." Her eyes looked different, softer, as they stared back through the years. I offered her some dredged-up bits of my own life by way of trade, the first D and the time in the pit...

Then the plans that had started to go wrong—when we found the nullbomb—went on to go even more wrong.

"ATTENTION. UNSCHEDULED OBJECT INTERSECTION IN ESTIMATED THIRTY-ONE HOURS NINETEEN MINUTES. REPEAT, UNSCHEDULED..." The electronic growl seemed even more distorted, as if what it had to say was so unexpected that the voicemaker couldn't cope. At that it was doing better than Rossa or myself; after pouring out our bad times over each other, we were both trying hard to say something cool, analytic, the spot-on right thing to say—which is how we ended up staring at each other in a sort of echoing silence for nearly half a minute. (Which doesn't sound long, maybe: time it someday and find what a gaping hole in your life it really is.)

There was another hiss, and the cylinder tilted again.

“Let’s play lists again,” I said. “One, it’s a nuclear missile or whatever got those satellites. That means the end of all our worries, and no need for much subtle strategy planning except deciding whether we shut our eyes when it hits. Two, it’s a chunk of floating rock and we take our chances with the override. Three, it’s a shipload of those buggers we’re looking for.”

“Agreed,” Rossa said, and started methodically tucking her legs into lotus position on the scarred deckplates. Her face was icing over again, like a clear pool on a frosty night. She looked terrible. “I’ll defer that decision as to whether I really want to follow orders to the letter. Reporting back to our dear friend Birch will be a pleasure.”

I was making my way to the console and the override mike—mike rather than keyboard to make construction easier for that damned FACTOTUM—when a ladle of molten iron splashed down my left arm, once, twice, three times, a triple blast of pain that must have had the nerves crawling back into their holes to die. I looked back quickly: Rossa was gray-faced, eyes tight shut, lips squashed together so hard their color was bleached away. She was poking knobs on that damned armband—nerve inductor—God, what a job. I kept staring at my own unmarked arm, expecting it to glow bright red and drop off any second, as two more triple bursts went out on Rossa’s pain waveband. The console winked at me. Lucky machines, can’t pick up *this* signal. Finger down on the OVERRIDE button, lean over mike, try to ignore the situation report throbbing in nova pulses of Force code along my arm...

“Attention—“ and the string of gibberish we’d memorized, Wui’s password to the system. The button lit up green. “Query evasive action.”

“TEST EVASION ATTEMPTED. UNSCHEDULED OBJECT ALTERED COURSE. REVISED ORBIT INTERSECTION—“

So much for the wandering rock theory. “Query object carries r/a material.”

“R/A NOT DETECTED: RANGE MAKES ANY INFERENCE INVALID.”

More time wasted. *You* try thinking straight with an arm in boiling water like a court of justice in the Middle Ages. “Record on three for broadcast. Umm...” I tried to knock together a message that was friendly and threatening at the same time. “One *twothree* . Attention, attention. This is a manned craft from Earth on a friendly mission of contact. You are warned to avoid hostile action. Please reply if you can. Message ends. Cut after ‘message ends,’ loop until further notice on standard comm bands and listen for response. Endit, endit.” I hit the OVERRIDE again and the green light died. Now to get the case with our “demonstration” continent-buster—that had to be put somewhere safer before the Unscheduled Object decided to come aboard with guns blazing and take all our toys away. Yo-ho-ho.

By this time Rossa had finished her message home to Birch and keeled over in a dead faint, her lotus spilling across the deck. She could just be sleeping, but it didn’t look comfortable. I straightened her out as gently as I could and wished I could fall over next to her. Even at secondhand, that mode of communication took it out of you. Now: tools. The machinery was FACTOTUM-built for FACTOTUM’s use, where it wasn’t a direct comp peripheral; I found a spare sawblade, though, and cut the printed plastic case into strips, which I fed down the toilet. The sample board and specs went behind an access plate on what looked like a stamping press halfway around the curve of the station from tanks and console: I’d hardly stowed the stuff away when fussy FACTOTUM came whirring overhead snapping its manipulators. It grabbed the fiberglass plate and locked it back into place with jerky motions that made it seem irritated; and even then it hung over me like a deformed metal-and-plastic spider until I thought it wanted to pick me up too and tidy me away somewhere, such as through the airlock. I made my way back in short slow-motion leaps before FACTOTUM could maybe decide that wasn’t such a

bad idea after all.

“ATTENTION. UNSCHEDULED OBJECT ORBIT INTERSECTION IN THIRTY HOURS...”

I supposed the comp would be calling off every one of the hours now, until someone beat in its little moronic brains. When I first heard we were on a vitally important mission to save everyone and everything from what uncontrolled Anomalous Physics effects could do to the universe, I'd got the idea that it would be all big, clear-cut issues and big, important events from the time we started. OK, anything after that outward trip had to be anticlimax, but somehow we kept getting bogged down in plain boredom. It's not the huge tragedies that break people, it's the weight of little annoyances that stack up till they hide the sky.

Sitting thinking thoughts like that didn't seem to take too long, but suddenly the speaker called the twenty-nine-hour mark and Rossa woke, stretching and blinking. “Has anything ... happened that I should know about?”

“Not a lot.” I was still dishing out a summary, trying to let it take time, when the speaker whistled and then started a wild *krak-kak-kak-kkk!* “It can't be an hour yet—“

“—cut your broadcast, please. I repeat, cut your broadcast. This is a war zone and you will attract unwelcome attention. We respect your neutral status. Please cut your broadcast and await rendezvous on present course. I repeat, cease broadcasting as soon as—“

The urgent male voice with the screwy accent had got that far because I'd jumped up in too much of a hurry and wasted time drifting down and slewing around in the air; and Rossa was still cramped from her collapse. We dead-heated to the *OVERRIDE*, Rossa pushing it carefully with one finger and sing-singing the password *twll d'un bob saes*, a devil to pronounce. Then I chimed in:

“End broadcast loop. Repeat, end broadcast loop at once, damn it, I mean endit.”

“AFFIRMATIVE,” the machine said, and this was most definitely not the time for what came from the speaker next, when one of Wui's cute little subprograms came alive and had his own voice calling out, “Now, now, children, don't you know it's rude to swear?”

Then the funny accent was back, “—cut your broadcast. I repeat that you have entered a war zone and will—“ A short pause full of inaudible mutters. “Thank you, Earth vessel. Please maintain radio silence and await rendezvous on present course. Over.”

We looked at each other. “That explains everything,” I said bitterly. “The satellites got smeared in their blasted war. The last thing I expected, I mean, Christ, a little bunch of folks on what's supposed to be an easygoing planet and just for us they manage to start a war. Who the hell are they fighting with?”

“People, plural, always have someone to fight with,” Rossa said. “It only takes two.”

Fifteen

The thick voice from the speaker kept calling off the hours. We had some idea that we should be getting ready for “first contact” with our long-lost relatives, or some stuff like that—not up to the thrill of meeting someone altogether alien like in the old fiction Rossa mentioned, but still a chrome-plated occasion when you broke out the brass bands and the best juice. But the best we could manage for the event, short of total fumigation, was a quick sluice-down with some of the hoarded water. I handed myself an initiative

star, third class, for discovering how the male connectors for fifty-gang ribbon cable make pretty good combs, stubby but OK when there's nothing else. I draped plastic seats over the minigate's plinth, which stuck up like a pillbox in the cleared area across the cylinder; and since we had sense enough not to try and dust all of Corvus Station for our visitors, the rest of the preparations meant getting more skimpy rations of sleep where the dreams, good or bad, never had time to settle into clear images because along would come the next "ATTENTION. EIGHTEEN HOURS TO RENDEZVOUS—" The predicted time had started to shrink faster than real time when, I guessed, the others had put on some acceleration.

In what ought to have been dawn—when were we ever going to see the sky again? -- I saw Rossa's face had locked completely into the old pattern. It had been that way in Tunnel, a cold china mask without any lines to give you a foothold. Like some sort of camouflage rig; it was her public face for strangers. I liked her better for the thought that in the time while we were pulling the pieces of ourselves together, we hadn't been strangers.

"I was dreaming again," she said when she'd wiped the thick sleep from her eyes. "Or perhaps it was not precisely a dream, more an image, a vision on the edge of sleep. There was the war under Corvus, and we were telling a commander who looked like Birch that we had brought him a weapon too terrible to use, a weapon that could break worlds, and we had brought it to ... prove to him that he must not use it. I remember he didn't say anything, but broke into this great toothy smile..."

"Ouch," I said while the part of me that worked strategy problems wondered if she had put it as a dream so as not to take responsibility for the notion. "That's too damn logical for dreamland. You think better half-asleep than some people on Bazedrine --*Hell*, then we're tied hand and foot really. Shouldn't have needed all that time to figure it out: if we throw nullbomb data into a local war below it might be like handing phosphorus grenades to a crowd of kids playing gangs and squaddies."

"The threat alone might end the war. Perhaps."

"Which side gets smeared? How d'you choose?"

Rossa waved across all that waste of space to the big airlock in the half-dark. "One side has chosen us, Ken. We may never reach the other."

I could feel cogs shifting inside my head, blocks of strategy moving and falling into sudden patterns like colored bits in a kaleidoscope. "No. We can still choose if we want to change our minds—either hand the thing to whoever comes through that lock, or ... switch back to original instructions. *We could* do that."

That ghostly little smile. "What, after all our high-minded resolutions? How fickle. If we follow the Operation Kraz line, I grant you that the war and the information on this unpleasant AP perversion should be disposed of in a single clean flash. Unfortunately, so will we."

"Maybe not. Anyway, you're the one who signed up looking for something to dispose of _you -- _what're you complaining about?"

She took a deep breath and let it out again, staring down at where one of her fingers was skating in figure-eights over the slick plastic wadding we sat on. "One of the things I have learned ... There is a difference between escape and oblivion. Standing this far back from the problem, I can see that now. I'm happy to be anywhere far removed from CommAux: I would be happier if I could be allowed a little life on this side of all the pain. Perhaps that renders me quite unfit to make a decision about all this."

A side issue caught my mind like a trailing thorn branch: I was looking for excuses to avoid any decisions myself, just then. “If you’re away from all your bad times in Comm and that’s all you wanted, how come you did it to yourself, signaled back?”

“Have you ever squeezed a pimple, Ken? Eased out a loose tooth?”

“What? ... Teeth, sure.” (Those wobbly teeth right back when I was a kid: jiggle them with your tongue and they flashed up this clean, interesting-shaped ache/tingle that made you come back for more, see how far you could push it.) “Pimples I don’t get.”

“Then you must know that being hurt is not the same when you’re doing it to yourself. Thus spake von Sacher-Masoch. When you know that you can stop at will, there’s no need to stop. I can tolerate a slow code sequence with my own finger on the button; the strain which breaks people in CommAux is the rapid sequencing with a machine in charge. Have you ever tried to tickle yourself? It’s nothing: but somebody else tickling you can break you up.”

“I’ll stay with the teeth. In the Force you don’t get tickled a whole lot.”

“Nor in my section of it, as it happens ... But *weare* broken up. It’s a rare Comm talent who lasts a full five-year term of operation—the section is down to six people, perhaps five now, which was why they couldn’t devote two of us to Tunnel despite Tunnel’s requests ... You’d understand my choosing death if you’d seen the drooling things they carry away every once in a while. I’m talking my way away from that decision again.”

I was poking with my tongue at a tooth that had been loose once, but I couldn’t tell whether it was really giving way a bit or just seemed to. There wasn’t any pain. “All right. We haven’t got to make any decisions yet. We can leave the stuff right where it is and play it by ear for a while. Maybe we can still get by on bluff number one. Whoever was broadcasting sounded pretty reasonable.”

“That’s sheer nonsense, Ken. Switchboard staff always sound polite until they know who they’re speaking to. And generals never sound polite when you ask them to abandon their new equivalent of the Manhattan Project.”

I chewed that over—Christ, yes, they really could be doing all the rush MT work, the stuff Tunnel had detected, as a kind of weapons project. Altering the switchboard settings of the universe *forthat*: and did they know what was waiting at the end of the road? The sunbeam: the core of a star spilling through the 1.9-centimeter minigate. The nullbomb: total mass/energy conversion that made the fusion in stars look puny, a white-light fireball smashing at Earth’s crust as though you were hitting a melon with a hammer. And worse things waiting, like the old, wide gate that opened the door to a galaxy full of novas, or the theoretical horrors of an infinite energy burst, a shift of fundamental constants to the point where there wasn’t any place left for life in the universe, a hole that ate space and time ... All this stuff I’d known before had crept deeper into me, in that lonely space between *here* and *there*, until I couldn’t kid myself anymore with big numbers and safety-in-numbers. An MT lab was a small place like here or the vault room in Tunnel; but with MT the room was big enough to hold everything there was. Until some fool dropped it all on the floor. Tinkle, tinkle, clatter, bang.

“We still have to play it by ear,” I said, tired. “Try and sell them on the big horrors before they sell themselves any more on the ones little enough to use against someone else on the same planet.” I tried, too, to put over my feeling about AP/MT as a gaping mouth ready to gobble everything, but the words were hard to put in the right order. Rossa said: “Eating planets is a quite sufficient unpleasantness. I don’t propose to worry about everything else as well. Speaking of—“

“ATTENTION. THREE HOURS TO RENDEZVOUS. REPEAT, THREE HOURS.”

“Speaking of ‘eating’ things always reminds me that our dear polysyllabic friend Cathy Ellan dropped some hints about black holes—you know—such a huge gravity even light doesn’t escape. That would be just the sort of experiment they’d love to try. Imagine: open one end of a minigate pair inside a black hole and the other in the laboratory, and everything is dragged into the gateway irresistibly. A planet eater! Didn’t Cathy say ... a devourer?”

“Yeah, maybe, until the MT gadgetry gets sucked into the hole too. As you said, we got horrors enough to worry about without making up new ones of our own.”

She gave a tiny shrug. “I’m *trying* to consider all this in an exhaustive, intellectual manner. I don’t want to take it in emotionally. Not now. Not yet.”

A lot of use that was. I saw with a sort of surprise that I could think intellectually enough about how to run a war—Force training had given me that much—but there was just an endless blank when I tried to think about reasons for the fighting, or rather what I was looking for now and wanted to take to Pallas: reasons for not fighting. There was one place only in all the universe where maybe I could do something about fighting. I went to the console again and hit the OVERRIDE, feeling Rossa’s eyes on my back.

“Attention. *Twll d’un bob saes* . Query FACTOTUM carries laser spotweld gear.”

“AFFIRMATIVE.”

“Open program title DEFEND. Program: Use laser spotweld gear and any other suitable resources to neutralize any weapon within Corvus Station used or likely to be used offensively against (a) hull integrity, (b) computer systems and FACTOTUM, (c) personnel now present, (d) minigate unit, (e) equipment and material necessary to reconstruct regrowth tanks and their ancillaries, (f) life-support systems, (g) anything else needed for station functioning. Enter.” I hoped the thing was clever enough to cope with all that; I felt quite proud to have input it all without rehearsal.

There was a longish pause while the console lights blinked and raced twice as fast as normal.

“AFFIRMATIVE conditions (a), (b), (d), (g) not implemented as duplicating existing programming.”

Now that was interesting: Tunnel had its own priorities in this place, still. I went on to hammer in programs to defend—if possible without too much death and destruction—against any other fiddling (except by myself or Rossa) with the minigate, the access panel behind which I’d stowed the nullbomb material, and even ourselves. That time, after the AFFIRMATIVE, I got back a mysterious comment: “REQUEST ACTION LIST PROGRAM LASTDITCH BEFORE ANY ACTION INVOLVING MINIGATE.” I requested it. Seemed the minigate plinth wasn’t just a plastic block but a chunk of plastic explosive—you had to put in a special temporary override before it was safe even to think about unclamping that wizard’s staff.

Rossa had come up behind me: “There’s more to our supposedly simple little computer system than meets the eye,” she said.

“I’d like to check right through the banks, but those microbubble units are *big* -- big storage, I mean. God knows what kind of junk there is lying around in there. I wonder...”

“So do I. May I?” She bent over the mike grid herself. “Attention. Request full list program titles locked

against change at this password status.”

“AFFIRMATIVE. AARDVARK, AMANITA, ANSIBLE, ASTERISK—“ The list went on and on and on. LASTDITCH was one of them. There was a hell of a lot of stuff we couldn’t change in the damn machine’s instructions. Rossa looked at me. “While I’m being intellectual—Attention. Request full program titles locked against any inspection at this password status.”

“AFFIRMATIVE. DBUILD, DEVOURER, MTCONTROL, PASSWORD, ZYMURGY.”

“Be intellectual about that,” I suggested to Rossa.

“I hardly dare to try ... Obviously PASSWORD is simply the program which accepts our little string of gibberish and controls access status. ZYMURGY ... can’t you feel Wui at work there? That esoteric sense of humor. Zymurgy, the last word in the dictionary, a final word, a mission-abort sequence...”

“Another nullbomb in the guts of the station, yeah. Birch and his bloody contingency plans wouldn’t have forgotten that one. I suppose MTCONTROL handles the minigate operation—bound to be classified till the pips squeak. Which leaves, maybe, two more little contingency items. DBUILD could be just about anything, I guess, something that builds Ds, ugh. But after what we were talking about just now I’m not, I’m not quite happy about DEVOURER.”

“Nor I. But what can we hope to do about it?”

“ATTENTION. TWO HOURS TO RENDEZVOUS, REPEAT, TWO HOURS.”

We poked around, playing word-and-number games with the machine without finding anything more. That sort of thing has a slow deadly fascination, like chess, and it soaks up time.

“ATTENTION. ONE HOUR...”

After the fifteen-minute warning there was a footnote: “ATTENTION. TO ONCOMING CRAFT: THIS IS AN AUTOMATIC WARNING. ANY OFFENSIVE ACTION TAKEN AGAINST THIS EXPLORATION VESSEL WILL RESULT IN YOUR DESTRUCTION. ANY ATTEMPT TO BOARD, LIKEWISE, UNLESS SAFEGUARDS ARE OVERRIDDEN BY THIS VESSEL’S CREW. YOU HAVE BEEN WARNED.”

“Now they tell us,” I said in disgust and dictated a temporary override to cut *that* off.

The accented voice: “_Please_ maintain radio silence. Will signal acoustically through hull on contact. We will *not* take offensive action—“

That was the last we heard from them over the radio channels. There was an endless wait while, as far as we could tell from what the speaker announced, the stranger out there juggled with attitudes and velocity vectors: then three massive clangs which must have been the loudest noises in Corvus Station since we’d got there (“And so the loudest ever,” Rossa said: “Before, there was nobody to hear—“). The whole cylinder bonged like a kettledrum. The computer rather thought that magnetic clamps had been attached. Another wait. Then fainter noises up at the far, twilit end, by the giant airlock—

“Request patch from acoustic pickup to main speakers,” Rossa said before I’d thought of that point.

“—Hello. Hello. Hello. Can you accept one person aboard? If so please signal by opening lock. If not

please explain on acoustic link. Hello. Hello. Hello.”

We told the computer to cycle exactly one person through the lock.

“AFFIRMATIVE.”

“Now here’s where we really start telling lies,” I said, following Rossa through the gray and white wilderness of metal and plastic. FACTOTUM paced us overhead, whirring and clicking, hanging from its rail at an angle just too far off our vertical to look sane. Its lenses glinted.

Sixteen

He came in a bright orange pressure suit, and all you needed to know about space flight in this system you could tell by the holster growing smoothly from the suit’s right thigh. Rossa had already climbed behind her own ice-walls of defense and it looked about time for me to batten down as well. Something had been coming into the open, inside me, and had to be stuffed back into the tight-disciplined Force mold.

The guy did a calm survey, taking in ourselves and FACTOTUM and the empty spaces behind: I looked back, though it was hard to see past the solar shielding of that golden faceplate. What was inside seemed a thin, youngish face that I could shove straight into a familiar pigeonhole—the pale fellow in the ranks who doesn’t say a lot and surprises you by being a slicker killing machine than half a dozen of your loud roughnecks. A guy who enjoys the killing best of all. You could almost see telesight crosshairs etched on his eyeballs.

“Welcome to the Corvus expeditionary craft. I am Rossa Corman, he is Ken Jacklin, and our credentials will show that we represent the United Government of Earth.” The bigger the lie the better.

The reply came from the p-suit’s belt, very clear and good—it was a beautifully made suit. “3rdLieutenant Grainger, P.S.S.*Silverfish* . My orders are to request you to enter sync orbit in a designated neutral zone, to supervise required course corrections and to act as onboard liaison for the duration.” The voice was funny, even with a sound system better than anything we had aboard—a kind of slushy slur as if the words were coming through a mouthful of Tunnel-base porridge. The Pallas accent. Grainger didn’t take his helmet off; at least he didn’t know what we smelled like, yet. Maybe he was the kind who likes to hide behind mirror sunglasses and play “I can see you, you can’t see me.”

Rossa and I swapped quick glances: no objection. “That sounds reasonable,” she said, and we both stuck our hands out formally. Grainger hesitated a second before shaking them through his right pressure glove.

Then two hours of routine this-and-that; extra food and kit transferred onboard from *Silverfish* , which probably didn’t look anything like the picture I got from the name; fixing temporary couplers so our comp could pull course data from theirs; agreeing, when that was over, that *Silverfish* could escort us in. Grainger ran his side of all this without saying a syllable more than mathematically necessary, as if there were an editing computer stowed in his head to boil out every last drop of redundancy from his talk.

When the last slow lap of the journey had started, Grainger did take off his damned helmet and straightaway looked and acted more human as he wrinkled up his nose and choked at the smell of Corvus Station and/or us. His hair was the sort of dead blond that goes to gray almost without you noticing, his eyes were very black and his neat machine-trimmed shave made me a lot more aware of my own stiff hair and beard. “Tell us about the war,” I said.

“I have no orders,” he said.

“Look, there *is* a war, they told us that much. We just want some background, nothing classified—remember, we’re something like a century out of touch.”

“Yes. There is a war.”

“Why is it being fought?” said Rossa.

“I have no orders.”

We pried and poked for a long while, and put together a skimpy story that went something like this: Pallas (they didn’t *call* it that any more than we called our place Earth—it was “the world,” “this planet,” or, I suppose, “home”) was a watery place, one respectable-size continent, one long island chain. Crawling with stupid livestock. They’d set up shop where the gate put them, on a biggish island, and spread over the others. Now the continent they called New Africa was thicker with animal and vegetable nasties than the worst of the islands, but there were oceans of fossil fuel underneath. Even from Grainger’s bare comments the steps were clear enough: a colony of a colony set up on New Africa, hassles about how well the oil people should be treated by “world government” on Gate Island, high technology sprouting everywhere from the first big seeds they’d taken through the stargate with them (like Corvus Station growing to what it was from a few bits shoved through a keyhole), something like a declaration of independence from the continental mob, hysteria in the archipelago at the thought of oil shortages, massive research programs, limited war—

“How limited? Like the c-20 rules where you could use anything except nukes?”

Grainger shook his head hard. “No nukes.”

Rossa: “What about the possibilities of anomalous physics, MT, all that complex of destructive forces ...?”

“I have no orders. This is a classified area.”

I moved in again: “Yes, sure, but we *know* there’s MT research going on here somewhere. That’s the main reason we’ve come, to warn you about it.”

“Please. No. I’m not cleared for this information.” I noticed his fingers were getting restless and playing with the flap of what I’d spotted right away as a holster. FACTOTUM clicked twice overhead. It seemed like a good time to suggest we had something to eat instead.

We couldn’t drag much more out of Grainger. He was a hundred percent militiaman with no ideas and no opinions outside his duty. There was something familiar enough in that description that I turned it over in my head and found I was looking at myself, or me as I’d been in the Force. Maybe I’d changed too much now. Maybe I’d never be able to go back and be the way I was before. There was a kind of cold shock when I realized I’d let Grainger toy with his holster without ever running over the moves that would send my hand or foot smartly into his unprotected head and convert him to so many kilos of limp meat...

One snippet of data: *Silverfish* had been heading for L2 to check the satellite business—they’d extrapolated the various falling curves backward through much the same point. (Which meant we’d arrived and hid at L2, sending satellites before moving in ourselves, which was almost true and part of the

tale.) Grainger changed the subject again by asking some fool question about the radio facilities—had to ask the comp to find it was all FM in such-and-such bands. But the tidbit didn't entice any more facts from our visitor.

There were a couple of incidents on the long drift toward Pallas. One was a tiny, funny thing. Grainger climbed out of his orange armor to use the lavatory hole, and stood there in his one-piece thermawear, blushed, and got even less talkative until we caught on and found some struts and plastic sheets to curtain off the area. The second was different. One sleep-shift, with Rossa and me on the usual hard sheets and Grainger on a comfy-looking foam mattress he'd unrolled from his kit, I woke suddenly. There'd been a shout, not too close. Half a second later Rossa poked me in the side. And there was no sign of Grainger.

"ATTENTION," the speaker called. "RESTRICTED ACCESS ZONE VIOLATION." Nothing by the computer console or the minigate almost overhead—but up the curve of the station, there was Grainger dangling a meter off the floor, under FACTOTUM.

Rossa got onto the override and had him brought back, dumped next to us.

"I was restless," he said sullenly. "There isn't much space for exercise in *Silverfish*. The attack was wholly unprovoked. I shall report this. That machine has damaged Archipelago property."

He'd gone wandering, I guessed, to search for FTL drive motors in obedience to his orders. Grainger would never have done anything that wasn't in his orders. And he'd poked around machine after machine, baffled by it all as we were, until he'd neared my cache and been grabbed by FACTOTUM. Silly fool had pulled out his gun; it was a very slick, high-velocity needlegun and we found it later on the deck. I hated having to give it back. The spider-robot had cheerfully followed *its* orders and Grainger had a second-degree burn on his gun hand. He was not pleased. As for our own security ... "Might just as well have painted the thing bright red and put a flag on it," I whispered to Rossa after we'd bandaged him up.

"What do you think he thinks it is?"

I told her and she nodded. "The most reasonable deduction. Poor fellow."

We bolted the stable door, as they say, by reprogramming the computer to shout if Lt. Grainger did anything odd while we were asleep. Two hours later, a bit embarrassed, I modified those instructions enough to let him visit the toilet without being loudly reported in tones that echoed from end to end of the station. Damn all computers, and Zurich Central's most of all.

Another whispered talk: "Limited war, no nukes. That means they wouldn't use nullbombs either. Handing it over wouldn't make any difference."

"We must try to do *something*," she whispered back. "Plainly both sides are rushing to develop some form of MT weapon—you heard the Lieutenant mention that it was classified before he stopped talking altogether—and someone could be about to connect the wires on the wrong sort of MT at any moment. Can we simply stand by?"

"All my ideas look like ending with a lot of folks getting killed."

A tiny snort. " _You_ should worry about that?"

"I know, I know, but this time it's not all my fight. They're not fighting *me* ... "

Rossa didn't say anything for a bit. Then: "I suppose, sometimes, people have to be hurt for the sake of others. It's started already --*we* have been hurt and badly hurt. If we don't go on, even that will be wasted ... I must, I really must get some sleep."

Hiding there in the dark behind my own eyelids, I imagined all the things there are, all in one glass ball held up by a single fine wire not even 1.9-centimeter across. The wire had been twitched a lot of times, and twanged hard when the stargate did its thing. On Pallas, in clean white-lit labs, people were shaving at that wire with surgeons' knives. You couldn't just leave them to it. You had to do something, even if it was the wrong thing, when your detachment was cut off and command responsibility came crashing down on you like a mortar shell. In my imaginary kaleidoscope, the colored fragments of plan fused into one lump. The decision was: We'd better use the nullbomb data somehow. We'd better throw in with the "rightful" government and hope like hell it really was rightful. If Rossa agreed with it ... I had the ghost of an idea about how it could be pulled off, with cooperation and luck. And then, if the wire snapped and all the things there were went smashing down into the dark, at least no one was going to be able to blame me afterward.

Seventeen

Force life is more than 90 percent waiting, training, getting ready—then suddenly fifty things are happening all at once, the way it was when we hit the rioters or Freedom gangs in Copenhagen or Glasgow or Berlin. Only nearly all of it happened out of sight, this time.

"_Eleutheria_ to Earthcraft: we received your broadcast. Either you are collaborating with Gate Island's illegal regime or you have been captured by their forces. Do not cooperate. We will honor your neutral status but if you assist our enemies, it will be an act of war. The New African war of independence is in the Earth tradition of free government—"

"_Silverfish_ to *Eleutheria*: if you respect the Earth expedition's neutrality, do not approach closer. Repeat, do not approach closer. We are escorting a neutral ship and closer approach will be taken as an act of war—"

"_Silverfish_ to expedition: please pay no attention to broadcasts from a state not recognized by the legally constituted world government. However, it might be advisable to strap yourselves down—"

"_Eleutheria_ to *Silverfish*: your threat is of itself an act of war. You are requested to surrender your hostage to New Africa—"

"Trying it on," said Grainger sourly.

"_Silverfish_ to *Eleutheria*: alter course or be fired on—"

A universal hiss rose to choke off all sounds in the speaker. "They've started," Grainger said without any special interest. P-suits on—neither Rossa's nor mine fitted at all well—faceplates open to save suit air till the last possible moment. The computer faded out the hiss, but bursts of static came breaking through like spikes into the ears. Lasers, explosions?

"Will *Silverfish* be understrength without you?" Rossa asked.

Grainger looked at her blankly. "The captain only has to issue one order. How can he be understrength?"

The first thing I could think of was, “Christ! A kamikaze?”

“How do *you* fight? Swords, crossbows? The shipbrain moves into optimum battle sequence. We don’t interfere except to clean up after—“

Something clanged against the hull so violently I expected to see a huge dent, a miniature mountain on the inside of the cylinder; the shockwave slammed up from under our feet and a bulky chunk of machinery that might have been a giant lathe went sailing up from the curved deck, maybe seventy meters from where we were standing. It rose, skewed slowly in the air, drifted down ponderously onto something else that crumpled in slow motion. The big speakers stuttered with more jags of static. All of Corvus Station was still twanging and vibrating from whatever had smashed into us, and some harmonics were so low you felt them rather than heard them. I found Rossa and Grainger were both hanging onto the console, and I was clinging to them with a kind of death-grip: I loosened it a bit. What I was going to say next was a smartass reply to Grainger, telling him how his lot were the backward ones, bloody swords and crossbows indeed, we’d done away with machine brains in real time combat ever since the jammer ... OK. They didn’t have jammers. They didn’t *know* about jammers. Keep your mouth shut, Jacklin. Another impact, gentler than the first.

“_Why_ doesn’t this junkheap carry a display screen?” I heard Grainger muttering.

If we wanted to cut off this war in two months, all we had to do was hand over the jammer specs to one side or the other. Only we didn’t have any jammer specs. Funny joke. I could maybe recognize the circuit, but never build one—

We were standing there, locked together, tensed for another impact. I could imagine it: machine-controlled chemical missiles streaking between *Silverfish* and *Eleutheria*, invisible-in-space lines of laser light knocking out the guidance and detonators, metallic dustclouds to soak up laser fire. It might have been part of a disabled missile that struck, or maybe a chunk of one ship or the other, Christ we’d been lucky so far, when’s the next *clang* going to be, could hit anywhere because we’re still spinning...

And there wasn’t a clang. Instead—

An IR laser flash isn’t visible in space, and it shouldn’t be visible in air—but when the intensity is great enough the air breaks down, electrons ripped off atoms the way a lightning-bolt might do it. Which was how it looked, a shattering flash and bang of indoor lightning in a long chord across the cylinder, so bright it seemed to fill the universe and so quick you were looking at a purple afterimage before you realized anything had happened. Rossa’s lips were moving but I couldn’t hear anything—my ears were crammed to bursting with a sonic afterimage, the negative of a thundercrack. There was a whiff of something sharp, maybe oxides of nitrogen fixed by the ionization, NO and NO₂, their formulae the clearest things left inside my echoing skull. Then Corvus Station jerked back into focus, with smoke rising from some half-slugged machine tool, and Rossa shrugging as she realized we couldn’t hear, and FACTOTUM swinging in one of its slow giddy curves until it dangled “up” from the axis rail and started doing something to what must be the entry point of the laser flash. At last I started to hear: a hiss from up above, a puncture.

“—successful action,” the speaker was saying. “_Silverfish_ to expedition ship: we report successful conclusion of action. Are you hit. Please report without delay. Over.”

Grainger ... Grainger had sealed himself into his pressure suit. I still hadn’t got around to anything like

that: different training. Neither had Rossa. The hiss overhead was dying as FACTOTUM welded some kind of patch in place; I drew an imaginary line between that spot and where the thin smoke was lazily piling up, and noted it had come close to hitting the axis rail and disabling approximately everything. No exit puncture: the smoke was just sitting there instead of whistling down a hole. “Looks OK,” I said to Rossa.

She lifted that eyebrow a couple of millimeters. “Some people have strange and eccentric ideas of what ‘OK’ means,” she said, and leaned over to whisper the key phrase into the mike. “Corvus expedition ship to *Silverfish*. Reporting minor structural damage only. Your laser or theirs?”

Silverfish was not amused.

FACTOTUM finished its patchwork and prowled about, clucking to itself over the other damages to its brood of machinery. Grainger opened his faceplate and after a while took off the helmet. The purple afterglow changed color in my eyes, still slowly fading. I decided I didn’t much like the kind of war they went in for here.

There was another blank period, then. I whispered my personal decision on MT to Rossa, and she said: “I don’t think there is any right answer. Every road leads down into the dark. This line is as good as any—and at least we won’t be committing an abuse of hospitality!” Which from Rossa was more or less a shout of enthusiastic approval.

So next time Grainger pulled the makeshift curtain around him in the lavatory area, I moved smartly to my cache and stuffed the microfiche there into one arm of my p-suit. Later it could go under the dungarees. A crazy idea popped up then: if I carried on around another sixty degrees or so of the cylinder, I’d be hanging upside-down, so to speak, over where Grainger was squatting. I could shout “Hi!” across fifty meters of space, and when he looked up give him a friendly wave. The thought tickled me more than somewhat. When I’d got “up” there in the slow-motion jog that seemed best for moving about the station, I didn’t wave after all: I could look up, or down as the case might be, into the square curtained enclosure, and I could see Grainger not doing any of the things I might have expected. He had his left arm held rigidly horizontal, a little way in front of his chest, and the fingers of his right hand were tapping in a familiar sort of way on the left forearm. Soooo ... Grainger was reporting on us, just as we were on him. Maybe using AM radio, because our systems didn’t—he*had* asked about that. Fair’s fair. I couldn’t imagine anything terrible he could tell *Silverfish* about us, although they did seem a mite less trustful than I’d hoped.

In the last lap there were more hissings and tiltings, and one scary moment when some of the damaged equipment went slithering across the deck. Lucky for us the important systems were all up this end, handy—but not too handy—for the minigate across the cylinder. *Silverfish* told us a couple of times that they’d knocked out high-orbit killer satellites as a special favor to us: we hadn’t noticed. Comp started issuing warnings about gas depletion and a need for replacement after the completed maneuver. Already I had the notion that after this, the station wouldn’t be going anywhere else, ever. Then Comp announced ORBIT INSERTION FINALIZED and for its own reasons decided to add that there were sixty-three more orbiting objects of significant size within a hundred-kilometer radius; we cut it off before it could broadcast hideous warnings to them all. We were on our best behavior now.

“It seems rather crowded here,” Rossa said, holding on tight to the tube of “credentials.” “I have a strong feeling of being a sitting target.”

“Nah,” said Grainger. “Neutral zone in sync orbit. *They* have one too, on the far side of the orbit, over New Africa.” He sounded like someone who wanted to spit. I guessed *he* didn’t like any sort of truce

agreement.

“And are we over Gate Island?” Rossa said.

“Port Island.” Grainger was getting almost chatty now, perhaps from relief that this crazy journey was over. But that was the last we coaxed out of him. We climbed back into the wretched p-suits when *Silverfish* told us to, and slammed a final block of orders into Comp: maintain radio silence except in emergency, defend itself and Corvus Station against any intruders bar ourselves (Grainger looked sour at that one), hold stable synchronous orbit along with all the other junk in this neutral zone, and, of course, cycle the airlock once in the outward direction. There was plenty of room for three in this lock, I noticed a few minutes later, or thirty at a pinch. I noticed Grainger noticing the same thing. What the *hell* was it for?

Then the outer lock opened to let in the hard white glare of a giant G4 sun, if I remembered the briefing right, and for the first time in all my weeks in space, I saw the stars.

Corvus Station’s spin wanted to throw us out and away, but someone from *Silverfish* in a lurid yellow suit was waiting: he had a golden line made fast by the lock, and he grabbed us and clipped us to it. Everything was going around and around without any up or down as I slipped off the airlock’s rim, Pallas a huge misshapen circle of streaky blue-green-and-white, Beta Corvi itself so damn big and brilliant I had to screw my eyes shut and wish the idiots who’d decided on a clear crystal faceplate could give it a try now. The stars had gone out when Beta Corvi exploded into my retinas ... There were supposed to be sixty-three items of space junk floating around here, sixty-four if you counted our own contribution, but I could only see ours (pitted, ugly, in half-phase now, enough to make you ashamed of our “world government”) and something stubby up the twisting line that was hauling us in. It grew bigger, a not at all streamlined affair of tubes and girders that looked something like a half-stripped electronic chassis with one big crew pod—but it was very pretty in silver paint that caught the sun blindingly (laser defense?) and you could tell it was functional, battle-tight, no wasted space. I forgot about the outside world when I felt my leg going cold and started thinking the p-suit had a slow leak. We were yanked aboard like so many sacks of grain, and cycled through into sparkling white walls, spit-and-polish everywhere.

“Welcome to *Silverfish*,” somebody said.

“Prepare for zero point five gee,” a speaker announced, and without any hurry one of the walls slowly became a floor.

“Greetings in the name of Earth,” Rossa said, very deadpan, and I guessed her sense of humor was creeping out of its foxhole again.

“Anyone got a puncture repair kit?” I asked, and had to explain that this lumpy thing was just an emergency suit, of course...

It was all go then. *Silverfish* transit to *Overlord* with hardly another word spoken; when we saw *Overlord* through the porthole it was a wall of silver metal too huge to take in: their main CCC (comm, comp, coord) center in orbit, smack in the middle of the neutral zone with all those hundreds or thousands of satellites dangling from its puppet strings, as someone told us later. It seemed satellite reconnaissance was a high card in the pack, here—at home the budget wouldn’t let us orbit new ones (maybe our Africans could), though some old U.S. and Russian gear up there still answered the remotes. There was hardly time to do anything more about my patched suit in *Overlord* -- we pretty well took it at a dead run through its long curved corridors to *Meson*, the shuttle they’d laid on to take us spiraling down forty-two thousand kilometers to Port Island where, surprise, surprise, there was a port. A dozen

or more empty seats took up most of the shuttle space, the passenger list consisting of Rossa, myself, and an escort who made Grainger seem friendly and talkative. An eyeball-popping approach run with multi-g deceleration; jarring bursts of vibration as if we were sitting on a giant speaker playing static at two hundred dB; and with the old deep ache of the transit waking up again in my bones, we were down. It wasn't long before the lock doors opened together and daylight slanted in.

Strange how different things get to you—Corvus Station had never seemed 162 light-years from Tunnel, and for all their smartness the interiors of *Silverfish* and the rest looked more or less homegrown. The first time my guts chimed in to tell me we really were far away was when that light fell through the lock and it wasn't quite the color sunlight should be; maybe the smell of the air had something to do with it too. It wasn't anything special, but again it wasn't anything I'd smelled before. All that was before we'd blinked and staggered our way down the metalled steps to stand on steaming hot concrete under a sky that was too green, a sun that was too big and bright even when shining through puffy cloud, a wind that came by sluggishly carrying a smell you knew was sea but wasn't the right smell for a sea...

Almost together, we both sneezed good and loud. There were smart white towers and blockhouses all around the horizon, bluey-green things that had to be trees out near them, and a good many planes, shuttles, copters and the like parked well off the landing strip complex. I saw a sleek jet tilt up into the air as our escort said “_This_ way, please,” and opened the door of a car three times the size of the London street-wrecks I remembered. Nice to be down at last and getting the VIP treatment, not so good to think that after all these weeks caught in the works of Central's plans, we were getting shoved around in exactly the same way by a system that was altogether different. And here, nobody was on our side.

“Don't act like they worry too much about energy budgets,” I said to Rossa almost under my breath as the car's acceleration pushed us hard in the back.

“When we had the surplus, *we* never worried. They say the richer Africans still don't.”

One thing about being caught in the works—you got a good ride. We went screeching off at something like a hundred kph across the aerospace port and out beyond the buildings at the rim, with only one halt where passes were flashed and white-uniformed guards nodded. We were expected—messages must have been whizzing up and down from the sync orbit. (A corner of my brain offered the suggestion that folks here weren't as surly as they acted: it was just that we'd tried to discuss super-classified things you probably got shot for mentioning, and lesser ranks would be leery of us because of that.) Down a crazy twisting road, clouds of dust boiling up behind and blue-green fronds like long fingers whipping past on both sides, until the notch at the end of the road went blue and we realized we were careening down to the sea. Something that wasn't a bird flapped low overhead. Houses, square-built, flat-roofed, whitewashed like something in the tropics. If we were under a sync-orbit station we had to be on the equator so we had to be in the tropics, unless this place didn't tilt the same way ... I sneezed again. Rossa had been sneezing too. It could have been the harsh sunlight after weeks of relative dimness.

Now there was nothing in front but sea and shore. I wondered whether I could connect the narrow, rough-shingled beach with the smaller and further-off moon. More guards waved us onto a concrete jetty and we pulled up level with some kind of boat moored there, engines idling.

“Where's this thing going that a plane wouldn't go quicker?” I asked escort.

“The air is too risky. Have you forgotten there's a war on?”

I sneezed twice more as we went down the gangplank; we'd hardly got below when the engine note went up half an octave and the boat or ship or whatever was accelerating a sight faster than Corvus

Station at its best. Below, there was a thick smell of oil and paint, almost as thick as the smell of us must have been: the first thing escort did was assign us a cabin apiece and say, “You probably want to clean up.”

I bolted the door and was already stripped down and into the little shower when the boat tilted up, the engine note rising to a scream. Hydrofoil. Maybe the plane wouldn't have been that much faster after all. I soaped myself again and again, attacking the Corvus Station dirt that had sunk in over the weeks, watching the water run away gray-green and greasy for the first five minutes. I must have been starved for good things lately if it felt so good simply to get clean. They'd laid on shaving gear too, and fresh clothes that by some weird guesswork actually fitted—or had Grainger been padding out his sneaky reports with estimated inside leg measurements? I found an inner pocket and put the fiche in its envelope there: it didn't bulge visibly. Now what?

There was a porthole with sea flowing past outside; watching it a while, I decided the sea at least was the right color in this cockeyed place. Or one of the right colors. A couple of times something flipped in and out of the water too quickly to take a good look at. This was the first time I'd been alone in weeks ... in all but a few hours of my life if you wanted to look at it that way. I didn't like it. Being washed and shaved and dolled up almost as well as Force dress uniform—only white, like all the others here, and no insignia—somehow added to the broken feeling underneath, the touch of aching cold in bones and guts. And my feet hurt: this place had a fair gravity. And as well as the spasms of sneezing I seemed to have the beginnings of a sore throat. Out in the corridor I found escort standing watchfully; he didn't say anything when I tapped on Rossa's door and went in.

The first thing she said was, “I'd forgotten what you looked like without the beard, Ken.” Then she dropped her voice. “We must get out of the habit of talking things over, even in whispers. There is a war. They will not be scrupulous.”

“Yes—we'd better keep quiet about secrets like the FTL drive,” I said heartily. A tiny frown flickered across her face and got chased away by a tinier smile. We chatted about personal feelings like how much better it felt to have your feet on a solid planet at last, even if the solid bit was a kilometer of water away just now. A flunky brought in food after we'd been moving an hour, and that was as much of a new experience for the taste buds as Tunnel rations had been—only thankfully in a different way. The good times were so far apart that we tried to make the meal last ... or it could have been that we both ate slowly because the new flavors made us feel queasy.

At journey's end—Gate Island, they told us—we had a replay in reverse of our ride to the sea. Only the port was bigger, the houses and installations were much bigger, the car was bloody huge and must have sucked up the output of an oil well all by itself. After ten minutes' drive we slowed down for a security-controlled gate, and then another and another—all the familiar feeling of wading through treacle you get when going through Security routine. Then down a ramp to where the road ran underground—“Tunnel again,” Rossa said gloomily—through a maze by car and another on foot, going downhill all the way until our ears popped...

Caught in the machinery was about right. Only the machinery on Pallas was much, much brighter and better kept than at home. What lunatic programmer in Zurich had rigged the statistics until Central Command actually thought two people and a couple of bits of data that seemed to be the wrong ones could do anything at all against this lot?

I supposed we had to try.

Eighteen

In brighter moments I'd pictured talking to someone with a title like Supreme Commander of Land, Air, Sea and Space, and having him or her grovel on the carpet in front of us: "Yes, yes, I cannot argue, it shall be as you say." When I felt gloomier, the picture had been of a bored junior clerk in Admin, who jotted down half a dozen lines of notes and threw them into the bin before we even left the room. In the end we hit somewhere in between, closer to scenario number one, spilling the first version of our story—"please stop because we say so and we know more than you"—to a General Lowenstein. He was in his mid-forties, maybe, but his short hair and mustache were pure white. Small pointy face, slate-blue eyes; one of those clipped-speaking people with, as they say, a mind like a steel trap. (What they also say is, have you ever tried to teach anything to a steel trap?)

"Appreciate the position. Appreciate it fully. But how does this alter our situation? I can't see that it does."

Rossa said: "The strategic position needn't be changed at all, General. If your government is researching anomalous physics, though—"

"Haven't admitted that we are, you'll note. I'll allow you the assumption."

"Please. Ken Jacklin has described some of the horrifying potential of this line of research. The possibilities are too terrible to be adequately dealt with in our language. We simply ask that any such research be halted. Only that one line of research which, we tell you, *cannot* produce a usable weapon—only horrors."

"Evidence? I should take your word for it?"

I leaned forward in my chair. "General. Our best bit of evidence you can look up and see every night—those bright stars that went bang all at the same time when they turned on the big gate this place was settled through. How about that? Do yourself a good turn and stop it happening here."

Lowenstein drummed on the desk with his fingers. "Some risks in every line of research. It's been put to me that that might only be a one-time risk—certain susceptible stars, and so on. Remember, there's a war on."

I found myself making the old calculations about Lowenstein's possible defenses. There was the outline of what looked like an opening panel on our side of the desk, maybe with something unfriendly behind. I'd already noted a dark line on the ceiling, from wall to wall over the desk, and a transparent cube on the desktop that made no sense at all...

Rossa: "The fighting is at an impasse; you explained that yourself, your technological edge and their unlimited fuel. Do you have the right, simply in the futile hope of breaking an impasse, to threaten every human being alive?"

Me: "Anyway, what good's a matter transmitter in this fight? You've got planes, shuttles, cruise-missiles..."

"Delivery system! What we haven't got, a reliable delivery system. The protocol," (I could tell that like Grainger he didn't think too much of it) "the protocol forbids nuclear weapons, offensive fuel-air-explosive weapons, exoatmospheric ballistic missiles—not that *they'd* pass the laser satellites—and orbital bombing. Stuck with brain missiles and the rest you mentioned. Our missiles and interceptors think better; *they* can put more into the air. Standoff. But precision bombing via MT—" He

spread his hands. “You see?”

The nullbomb would be tagged a nuclear weapon. I couldn't quite see whether that cocked up our second-line plan or not.

I sneezed and said: “Well, don't you believe what we tell you about how that's never going to work?”

He leaned back, elbows on desk, fingers steepled. “...Not the point. Please to remember this is an *arms race*. We're back in the twentieth-century trap. Take it as a hypothetical case: I believe you. Even remotely possible that StraProgCom and the strategy brain would believe you too. We still couldn't stop.”

“Why not?” we said almost together.

“Game-theory view. There's an advantage and there's a risk. Present strategy is to accept the risk and hope for the advantage. Proposed strategy, your proposal, is to scrap both as far as MT goes. Only we're left with the risk.” He rummaged in a pocket and found something that he put in his mouth. He leaned slightly forward again, sucking on whatever it was. “Advantage local, risk universal, yes, you made that clear. The risk is there, precisely the same universal risk, if we stop. Because whatever I say or do, whatever you persuade us to believe, those infernal bloody New African rebels will *not* abandon *their* research. Is that clear? The risk remains—only we'd have thrown away our chances of advantage, and even, assuming for one moment you could be mistaken, made it possible for the rebels to gain the advantage.” A moment's vigorous sucking. Maybe he wasn't as stupid as I'd thought at first. “Really think it's impossible to spell it out clearer than that. Now, what d'you say?”

I'd been ready to shout right back at suggestions on the lines of how an infinite explosion or chain or novas was “acceptable risk.” The last thing I'd expected was to have it tagged as an inevitable one...

“An interesting debating point,” Rossa said sweetly. “To preserve the symmetry of the situation, we simply need to visit your opponents under flag of truce and put to them the same arguments. A prohibition on all MT research could very easily be added to your famous protocol, I'm sure.”

“...Don't believe I can allow that. Sorry.”

“Why not?” I said.

“Your position's compromised already. You'd cut no ice. You've been seen to take sides—“ He glanced at a wad of computer print on his desk. “That engagement *Silverfish* got into. New African party line says you helped blast *Eleutheria*, since one miserable Archipelago ship couldn't have done it alone. Won't trust you anyway since you've been here—they'll say you're brainfixed.”

“There must surely be some way...” Rossa said, and sneezed again.

“There is.” He took up another report, a folder with wide orange chevrons down the cover, and flipped to the place he wanted. “Second reason you can't be allowed over there: consensus is, you have at least some MT information. Now we started from nothing out here—we knew only that it could be done. We can detect ... disturbances associated with MT if they're strong enough. Can even create them but not to any useful purpose. Yet. Same with the rebels according to our detectors. Pity we don't have the directional aspect sorted out ... Now—and this alone is classified to the point that you don't get out of this place till StraProgCom says so—we've been keeping track of rebel experiments this way. Like us, they can spare just so much effort for MT; in fact their team works only one shift, and though they

sometimes run late we know their shift times pretty well from MT disturbances—even their meal breaks. Could all be useful one day, that’s what Intelligence says.” He turned a page. “Yes, well, useful even in a negative way. Picked up some hellish big disturbances over the last years, clear out of the ordinary scale and time pattern, on a different band altogether. Our best guess now is that it was you, on your way; your people testing your ship; that sort of thing. Meaning, your ‘classified FTL drive’ uses some aspect of MT physics. Meaning, there are more things you could tell us. Well?”

It was like a training ground run over broken country with mines planted in all the least likely places. Ammunition running low, as well; how do you dodge and weave and keep up the nuisance fire when it’s all just words? Still, there was some natural cover right in the middle of all this security business—

“Remember we’ve got our own security troubles. Our government took this so seriously they *picked* us for not knowing any AP material. We can’t even spill how our own ... ship runs because we don’t know.” Did that sound right? Why hadn’t we thought through all the arguments before? Brain damage after all?

“Our space program has always tended to use military rather than scientific crews,” Rossa put in. “Pilots, military people, never physicists.”

“Irrelevant. Could take apart your FTL engine and find what makes that tick.”

“Comp will self-destruct if there’s any funny business,” I said.

The white mustache twitched, and he showed his teeth without really smiling. “Report concludes your onboard brain is relatively crude. A D-181 system-cracker brain would have a fair chance of penetrating and overriding its defenses. If not ... that’s an acceptable risk.”

“You’re out of your skull,” I told him. “About a one percent chance of getting anything, if that much, ninety-nine-plus percent chance of just one great fireball, and *that’s* an acceptable risk?”

“The chance of FTL delivery systems against a maximum loss of a few men and some machinery. Game theory weighs it that way, Jacklin. Game theory says we have to play it that way ... unless you can add a new factor to the equation.”

Rossa: “Since the FTL drive has flown the coop, you want to take that *factor out* .”

“Of course—right on,” I said, trusting her.

“Explain, please,” said Lowenstein.

“Now, General, your efficient little spy must have noticed the absurd size of our craft’s only airlock. This is because, as a final security measure, our ship systems jettisoned the FTL drive—I loathe that abbreviation—jettisoned the drive module far out in space. Its location is buried under impenetrable computer lock; you’d look silly if your software pirates tripped the scrambler and lost the drive forever—“

For that I wanted to slap her on the back and give her a round of applause. Hell, maybe there really was an FTL drive, maybe it had been dumped, maybe our not knowing about it was a final security lock ... I couldn’t size up Lowenstein’s reactions because he’d buried himself in his all-wise report again. By the thickness of the wad, Grainger must have been talking in shorthand. Then the general looked up and showed his teeth again.

“Good try. Very good try indeed. Afraid our boys up north already have an answer for the airlock red herring. Can’t fool those bright lads, though their grammar’s none too good—eighty percent certainty, they say, that the FTL drive was fitted aboard an orbital factory, and that your lot chose it as the most impressive ‘ship’ they had to overawe the poor colonials. Factory needs a big lock, of course; only surprised there’s no small personnel lock as well; as for the jettisoning, I still suspect that even if it was true we could pry the location of the missing unit from your computer. Can’t deny it, can you? Can’t deny it.”

I looked at Rossa. She looked at me. “Like your bright boy Grainger would put it,” I said, “we have our orders.” Another sneeze.

“Excellent. So now we know where we stand. Unlike you, or whoever instructed you, *I’m* not playing with cards I don’t have. You’re claiming diplomatic status: we’ll recognize that to the point of not brainfixing you, not handing you over to the interrogation boys, none of that. Might have to reconsider your status later on, but for the time being...” He popped another something into his mouth. A sweet, probably; even here they surely didn’t have lime-green medicine.

“Cards on the table, then. At first we honestly did decide you were a mere rebel ploy—afraid that’s what we thought of those ridiculous satellites, too. Naturally anything transmitting in clear was automatically neutralized, at the time. Seen your credentials now, very clever—“

(I found out afterward that the thin tube of “credentials” contained things like a \$100 bill and \$50 note from series after the Incident: the clincher was a microgram of plutonium from a 1990s weapon, from *before* the Incident—you could tell its age from nuclear decay, Pu not being a natural element, and no radioactives had been sent through the stargate, and so we came from Earth, QED. Also there was a message saying, roughly, “Jacklin and Corman are our ambassadors. Listen to what they tell you. Essential that MT research stop right now. Signed, Supreme Council of United Nations of Earth.” Bleah.)

“Very well then: we’ll give you an embassy and it’ll be a suite in the basement of STRACEN-1 ... this complex. As neutrals in a war situation, you’ll be confined to embassy ground for the duration. Duration looks like meaning a long while, at present: we’ve dug in and settled to it like a couple of hoglice breaking teeth on each other’s shells. Local beasties.” He told us the size of a hoglouse by holding a hand out flat, half a meter over the desk, and left us to wonder whether he meant the height from the desk or the floor. “Meanwhile, like the good hosts we are, we’ll give your craft a going-over, make it shipshape for when you finally leave. We really have no choice here. Matter of national, planetary security. As *I* see it, your only chance of fulfilling your own orders is to help tip the balance of the war.”

“No,” I said without much real force. You had to play these things to the last.

“If you’re correct and sincere in what you’re saying, *you* two are messing with the lives of everyone here and on Earth when you refuse to do what you can to end the war and make it possible for us to terminate MT research. It’s your responsibility.”

“That’s the logic of the Freedom gangs, the terrorists,” Rossa said sharply. “Hold the knife to some poor innocent’s throat and say ‘Unless you give me everything I want, *you’re* responsible for this person’s death.’ You simply cannot shift responsibility like that.”

Lowenstein’s mustache wriggled again. “Clever debating point. Debating, though ... debating isn’t the point. Like to remind you it’s everybody’s throat we’re discussing, and there are two knives, one of which we can’t control. I think you’d better go away and consider *Realpolitik* for a few hours.”

Rossa opened her mouth to say something, and instead sneezed hard enough to set papers flapping on the desk. “You’ve both been sneezing,” the general said with a sort of fierce calm, fingers dancing on a touch-panel set in the desktop. “Sneezing, yes. Sore throat too, by any chance?”

“Yes,” Rossa said, still breathless from the explosion. I nodded, wary.

“Well, well.” The teeth came into view like the sun from behind a cloud, and stayed glittering at us. “Not quite like Earth, you know, not quite like it at all, this place. Astonishingly close, mind you, but some very funny proteins here. Have to be careful what you eat. Most people need the anti-allergen shots, seventy percent perhaps. Sneezes and sore throat, very common, not at all fatal, they say you just wish you could die.”

The gentle smoldering in my throat flared into a crackling forest fire when I thought about it. Rossa sneezed three times and sat gasping. A knock on the door and a guard came in.

“Earth delegates Jacklin and Corman require escort to their quarters,” said Lowenstein. “You’d really be in for an uncomfortable time without the anti-allergen shots. Remind me to order some for you when we talk again. Must treat our delegates as well as we can, what with them being so cooperative.”

“Speaking off the record, General, you’re a bastard,” I said, and spoiled it with another attack of sneezing as I stood up. No mind-drug interrogation or anything that might be hard to explain if another gunboat came from Earth—just a little “accidental” pressure while they were waiting for medical supplies to come through. What really got up my nose, so to speak, was that when we’d talked it over, Rossa and I were going to have to give in. It was either that or sit in a room for God knows how many years, trying to win by not moving like some crazy Zen fighter. My head started banging again as I stood, as if I’d jolted something loose by moving. Rossa looked wobbly too, and we both sneezed hard as the white-uniformed escort held open the door.

Behind his desk, General Lowenstein was still twinkling happily.

Nineteen

One thing you could expect from the Archipelago mob was classy electronics—a concealed bugging system, for example, giving continuous 3D color images of our diplomatic suite. That was why, for the benefit of invisible cameras that might or might not be there, Rossa and I ended up twined around each other in one of the wide, soft beds. By now small novas were going off somewhere just behind my forehead, and a wad of sandpaper was stapled inside my throat; we’d both got used to turning to one side and letting out the sneezes when they came, and we added random grunts and bounces to say “hell, we’re enjoying it all really.” Rossa was warm to hold but kept shivering, and so did I.

“I really don’t know why we didn’t move into contingency two straight away in the general’s office,” Rossa mumbled into my ear. Let them try to pick that up.

“Got to do it,” I whispered back. “I suppose I just wanted to keep the bastard waiting a few hours longer. Being so cooperative, I’ve got enough Force feeling left that I couldn’t stomach handing over the fiche straight after he got off his heavy line about allergic jollies.”

“_Yes_ . For a minute I was hating so hard that my teeth ached. I wanted to switch plans, let the general’s researchers construct a nullbomb and wipe out their problems and ours in the same white light. But that won’t do, not after the detail he let slip.”

“Hey, you could maybe argue me into switching even now—except I’m getting less keen on the dying business. Suppose after all the bad times I could use some more good ones before the terminus. What’d he say to louse up the Trojan Horse line of attack?”

“Really, Ken: he said quite clearly that the MT research center was ‘up north.’ Destroying it might leave this STRACEN place untouched, and ourselves as well, except of course we’d have some unfriendly questions to answer! And *that* might set the war almost back to an impasse again.”

“I hear you loud and clear. The islands are all strung out, but New Africa’s a good solid continental target. Yes, I get it. Be easier to sell Lowenstein the true facts anyway—he’s not so dim as I thought.”

Rossa sneezed so hard she set my ears ringing. “Oh dear,” she said aloud. “Thank you for your attentions, Ken, but really we’d better stop now ... I feel terrible.”

I had my nose buried in her hair, which smelled nice. “Me too,” I said in a muffled kind of way, and rolled out of the bed. The room was done in blue and silver, more color than I’d seen in any sleeping room. I padded through thick carpet to the shower and for a moment wondered if something was wrong: there wasn’t, quite, but approximately half a hard-on was jouncing between my legs. Not “at ease” anymore, but still a long way from “attention.” Something was stirring under that heap of corpses in my memory, all of them me. That half-stiff way was the way it had been when I started being more than a boy, when I caught sight of the girl in the tight dirty jeans from the squatter family down the road. It had bothered me then. It bothered me now. If I was, sort of, losing the hard edge of my training, what the hell did I have left? All this without slowing down too much, and in the shower it blew out of my mind when I thought I’d turned the water on too fast, too hot: more of the lingering treatment with boiling oil or molten lead as Rossa slammed in another undetectable report. Wondered why she bothered, seeing as we’d practically junked the old orders. I did have the notion that you could get hooked on that clean pain without aftereffects, the way your tongue would go back to probe the loose tooth. The good thing about the pulsed torture this time around was the way it swamped the warning pangs in head, throat and sinuses, where some alien molecules were acting like grit in the works. That was us, two molecules that twisted the wrong way, dumped on Pallas to make it itch.

The microfiche was still safe inside the smart white jacket when I climbed back into it. Rossa had gone for the shower after me, and a few minutes later she was pulling on her own jacket and trousers: I found myself looking away when she did it, which was a silly thing to do after all our times together.

Somebody else was probably looking, a thought that annoyed me when I had it a little later, because fifteen seconds after we’d cleaned up there was *abeeep* from the door. Two more escorts, a lumpish man and woman with small eyes, definitely the Security and not the Combat type.

“General Lowenstein’s compliments and will you come to the War Room.” It wasn’t a question and the piggy woman didn’t bother to tack on a question mark.

The corridors were as before, featureless white walls that might have been designed to make sure you lost your sense of direction three turnings into the maze. The War Room was something else, high and wide with half a dozen concentric arcs of screen consoles focused on a wall that was one big colored map of what had to be the Archipelago. Integrated satellite picture, probably, scores of scattered islands, green on blue, growing thicker to the north. The room was like something I’d only seen on video, from tapes so old the picture had sprouted static like thick fur: a space mission control center. Lowenstein came heading for us out of the thin crowd, along with another man whose face reminded me of a stray dog that’s been kicked a lot. Droopy, downbeat, reddish look in the eyes, permanently shaggy black

hair. He had a habit of turning a ring on his finger.

“All right, guards. Don’t need you here: dismiss. Envoys Corman and Jacklin—Captain Keeb. The captain will look after you during this action. Thought you ought to look in on the latest brilliant stroke of stalemate. Made any decisions yet?”

“Yes, we—“ I said and sneezed.

“Not got a handkerchief? Remind me to have some issued. Use the sleeves of your jackets for now, there’s good people. Take over, Captain.” He bustled off.

Keeb seemed to have decided we were idiot children. “This is the War Room,” he said slow and clear. “The battle screen shows most of the island chain, and you’ll see Gate Island about one-third of the way up. Satellite data indicate an attack wave of NA brain missiles coming over the south pole—“

We learned a lot from him. Most of the console chairs were empty because strategy was run by a program called *Machiavelli*. Lowenstein chaired the Strategy Programming Committee. Color in the red-orange-yellow band showed altitude for blips on the big display, with “friendly” ones flickering, ground defenses purple, other installations white. The Archipelago’s offshore oil rigs were *there* and *there*. STRACEN-1 was the most heavily defended hideyhole in the world. The multiple missile carriers would release their nasties somewhere our side of the south pole. What we were suffering from could probably be cured by a simple anti-allergen shot...

A thin two-tone whine came cutting through Keeb’s blather, an ear-pricking electronic siren. The lights were turned down so the tall display seemed to brighten; the picture swelled off-screen to concentrate on a clutch of green island-blobs to the far south. Some of the purple spots were already spewing out blips that climbed the spectrum through reds and oranges as the interceptors rose in the air. There seemed to be many hundreds, hard to count because they kept eclipsing each other as they spiraled up. It looked like a ridiculous number: this whole place was wasteful, from their cars and space shuttles right down to the white uniforms that needed cleaning a damn sight more often than Force drab...

But New Africa was playing spendthrift too: when their first wave came into view I thought it must be a screen malfunction. The picture started to break up from the bottom as if thousands of ants were crawling up it, or maybe not ants but fireflies glowing all the colors from deep sea-level red to stratosphere primrose. They came weaving and jinking and switching colors, blotting out the sea-blue underneath the crawling and climbing swarm. All brain missiles, all able to fly fifty times better than me on my simulated kamikaze runs. I kept telling myself that all this was out of date thanks to the jammer, that they might as well be fighting with pikes and halberds: but deep down the other idea wriggled like a worm. My training was wasted here, where machine brains did all the fighting and—like everyone in this room—people only played spectator.

“The purple spots in the sea are laser buoys, mostly,” said Keeb. “The white sea-spots are dummies to soak up part of the attack wave. See the reds going out in groups, there and there? The dummy buoys have big FAE charges to knock out anything in the area when they’re hit...”

The colored swarm crawled north, red blips winking out as they were suckered by the dummy targets: I guessed that when the higher flying orange lights went dark it was the lasers picking them off, and that the yellows, higher still, were flying out of laser range—the air really soaks up IR bolts. By now the flickering “friendly” lights were strobing from the north, sometimes taking out an enemy yellow or orange in a particle-antiparticle wipeout that left nothing behind. It didn’t seem that anything could stop that colored insect-cloud from the south. At the first islands, with their fringes of purple defense lights, blips started

getting swept off the board as they came too close. Others went up to yellow, soaring out of laser range; down again to orange and red heights inland, some blinking out as they sank through the air and the spectrum but others going deeper and deeper red...

Memory from the handbook. "*In times of high military budget the standard strategic answer to any defense of less than 100 percent effectiveness is to increase the level of attack until said defense is saturated.*"

Purple lights were starting to die as presents from New Africa crept up on them from behind. Lasers and interceptors were still bringing the interlopers down like flies around the shorelines, but further inland the deep-red blips were settling to lay their eggs. Keeb droned on about how *this* island and *this* was undefended because it was volcanic; and here was Port Island coming into view at the top of the screen as the action moved north. A smooth machine-synthesized voice was calling off the score, *estimated initial strength 2310 plus or minus 15, active interceptor expenditure 448 plus or minus 2, laser installations inactivated 92 ...* You had to stand there in the War Room and watch your topside stuff get clobbered. Sweating gently, I caught a scrap of chat: "...not half the performance they put on four months ago—" Christ. Nearly 2500 in the attack and it was a minor skirmish.

Port Island held, swarms of blips buzzing impotently around it. Others took more or less of a beating; the biggest swarm of all broke hard against Gate Island. You could tell how Gate was top defense priority: the crawling blips were evaporating wholesale long before they came near the place. I counted four, five blips sneak through and drop to ground-level red over the purple sprawl that was STRACEN-1, and the first time I almost took a dive expecting fireballs through the ceiling; but nothing happened.

"We're two hundred meters down in a hardened site," Keeb said with a trace of smugness. "The terminal defenses would need a near-to-ground level nuclear strike to take them out of action, and even if one could get that close—with *Machiavelli* operating it's next to zero probability—the Protocol forbids..."

"Tell me," said Rossa, breaking in, "do you ever *wonder* about fighting a war from a hole in the ground? Suppose your machines don't give the full picture of what's happening up on the surface?"

Keeb seemed lost for an answer; Rossa shrugged and started sneezing again; I found myself joining in. We'd managed to forget that little problem while watching the war on the big board. Now the fight was in mopping-up phase, the cloud of missiles blown to wisps, "our" pulsing blips chasing the steady ones out to sea in all directions, pairs moving closer and closer together in a drunkard's walk like flies catching one another to mate. But when the pairs coalesced there was suddenly nothing left of either, nothing at all.

General Lowenstein was back, walking tall as if he'd fought off the attack wave all by himself. "Trust Keeb's been looking after you," he said with a thin smile. "Now I expect you've something more to tell me—"

Twenty

The general peered at the microfiche on his desk as though it was a dead rat that had lingered a good while in a sewer. "*Anuke*," he said again, breathing hard. "Don't *care* if it's a giant, superefficient, total conversion job. Protocol says no nukes and StraProgCom would never swallow our being first to break it."

I said: "What we were thinking—"

“That’s it, is it? You come here, sit in my office and offer me a nuke. Know perfectly well how to construct the blasted things. Only you go one better, *you* hand me a nuke so over-killing it can’t even be tested. ‘Demonstration of the hazards of MT.’ Expected something a little better from the technology that got you here, I must say. No chance of converting the thing to an FTL missile delivery system, now?”

“General,” said Rossa. “Firstly, please listen to our suggestions for using this information. Secondly, please order the anti-allergen injections you have mentioned so very many times. Thirdly, kindly stop jumping to conclusions.”

Lowenstein sat blowing air for a few seconds, and I thought I saw a smile flit like a transverse wave from one end of Keeb’s mouth to the other. He was standing a little to one side and it was hard to be sure. Then the general shrugged again: “Why not? Haven’t anything to lose, myself. Unlike you.” He played with the panel set in the desk; almost at once a medical orderly arrived (same white uniform, red cross on breast pockets) and put a featureless cylindrical thing against Rossa’s neck and then mine. It hissed, and there was a feeling like sleet driving against a spot on my neck. The sinus itch started to clear up almost straightaway, but I reckoned the ulcers in my throat would take longer...

“Our suggestion is very simple,” Rossa was saying. “You have there a fiche of AP information which is misleadingly titled, as you’ll see. We are suggesting that you duplicate the information under some such title as...”

“FTL delivery system,” I said.

“Something like that,” said Rossa. “We suggest that you leak the data to your enemies. We suggest that if all goes well, the result will be that the New African research center will become g-ground zero of the nullbomb explosion.”

All of a sudden Lowenstein was paying attention.

I tried to encourage him. “The way I understand it, the satellite networks keep tabs on everything that flies on Pallas—otherwise you’d never be able to feed that War Room display. OK. So they’ll *know* you can’t have sent over a nuke and bust up the protocol—they’d have seen it coming. OK. So—“

Keeb: “Even assuming that this device works, to hand it over to the rebels would be to risk its being used against ourselves—“

Lowenstein waved him away rather testily. “Nonsense. Don’t use nukes, do they? Shit-scared of protocol and what we might contrive in the way of nuke technology. That’s clear. Only need make the leakage convincing.”

“Then there’s a chance you’ll go through with this?” I asked. He narrowed his eyes as if I’d reminded him of the dead rat on his desk. “Possibly,” he said. “Have to put it to StraProgCom. Can’t tell you at all what the results will be—matter of forward planning. How d’you balance the oil embargo we have today against the chance of destroying or contaminating the New African wellheads with this scheme tomorrow?”

I came back with a line from the manual I shouldn’t ever have seen: “*Total conversion is arguably the cleanest mode of ‘nuclear’ energy release. After the very high energy flash the residual contamination is minimal...*”

“You sound like a parrot,” Lowenstein said. “Sound like Keeb. Ah, sorry, Captain. My dear envoys, what makes me so unnaturally suspicious of this scheme is that it dovetails far too well with something we’ve been hatching ourselves. Hard to believe; matters don’t arrange themselves so conveniently in real life. On the other hand, have to seize opportunities when they come. Tell them about Chicane, Captain. Try and keep it down to an hour or two.”

Keeb didn’t need encouragement. “Project Chicane is a long-maturing plan for the dissemination of false data to rebel ears. Over the last year our research center has found it possible to code signals into MT disturbances...” (I shut my eyes at the thought, and Rossa muttered something like “might as well transmit in coded nova explosions.”) “The original concept was to use this for ultrasecret message transmission, but of course we then found that the opposition were able to create similar disturbances and therefore, assuming that they advanced along the same line and with slightly less speed than ourselves, they would recently have acquired the ability to detect such transmissions. For their benefit we’ve been running a series of AP disturbance transmissions using one of the supposedly uncrackable trapdoor ciphers, *but* one which we’d taken some pains to compromise in an incident involving the selling off of blank computer tapes which—“

He paused for breath, and I had a chance to put in: “How does a blank tape compromise anything?”

Keeb started up again. “Proper treatment can extract as many as three data sets from a tape—that which an ordinary recorder could pick up, plus the first recording ever made on the tape, plus possibly another recording ‘fixed’ when the tape underwent certain temperature changes. It was subtle enough that we only *suspected* the erased cipher key, a couple of hundred-digit primes plus a standard coding algorithm, had leaked as planned to the opposition. Thus—“

“That’ll do,” said the general. “Got them convinced we think this is a secure link between the research center and somewhere they can’t identify—dropped a few hints it was off-planet and within days they were running a discreet inspection of L4 and L5, so we know stuff that ‘leaks’ that way gets believed. That’s Chicane. Was keeping it for something really big. I think, I very much think you’ve given us the something. But first we have to sell that entire package to StraProgCom.” He started to scratch his head, remembered official dignity or something, and changed the motion to straightening of his thin white hair. “Convene extraordinary session,” he mumbled. “Full consultation. Might not vote to waste Chicane in this wild shot ... Time to eat now. I shall eat in the officers’ mess. Captain, before you do anything else, arrange for a UTS project name to be registered and have twenty hard copies of this fiche prepared—UTS again. And you two ... You two are hot property. Confined to quarters until further notice, I’m afraid.”

Another piggy-eyed escort appeared at the door almost before he’d finished talking, and it was heigh-ho off to the dungeon cell again, leaving the fiche behind us on that desk. It had been our biggest card and now we’d played it; maybe one day we’d know if we’d played it right and even won the odd trick. For now ... I felt low. Rossa and I sat on the well-padded chairs in our “embassy” suite and looked at each other.

“This isn’t the way to fight a war,” I said, not caring much about the cameras and recorders. “Sitting in a giant-size foxhole letting machines do all the work. Where does that leave a trained pro like me? Fighting with words in little white-walled rooms ... underground where it isn’t hot or cold and the canned air never smells good or bad, and nothing to do but wait.”

Rossa looked at me with her head a little on one side, and I poked myself into remembering that she was in the same hole. Only if she had a hankering for her work she could suffer all she wanted at the touch of a bracelet. She said: “I suppose you might start to write your memoirs, Ken. After all, when this war is

over we'll probably be declared heroes. They wouldn't want to waste you in the armed forces even if there were armed forces..."

I had to grin at that one. "Mmmm, maybe heroes and maybe like whoever the guy was who designed those clever gas ovens in Auschwitz. Never mind that. Hey, they've got to have armed forces, you can't hold territory with flights of clever cruise missiles—well, maybe they can here but I don't believe it ... But they haven't anything like the Force. I've lost that."

"*Thave* noticed that you don't, or at least you don't so often, size people up as though you were wondering how best to leap on them and tear their throats out with your bare hands and teeth. It used to quite worry me."

"Oh. Did it show? Yeah ... you have to keep in training and I haven't."

She leaned over and patted my arm, saying "Poor Ken" in a tone that I couldn't work out. She'd started off frozen and now she was getting complicated.

Food came. We ate it, not saying much. And afterward I fell half-asleep in the soft chair, wondering what was happening at StraProgCom and if the extraordinary meet had started, wondering if when the nullbomb went off on the far side of Pallas we'd feel it grumbling under our feet; gut still complaining at the offbeat tastes and colors of the food here, all the weight of things we had to worry about pushing my eyes shut—

Across the training ground again, only now it was faded and misty, bare wet rock underfoot, sky like lead. Across the training ground with something that paced me just behind in corner-of-the-eye flashes. Laser streaks came through the fog in silence, which wasn't right, and chopped pieces from me like fine-honed scalpels; it didn't hurt. The bright thing behind me dodged and jinked and weaved, a better soldier than this Jacklin. It passed me when the bullets slammed me off my feet and the tall spike of the trap went through and through me without any pain, and I could see it was a stubby metal thing that flew with shrapnel glancing off it harmlessly, a cigar with tiny silly wings. It zoomed on through mist and defense fire to the target, an enormous pitted cylinder, and destroyed it in a silent spout of white light. It had won. I'd lost. Only I was still alive, and Rossa was there saying something caustic about heroes. I dreamed I was following her off the training ground.

Twenty-One

The paper was a pain to look at. It had an all-around border of diagonal bars in the sort of glow-orange that reaches deep into your eyeballs and starts tweaking the retina. As soon as Keeb brought it in I could tell it had to be paper for classified stuff; Rossa guessed the same thing out loud.

"Yes," Keeb said. "This is a memo from General Lowenstein at the StraProgCom extraordinary meeting." He put it on the chrome-legged table for us to look at, but carried right on talking to let us know what StraProgCom stood for and how it was called that because it was a committee that made final decisions on programming the strategy brain. Gripping stuff.

UTTER TOP SECRET, it said in that same painful orange at the top of the sheet. Under that was a rubber stamp in red that said CHICANE, and someone had put in a handwritten scrawl to make this CHICANE/COLOPHON. All this made enough sense, and Colophon had to be the project name we'd been saddled with. Then magic letters and numbers that probably didn't mean anything except to some dimwit with a filing cabinet (I did guess that 26:03:95 was very likely a date, in a dating system that was all wrong). The actual message in the middle of this lot was like the contents of a joke parcel with

thirty-three pointless layers of wrapping.

Query: the fiche supplied has label and identification implying it describes a form of operational MT portal, rather than an explosive device. Why is this? Query: what is approximate energy release of device? Please insert reply below and return via bearer. Lowenstein.

“Well,” said Rossa after thinking a moment, “I always assumed the labels were falsified as a security measure—a rough-justice safeguard against its falling into the wrong hands. That would seem to be the logical reason, wouldn’t it, Ken?”

“Dead-right there,” I said, managing to push the smile back where it belonged before Keeb saw it. “Write that down. And, um, the textbook says something like ‘teraton range output depending on mass within sphere of influence.’ That do?”

“A million megatons ... I have *noidea* what it means, but it sounds adequately impressive...” Rossa gave Keeb his pen back, and he stayed around long enough to pass on the handy facts that StraProgCom only had extraordinary meetings in, well, unusual circumstances and that seventeen out of twenty-four members were sitting on the Colophon case right now. Then he took the paper away again, and the room went about three shades dimmer when he’d done it.

“Somebody here likes to play silly tricks with subtly meaningful code names,” Rossa said as though she wasn’t very interested in what she was saying. “Sometimes I wonder whether Wui or Birch have relatives up here, or is it down here? Oh, the name? If I have it right, ‘Colophon’ means ‘finishing stroke.’”

“Subtle it isn’t,” I said. “And me thinking it was something to do with intestines. At least they didn’t call it DEVOURER; now that one still bothers me.”

Rossa made a concentrated sort of face I’d seen a few times before, where she squeezed her eyes together and sucked in her lips. “It should be *the* DEVOURER,” she said slowly. “I can remember that but I can’t remember where the term comes from. A book, of course, but nothing to do with physics or computers or space or war...”

“Well then, it can’t be anything that’d help. Forget it.”

“Yes,” she said, “but half-memories are so irritating.”

We kicked our heels a while longer, and Rossa made a series of flanking attacks on her memory by free-associating out loud. Keeb was back within the hour.

UTTER TOP SECRET CHICANE/COLOPHON

Query: meeting would prefer data on ship propulsion system as more controllable than proposed Colophon scheme. Am instructed to repeat this request for this information and to ask that you reconsider. Please insert reply below and return via bearer. Lowenstein.

This one didn’t take a lot of thought, and we bounced back a reply in the same jolly style: *We do not possess this information. Ship systems invulnerably defended, conceivably with nullbomb booby traps. Classifications and defenses imposed by Earth government. Corman/Jacklin.*

“Getting leery of nullbombs already,” I said when Keeb had carried off that one. Then I yawned. “This is what I meant about getting pushed around. We don’t get *todo* anything, just sit here or in the station or

wherever, being operated on by other things. Christ, if I had to sit on my own all the time I've had to sit on this mission, I'd be braining myself against the walls just from boredom..."

A smile. "Thank you for the delicate compliment."

"I didn't mean—oh, I suppose I did at that. Tell you what, there's a chessboard in this cupboard—"

As a trained Forceman with high ratings at wargaming, I had a job hiding how irritated I was when Rossa held me to a draw...

UTTER TOP SECRET CHICANE/COLOPHON

Meeting hostile. Point has been made that attacks on New Africa would have to be abandoned once Chicane/ Colophon goes into operation, due to need to ensure nonambiguity of protocol observation. This is regarded as unacceptable without further confirmation of data supplied. Query: are you willing to undergo harmless drug interrogation, not repeat not brainfixing, to verify data to StraProgCom meeting? Please insert reply below and return via bearer. Lowenstein.

"There's your chance to do something," Rossa said brightly. "Another decision to be made. What do they mean by nonambiguity ... oh, I see."

We both saw, but Keeb still explained to us how if New Africa's research base nullbombed itself and a chunk of the continent right in the middle of a raid from "our" side, it would look a good deal like protocol violation. Meanwhile, the decision meant either doing nothing at all, or having things done to me—to us. That wasn't much of a decision. Brainfixing, Keeb was saying, was a matter of small microcomps surgically implanted into the brain for use in conditioning or totally overriding what the brainfixed man or woman wanted to do. He looked about ready to tell us again what StraProgCom meant, so I grabbed for the paper and scribbled: *Agreed—Jacklin* .

"It would be best to agree now, before they choose to insist," Rossa murmured, and added: *Agreed—Corman* . Nice not to be alone, anyway...

UTTER TOP SECRET CHICANE/COLOPHON

Meeting adjourned pending interrogation. My thanks for your support. Reply is not necessary: return document to bearer for destruction. Lowenstein.

"If you could accompany me to PsychSec..." Keeb said, twisting at his finger-ring nervously while a couple of armed heavies watched from the doorway. En route to the torture chamber he cheered us up with a lecture on the interesting vegetable-based drugs of Pallas, and I forgot every word before he came out with the next.

In the corridor Rossa caught my eye for half a second, and flashed a look down to waist level. Right hand fiddling with bracelet on left wrist: so what? She turned or slid something, let both hands fall free to her sides, and all of a sudden I had a bracelet too—a hot little ring of pain clamped on my own left wrist. The pickup never stopped being a surprise. So you could set the inductor for continuous output at low level; again, so what? I remembered Rossa might know a lot about what was going to happen ... A memory went click, but not the right one. I had a glimpse back into small-kid days; a place with nettles growing through rusty scrap iron, a pair of not quite so small kids twisting the skin on my wrist like someone wringing a cloth. Chinese burn, they used to call it. That was the way it felt now.

When they got moving, the STRACEN people didn't waste time. Five minutes' walk and one level up by escalator, into a door with no marking but a red cross, and thirty seconds later I was flat on my back in a small warm cubicle, jacket off, three tingling places on my arm where those hissing pressure-injections had hit. A bank of instruments hummed against one wall. Someone in a white gown and surgical mask that gave me the creeps was fixing cold damp things to my neck and temples. It was hard to keep track of what was happening, because lights were shining in my eyes, and the lights themselves were skidding out of focus as I lay there feeling very warm, the sort of early morning doziness when you're not awake and not asleep but you could lie there forever. Dark skin and eyes over the pale green mask; a twinge of panic that made my belly hard and tense when for a second I was back on the cold slab with Ngabe moving in; but something chasing down my bloodstream sucked up all the worry, and this PsychSec person wasn't as dark as Ngabe anyway, and it was so soft and warm I wanted to slither downhill to sleep right away. Hard even to hold my eyes open. The light was all splintered like broken glass and trying to focus was just too much trouble...

But the clear point of pain in my wrist was something to hold onto.

"...testing now. What is your name?" Had I been asleep? The voice was a sort of translation into sound of the way I felt, a voice you could sink into. A woman. Not a bit like Rossa, who sounded sharp and bright. Dozily I reckoned I preferred Rossa. Dozily I realized I'd said, or at any rate my lips had said, "Ken Jacklin, temporary lieutenant U.N. Special Force."

"_Very_ good. You're an excellent subject. This won't take long at all. Now of course you do come from Earth, don't you?"

"Yes." I didn't have *todo* anything to say yes, I found. It came naturally as rolling downhill. If I'd tried, maybe I could have said "no comment," or nothing at all, digging my heels in, maybe sweating a bit. Answering "no," now, when I thought about it (it was hard to think about it), was such a bloody great effort, lifting weights like mountains, far, far too much when you were so sleepy, what was the point of going to all that trouble to say what wasn't so...

The Chinese burn reminded me not to let go.

"And you came using a faster-than-light transport system."

"Yes." I had to give that "yes" a bit more of a push to set it going than the last one. So far so good, unless the difference had shown on those impressive-looking displays and readouts. I tried to think ahead but it all got lost in the splintered lights and the lush velvety voice.

"The microfiche you gave to General Lowenstein—that carries the specifications for constructing a total-conversion weapon based on anomalous-physics theory? Is that correct?"

"Yes."

"Why is there a misleading identification on this fiche?"

This was it. "Security," I said, paring it down as much as I could.

"Mmm. Let's leave that for the moment. Please confirm your statement about the explosive force of this 'nullbomb.' What is the explosive force?"

I relaxed again and let it spill out. “There is an unprecedented energy release estimated to be in the teraton (10^6 megaton) range and presumably dependent on the quantity of included mass within the sphere of quantum collapse. The sphere’s precise radius has for obvious reasons been only estimated rather than accurately measured.” Hadn’t known I knew all that.

“Is this a direct quotation from a report on the device?”

“Yes.”

“Mmm. Is the major purpose of your mission as stated—to avoid damage on a possibly cosmic scale?”

“That’s what they told us.” Now why couldn’t I just say yes?

“Mmm. Why bring specifications for the nullbomb in particular?”

Oh Christ. Lucky she didn’t ask something like “Did you bring this thing to blow our research center to tiny pieces?”—she’d have got me then. This way it was just possible, if I sort of pushed sideways, to say: “Idea was to give example of destructive power of some MT things. Frighten you off.” The last bit slipped out before I could stop it.

“Let’s leave that for the moment. Is your faster-than-light engine based on MT principles?”

Good question. It wasn’t an engine but she hadn’t asked that. “Yes.”

“Is that faster-than-light engine still intact aboard your craft?”

“No.” Gotcha! Now d’you believe we might have ditched it out the airlock—or left half of it in the Tunnel lab?

“Mmm. With full control of your craft’s shipsystems, would it be possible to reconstruct the FTL transport unit?”

“...Yes. Maybe.” It was hard work to carry on and say, “Not possible—get control—of systems. Booby-traps. Maybe nullbomb.”

“Is there any hidden danger or trap whatever for the Archipelago and its government in the stratagem you’ve suggested for the use of the nullbomb?”

“Not that I know about. Idea handed over in good faith.”

“Why?”

“You got an arms race. Have to stop that to stop MT work.”

“Mmm. On some questions, Lt. Jacklin, I find you almost suspiciously garrulous. On others, you seem to be holding back. Tell me what you’re holding back.”

It was like a cold shock of water hitting me accurately on and around the belly button. My mouth opened and shut a couple of times. Eventually: “No ... comment.”

“Are the areas in question areas of Earth governmental or planetary security?”

“...Yes.” Saved. Or was I?

“Would you consider that *our* continued ignorance in these areas is detrimental to Pallas planetary security and especially the Archipelago?”

I had to work out what that one meant. “No. Don’t think so.”

Suddenly: “Could the FTL drive be used for missiles within an atmosphere?”

“No.” Gotcha again. “No. No. Absolutely impossible.” I went slack with relief. That put paid to that one...

“Why not?”

“One point nine centimeters—“ Oh Christ. Another slip. I clamped my lips shut.

“What does that mean?”

“No comment. Security.”

“Mmm. Well, we’ll analyze the recordings later. That seems to cover the main areas, doesn’t it? No more questions, Lieutenant.” (I went limp ...) “—Oh, what is the meaning of ‘Devourer’?”

The bastards. Bugged after all. “I ... don’t ... know.”

The voice sounded limp itself. “Thank you, Lt. Jacklin. That will be all.” I felt colder now, and could feel chilly sweat all over my face, arms, and chest. My wrist, though, felt as if it must be bright red and blistered—but I knew it wouldn’t be. I’d passed the test, I thought. Onward Colophon!

Twenty-Two

Onward Colophon but not onward us. I’d thought it pretty damn claustrophobic before, with the odd trip out to see Lowenstein or the War Room: now it settled to no trips at all. House arrest. Even fetching color schemes in blue and silver, and smart furniture in old-fashioned glass and chrome, get to look as dull as a Force cubicle or Tunnel room when you stare at them long enough. Rossa passed a few cracks about being bounded in a nutshell and calling yourself a king of infinite space. The way we got to feeling, it was more likely that even if we had the infinite space we wouldn’t be any happier—how much of space can you *use*, what was the point of space unless new things were happening somewhere? I remembered my picture of everything-there-was as a glass ball hanging by a wire. When I poked at my feelings to find the hard core, it turned out that even when I preached to Lowenstein about disasters happening to all the universe, I only meant a tiny glass ball, the bit of it I could see for myself. Maybe I only meant myself, though again things would be harder without Rossa.

We’d had another fake cuddling session to fox the watchers who were so quick to notice small talk about the thing called DEVOURER. It seemed Rossa hadn’t had any more trouble than me—less trouble than she said, I guessed, she being so much more in control of herself than, say, me. But between us we’d made one problem: when it came to the business of whether “the FTL engine” was actually aboard Corvus Station, I’d truthfully said no and Rossa, thinking about the thing from her angle, truthfully said yes. Funny, too, they’d actually dropped in a question about her bracelet, “is it a communications device of any sort?”

“I had to fight against the drugs quite hard,” she whispered to me as we writhed together, “until I remembered that, of course, it isn’t a transmitter—merely a convenient masochist’s aid! I’m the damned transmitter. So I could say no, and I did; the pause while I was reasoning through that pink haze must have made him suspicious, and he followed up with ‘you have no means whatever of contacting your craft in orbit?’ and of course I said no straightaway.”

“Mine was a she,” I said.

“Their minds do work in predictably simple ways...”

“Well: thanks for the wakey-wakey signal. It helped.”

Afterward I found again that in spite of everything I was reacting in a physical sort of way to holding Rossa—or parts of me were, though not as much as they might. That didn’t matter, I told myself fiercely. But it was so comforting to kiss and hold each other close; a different ache that wasn’t pain had woken up inside me; and now, with nothing at all happening, there was no excuse for playing that game.

UTTER TOP SECRET CHICANE/COLOPHON

For your information: StraProgCom has now agreed to Chicane/Colophon as originally discussed. The data will be transmitted from Research Center as soon as coded and delivered there—ostensibly as instruction for building advanced MT installation at “off-planet base.” STRACEN-1 security is being stepped up beyond former maximum while Chicane/Colophon is pending and I regret to inform you of your temporary confinement to embassy suite. No holder of C/C strategy information will be permitted above STRACEN-1 sublevel 5 for the duration. This includes StraProgCom members. Reply is not necessary: imperative you return this document to bearer for destruction. Lowenstein.

“A number of people are ready to murder both of you,” Keeb told us as he took back the lurid striped paper. “Practically all topside leave has been canceled and at the moment no one who gets below sublevel 1 is being allowed out of STRACEN. All outside calls go onto delay tapes for triple vetting; all internal C/C messages are being—well, you see—escorted.” He jerked his thumb toward the two armed guards watching from the doorway. “What happens now is that they escort me to the shredding room, where everyone in sight has to sign the form swearing that UTS memo code such-and-such has been destroyed. Believe me, you’re the lucky ones...”

He left, after explaining that this was sublevel 6. The guards who went with him swapped nods with the two who seemed to have put down roots outside our door; and the door clicked shut again.

“The general sounded quite apologetic,” Rossa said.

“Oh great. That helps no end, doesn’t it?”

We practiced sullen silences. So much of what we might say to each other was ruled out by the hidden cameras. Think about it: my times as a kid in the slums, my times in the Force tanks, anything at all about “world government” or Tunnel or Corvus Station ... *allverboten*. Rossa’s time in Comm: hell, if they asked the right questions and found out her talent they’d have her in a sensory-deprivation tank with a big padlock before you could say “breach of security.” So we played chess; house arrest didn’t seem to get Rossa down as much as me, and by now she was a dozen games ahead. We went in for the very smallest of small talk, maybe microtalk, picotalk, femtotalk. And when everything else failed, we sat

polishing up our talent for sullen silences.

UTTER TOP SECRET CHICANE/COLOPHON

For your information: phase one, dissemination of the data, has been concluded satisfactorily. All networks now seeking evidence that the leak has been detected, "correctly" interpreted, and acted upon. Reply is not necessary; imperative you return this document to bearer for destruction. Lowenstein.

"I suppose it's nice of him to keep us in touch," Rossa said in a tone that might have been ironic, or again might not.

"He's so worried about us getting bored, why doesn't he come around and play a game of cards?" I mumbled.

Keeb took back the paper. "I meant to ask before ... are you in the Faith?" he said unexpectedly. "Because Colonel Hazell can hear confessions *and* he should be clear to visit you if..."

"No thanks," we both said. He shrugged, went, and I wandered off to do press-ups. Couldn't let myself go flabby, just in case ... Well, I couldn't see any future outside this place at the moment; but it was harder to think when you were wearing yourself out, and fifty fast press-ups or half an hour's isometric wrenching certainly saved me from thinking for a while. Rossa preferred yoga.

UTTER TOP SECRET CHICANE/COLOPHON

For your information: hostile MT disturbance transmissions ceased within 36 hours of "leak." Conjecture is that all MT effort diverted to construction of Colophon device. Reply is not necessary, etc. Lowenstein.

"What I mean is," I said, "what I thought somehow was that I'd be doing some kind of commando thing with the nullbomb, maybe you and me both, maybe even carrying the plans ourselves and getting captured. Yes, I know it sounds silly—but with my training you go and try to deal with the opposition yourself, not sit around letting other folks arrange it all. Know what I mean?"

Rossa said: "That only works when you know who the opposition are and when they're the sort of enemy you've been trained to fight."

"Um, ye-es. I suppose here we hardly know—" End of conversation all of a sudden. Another topic you couldn't take any further. No way was it a safe thing to let the chat move onto how, maybe, the "rebels" were in the right and maybe we'd have done better to get caught by them.

"Your problem," said Rossa as she lifted a bishop, "is that you're temperamentally unsuited to the close game. I've never *known* you use a fianchetto development—"

UTTER TOP SECRET CHICANE/COLOPHON

For your information: still no detectable MT activity from enemy. Massive brain missile strike six hours ago with some damage to Port Island facilities. Desired retaliatory strike ruled out by strategy considerations already discussed. Some unrest in StraProgCom. Reply is not, etc. Lowenstein.

What a lot can happen while you're stuck in a blue-and-silver cell. Keeb mentioned something about Port being the third most heavily defended island. Keeb was looking thinner and rattier, like a stray dog that was getting pushed to the point where it'd go for a bigger dog's throat out of sheer desperation. I wondered if the second most heavily defended island mightn't be the famous research center. Rossa sounded listless as she said that was as good a guess as any. By now her hair had grown out to something like what it had been before, and I was starting to think I could do with a haircut.

UTTER TOP SECRET CHICANE/COLOPHON

Urgent: StraProgCom emergency session takes grave view of noneffect of C/C to date. Another brain missile strike repelled with difficulty. Am instructed to ask whether it might be possible you have been deceived as to nature of Colophon device. Please insert reply below and return via bearer. Lowenstein.

Deceived! Keeb must have wondered why I let out this half-strangled chuckle when I read that line. No; we'd seen the hardcopy of the fiche; the configuration was still a nullbomb. Rossa kept her deadpan look as usual, and I put: *No deception possible. Refer you to interrogation transcripts* . We signed it, both of us, and when Keeb was gone, Rossa broke into small painful giggles that you might pretty near have called sobs. She sat in the deep chair, head in her hands, making these small funny noises, and we ended up with her leaning her head against my thigh and me stroking her new hair. It was something to do.

Now, when the door opened for meals and such, you could catch whiffs of a stink of tension, or even a stink of fear.

UTTER TOP SECRET CHICANE/COLOPHON

Deteriorating situation. Three strikes since C/C went into effect. STRACEN-1 endangered. No retaliation. StraProgCom requires further interrogation. Am instructed to request permission for this. Please insert reply, etc. Lowenstein.

"I'd rather not," I said, trying not to get twitchy. A touch more in the way of intelligent questioning and I might spill far, far too much. "We said all we had to say last time around, that's right?"

Rossa nodded gravely and silently, and wrote: *Permission denied. Repetition is not necessary; see previous interrogation transcripts* .

We wondered how long that would hold them for. We told each other loudly that if they persisted in this barbarous and illicit demand—Rossa's phrase—we'd sit tight, concentrate on something else and refuse to say anything but "no comment."

"Lie back and think of England," Rossa murmured.

It was a long wait. The room still didn't have a clock.

UTTER TOP SECRET CHICANE/COLOPHON

For your information: unexpected development. Interrogation request shelved. Implications under discussion. Reply is not necessary, etc. Lowenstein.

"They've surrendered, perhaps?" said Rossa.

Keeb said, “My lips are sealed. In point of fact I don’t yet know precisely what the new developments , but there’s a rumor that Chicane/Colophon has achieved something. StraProgCom’s buzzing like a tree roach chorus. Of course it’s possible that ‘unexpected’ simply means that it’s worked as planned but that StraProgCom never really expected it to be successful...”

He was still talking when the door closed. A whiff of cheerfulness had definitely come along the sublevel 6 corridors with that particular orange-barred note: which was nice, but what the hell did it mean?

“What the hell does it mean,” I said, shifting the problem to Rossa.

She closed her eyes, stood up dramatically, and put one hand on her forehead in some kind of pose. “I see it all,” she said with a throb in her voice. “The mists are clearing and I see it all. Yes ... yes ... I see that there has been an unexpected development?” She flopped back into the chair and added sweetly, “How the hell should I know either?”

Another wait, eight meals’ worth, ten...

UTTER TOP SECRET CHICANE/COLOPHON

For your information: (1) The STRACEN-1 security restrictions are now relaxed to normal maximum level. (2) I am pleased to inform you that you are no longer confined to the embassy suite—again, apologies for this necessity. (3) You are invited to come upstairs and take a look at the sky. Reply is not, etc. Lowenstein.

Reality was doing funny things all right, today. We read the note through twice: Keeb watched us with a big grin. “I have been authorized to escort you up topside,” he said. “Are you ready?”

“No, got lots of other things to do,” I growled.

We’d come down the slow route through the maze and what felt like about fifty security checkpoints. We went up, now, the quick way—an express lift, two hundred ear-popping meters from sublevel 6 to the surface and then up further still. “I think it’s reasonably subtle, putting a standard optical/radar obbo tower like all the others, right on top of STRACEN-1,” Keeb said chattily. “The idea is, of course, that the tower’s a low-priority target. You understand these towers are the ground-based, local part of the defense information system, more a supplement to the satellite watch than anything autonomous—“

“Will somebody please turn this gentleman off?” Rossa said in my ear.

The lift opened onto warm scented darkness, a high place that swayed in the breeze. We were on a metal platform with spidery grids attached, radar, radio; a crow’s nest with half a dozen people in it, talking in low voices or leaning on a handrail that didn’t look too safe. The platform was three, maybe four meters square, with one dim red light over the lift door. An ear-splitting noise was coming from the dark underneath, a noise like frying bacon or electrical interference on a massive scale. Keeb said: “That’s insects ... quite a bit like the ones you have at home.” I’d never heard “tree roaches” at home; I took his word for it.

General Lowenstein came into sight, turning away from the handrail and looking fiendish in the red light. He came to us with his hand stuck out. We shook it in turn, warily. “Congratulations, I suppose I ought to say.” He waved at a sky where I could see nothing but stars. “Think it’s not too soon for congratulations, myself. Not the blow we were expecting, but could still be decisive.”

Rossa said: “General, we’re very glad to have been so helpful—but we would be even more pleased if you could tell us how.”

“Watch,” he said. “Watch the sky.”

I looked; we all looked, up into a warm night sky. Only stars, surely? With some of them bright enough to be the locally visible novas, others all ready to flare up when the century-old nova light got here ... I could see people brooding over what looked like cameras clamped to the handrail. I tried to steal a march, get some idea of which way to look from which way they’d pointed their lenses ... but they seemed to go all ways. “*There*,” said the general. Damn—missed something. There was a long, stiff pause.

“And there,” said Lowenstein. That time I saw it: a meteor? The thing was just a narrow, bright streak that flashed across a quarter of the sky and vanished, brighter than the stars, not bright enough to afterimage.

“Hey, General, you’re not saying we blew New Africa so high it’s only coming down now? What have meteors got to do with it?”

A chuckle from Lowenstein. I was playing him up just right. I was being the straight man. I wished I’d kept my mouth shut. “Not meteors, of course,” he said. “And you know, New Africa’s still there untouched, every lovely wellhead of it.” Another pause to set us guessing again.

“Makes a man believe in providence,” Lowenstein said after another streak had flashed right overhead. “Satellites, that’s what. Fast, low orbit ones going first—need most in the way of course correction, with the outer-atmosphere drag. Of course we both have thousands of satellites up there, the laser network and the solar network, and recce and comm, and the killers. You’d see flashes sometimes when a killer took out some other sat ... now they’re dropping without the killers. Higher orbit ones’ll be decaying, too, with luck, with time. Rebel sats dropping out of the sky like scabies at the end of summer. Incredible sight...”

It was dark and the tree things kept up their mass electrical discharge noise: nobody said anything. If they were all like me they were thinking: *Why the hell do satellites drop out of orbit?* -- Oh God, don’t let it be what happened when the big gate opened, the gravitational constant shifting, that would cock up orbits all right, wouldn’t it? And New Africa untouched? Bloody hell.

“Still haven’t guessed it, eh? You’ll be interested in some of the film records we’ve had back from our own satellites: come on now. All will be revealed!”

I was following my own offbeat track of logic, and I’d just decided big G must be safe and sound if Archipelago stuff wasn’t dropping too. Then what the hell -- ? It didn’t help one little bit when Rossa said, “I see. *Ofcourse* .”

Returning wasn’t quite so easy, as I could have worked out if I’d thought about security for a moment. Four times the lift slammed to a stop and locked in place, four times the door flipped open and we got the once-over by guards and what looked like computer scanners. At the bottom—“Getting it piped through to the War Room display,” Lowenstein said as he strutted ahead of us. “That’s the best.”

This time the room was even thicker with ribbons and brass, not so thick with lower ranks; there was a confused muttering when we came in, and one little round fellow pointed at us knowingly. The old zoo exhibits must have felt the way I did then—almost wanted to squint into a mirror and make sure I didn’t

have UTS CHICANE/COLOPHON in flaring orange across my forehead.

“Record from scanning satellite R-64283,” said an impersonal voice from over the big display, and while the voice reeled off dates, times, and orbits, the picture came on with a curve of streaky blue-white up and to the left; the rest was dark. Might have been Earth from space, but of course it had to be Pallas. There were points of light, not enough to be the stars unless only the brightest ones showed. The lights were moving very slowly, and so was the segment of Pallas: it stayed where it was on the screen but if you watched a while you could see it was turning. Which meant it wasn’t a sync-orbit camera picture—

Low down there was a group of bright points, a cluster of them. That was where it happened. Something flared brighter than anything else on the screen, as if it was all a sheet of black cardboard lit by candles, and now someone had made a pinhole to let through the sun. The something swelled fast, a point, a tiny disc of pure white light. The planet’s image went dimmer and faded to a ghost as an automatic intensity control struggled to cope with that expanding circle of dazzle. At the high point the display simply had what might have been a picture of the sun, Sol, Beta Corvi, dealer’s choice, lighting up all the War Room with everything else faded to black. But the circle kept growing bigger, and now paler, and Pallas faded back in, and then—just as the glowing cloud lost out to Pallas and vanished into the dark—you started seeing some of those little light points come back, the ones that must be satellites. The whole business had been very quick, and maybe I didn’t take it all in on the first run; they played it again a few times in slow action, and then changed to other and not so good views of the whole sequence. But that dense cluster of light points, where the pinhole of fire had first come through ... no matter how long you waited, they never came back.

“Their research center was in orbit,” I said in Keeb’s ear while the show was still on. I said it loud enough that Rossa could hear too, and she tapped the side of her nose very solemnly.

“That is correct, absolutely correct,” Keeb said. “It really was clever; by keeping it in their sync-orbit zone they made it safe from our strikes. You might have gathered that we hid our center under ... an obscure island. Could almost say that because they didn’t have remote islands; they went ahead and built their own up there. But now—the neutral zones were established as spheres 150 kilometers in radius located above equatorial points on opposite sides of the planet. That fireball must have hit 200-kilometer radius and still carried a good deal of authority. Teraton would be underestimating it.” He was talking faster and faster. “It’s funny. It’s damned funny the way this crazy war works. You launch a massive strike with 3000 precision missiles, explosives, pseudoshrapnel, incendiaries, the lot. A few hundred casualties, maybe. But this, this ... transmit something no one can understand on a comm system no one knows about, just leak a little data and see what it does. How many men and women?”

It came to me that I hadn’t really known anything about Keeb at all. Rossa said gently from the other side of him, “At least you know it was quick for them.”

Over the p/a system the calm machine voice was ticking off the installations destroyed, probable functions of unknown bits of orbital junk up there, estimated loss of hardware in the form of shuttles, orbital maintenance craft (I think that’s what *Silverfish* must have been) and the rest. The voice didn’t mention people. It did mention, first of all and most often, that the central coordination brain of the rebels’ satellite network was definitely kaput. Likewise its back-up, if it had had one. No wonder the ones that needed most course correction had already started to drop.

“But is it a decisive blow?” Rossa was saying. “The idea of Colophon was that it should be a finishing stroke, something which ended the war simply by being such a horrifying blow...”

“The way the first nukes turned off World War Two in no time at all,” I said.

Keeb blinked. “It ...*could* be decisive. See, there’re two major missile varieties, inertial-guided and satellite-referring. Inertial brains are more complex and even with the killer sats taking out some of what’s up there, there’s always been a complete sat comm&control network, a network on each side, interpenetrating—so sat-guided missiles, um, predominate. The programming allows for the jinking and evasive action in general within a satellite guiding context ... Attack would be severely hampered, I’m sure. Defense too.” He jerked a thumb at the big screen, frozen in another replay. “The battle map comes from up above and *Machiavelli* integrates the data into defense planning. It could be decisive, then, if the rebels work the same way. I hope it’s decisive. This damned awful business can’t be allowed to go on any longer.” His lips worked soundlessly, and he closed his eyes.

In the room I could see a few others, most of them younger officers (or was that just a trick of my mind?), who seemed to be sagging the same way as Keeb.

General Lowenstein wasn’t sagging—he was expanding. This was his big day and he was enjoying it all he could. An orderly was opening dark bottles of something that frothed vivid pink, and tipping the stuff into scores of paper cups. I got handed one; it tasted foxy and not even as good as Wui’s powerful rotgut. Rossa made a face at me over her cup. From the buzz of talk we heard how a surrender ultimatum had gone around the world via the one remaining comsat network. The general was holding up a glass, no paper cup for him: “To Colophon,” he called out, and the crowd repeated it after him like little kids. Out in space the high-energy gas that used to be a lot of hardware and a lot of people must still be expanding, faintly glowing, like the Crab Nebula.

The ache in my bones had come back a little. I badly wanted to crawl away and sleep.

Twenty-Three

For a while then life came in thin slices. Instead of the slow grind of boredom we were being run off our feet with events, conversations, congratulations, postmortems on the war everybody reckoned must be over.

In the embassy cell, now more an open prison than a maximum-security block, I tried to sluice away the foul aftertaste of Pallas “champagne,” and mentioned to Rossa: “Hey, did you notice old encyclopedia Keeb’s got his human spots after all? Even if they’re not very big ones.”

“Don’t be *silly*, Ken. Everybody has a human side, although in military circles it tends to be not so much a side as an underneath. Some people simply bury it deeper than others ... the good general, for example.”

“Why him? He acts friendly enough when it’s not a matter of security and suchlike.”

“Quite.” Suddenly she danced forward and gave me a quick hug. “You’re so uncomplicated, Ken. Don’t worry about me—some of my experiences with our very own military, in CommAux, you know, have made me a little too ready to ... to see people’s human sides as being very deeply buried indeed. Some people.”

In a private chat, the general still seemed friendly. “Very pleased with all this,” he told us. “Can’t see anything going wrong at this stage, anything at all. So-called New African President will be handing out a statement later today, and the word is, there’s only one thing he can say.”

Rossa said, “Assuming that he says it, can we hope your scientists will accept the importance of cutting

off anomalous-physics research? It would be a friendly gesture—Earth has done you the favor of winning your war...”

“Not too eagerly, as I remember it.” Lowenstein sounded crustier now.

“We had our orders,” I reminded him.

“Acknowledge that. Not been very frank in certain areas, mind you.”

Rossa tried again. “A favor for a favor, General. The favor we ask is that you make it known as widely as possible that AP work really has to cease.”

“Do what I can,” said the general, who seemed to be calculating something. “If the war’s over I’ve less influence now—into the rubbish bin of history, and all that. Had to classify you as a military secret to keep the scientists off—*they’d* have torn you apart for this faster-than-light engine you’re so cagey about. Harder to keep them off as things stand now. I’ll try.”

I decided that maybe the general was going to play us straight and maybe he wasn’t, but either way he wanted to be Mr. Nice Guy.

“He’s good at delegating the nastier jobs,” Rossa said afterward. “You noticed that when we were forced into that filthy questioning, he carefully made it seem that StraProgCom was acting against his will...”

“Maybe they were,” I whispered back.

“And, bearing in mind that Lowenstein chairs that committee, maybe they weren’t.”

In the War Room again, they were patching the New Africa broadcast through to the wide screen. A thicker crowd than before, and whole trolleyloads of the dark bottles, and even more of the party feel. I noticed the smaller consoles were still blinking away, with lower-grade techs at the little screens—a reminder that officially the fighting wasn’t over yet, and *Machiavelli* was waiting offstage with umpteen thousand defense installations on its strings. Funny, the names people slapped on programs and projects ... Tunnel lived in a tunnel and put you through a nasty sort of tunnel. Chicane, they’d told me, is trickery, and Colophon is a finishing stroke. But, of course, you could throw up smokescreens, and I remembered a project Apocalypse that was a study of economies in Force catering expenses. DEVOURER, then ...?

A round-faced man was looking across the War Room from the screen. He was smooth in the Admin/politics way, and balding; he was dark enough to look the part of president, or maybe ex-president now, of somewhere called Africa—though the racial mix was much the same over there as in this room. *President Robert Weston*, said the caption that faded in and out over his chest. He was trying the high style—

“Citizens of Pallas: we have been engaged in a most terrible war. It is useless to repeat the reasons for the conflict. It is useless to debate once again the injustice whereby New Africa’s precious oil was squandered in just the manner of the evil days on Earth. Ironically, our own war effort in the attempt to win self-determination for New Africa has itself absorbed huge volumes of resources ... but that is by the way. Now, by chance or design, a cruel blow has been dealt to our defenses. We are satisfied that the letter of the protocol has not been violated, though to some of us it seems that in a stratagem of war, this calamity must violate its spirit. It still lies within our power to be heroic, to prolong the war until what may be our inevitable defeat; however, with the odds so far unbalanced, we believe there is no profit in further

strife. New Africa could still inflict long and bloody damage before being overwhelmed; we have chosen to spare lives on both sides; we ask that as victors the Archipelago should likewise show mercy. It may be that with certain adjustments, the independence of this continent might be maintained, and that New Africa and the Archipelago might coexist in perpetual goodwill. I offer you my country's surrender. I ask that you accept it with magnanimity. I ask for peace with honor. Thank you."

There were a lot of laughs as Weston faded out, and a slow handclap from some of the ones who'd been making an early start on the celebrations. Lowenstein called for order and made a quick speech himself as StraProgCom chairman. He pulled a few laughs; he didn't sound as impressive as Weston had. Corks were popping from bottles of the pink fizz, and this time the stuff came around in glasses. Another speech was due from the official Archipelago boss, who was called planetary governor and had taken a back seat while the military were running things.

Keeb was looking happier, and he explained how the quick-colonization kit they'd packed through the stargate to Pallas hadn't had any grapes, and for wine the people who liked that kind of thing had hunted out some foul local fruit. "I do recommend the vodka and the apple schnapps," Keeb said as if we weren't going to have to talk about fighting ever again. In the War Room some people were singing in a corner, and whole tracts of floor were crunchy underfoot where some fools had dropped glasses.

"When I study this gracious acceptance of victory and then think back to the speech, I can't help preferring President Weston," Rossa said in a low voice.

"Ah, you mustn't trust these smooth talkers," Keeb said, swaying a little. "The general always said he was an evil old tyrant." The smell of Pallas fizz on his breath would have made a great terminal defense system if he'd been mounted topside—I could see the brain missiles dissolving as he exhaled on them.

"Let's go," I said. "Let's skip the rest." This was no part of war that I knew about. I could take the clean kill, like the nullbomb's takeout, but all this falling around and laughing at a straight-sounding surrender didn't seem right. I caught Rossa's eye and for once could see what she was thinking, which was what I was thinking. OK, the war's over, bury the damn thing quickly now ... When we slipped out, the console lights were still blinking watchfully.

The next scene I remember was in Lowenstein's office. He looked bleary, and his eyes were even pinker than the booze. When we'd been brought in he poked his recessed desk console, and a panel slid up in the blank wall to the left. There was another video screen behind it.

"Thought you might be interested in *this* transmission," he said. "This is one that hasn't gone out over the network, but a couple of hours ago your damned craft tried to broadcast it to the planet—"

"Tried?" I said. If they'd vaporized the station to shut it up...

Lowenstein flipped a hand impatiently. "Succeeded, I suppose. Except it didn't go onto the network—no authorization—so only parts of the Archipelago picked it up. Listen." He pushed a button.

The screen went from dead gray to live gray without any picture coming up. A title: RECORDING FROM EARTH ENVOY CRAFT 19:33 34:03:95. A voice-over, the scrambled, guttural voice of our own comp system, if we could call it our own...

ATTENTION ATTENTION ATTENTION. EARTH EXPEDITIONARY CRAFT *AMBASSADOR* CALLING BETA CORVI II. THIS IS A PLANETARY BROADCAST. PLEASE RELAY. A MASSIVE ENERGY RELEASE AND CHARACTERISTIC AP PHENOMENA HAVE BEEN

DETECTED BY THIS AUTOMATIC SYSTEM. THIS IS IDENTIFIED AS A “NULLBOMB,” ONE OF THE LEAST REPEAT LEAST HAZARDOUS POSSIBLE RESULTS OF UNWARY AP EXPERIMENTATION. YOU ARE WARNED: DO NOT CONDUCT FURTHER SUCH EXPERIMENTS. THE PURPOSE OF THIS EXPEDITION IS TO WARN AGAINST AP RESEARCH—DANGERS ARE INCALCULABLE—RESEARCH THREATENS ALL LIFE BOTH LOCALLY AND ON EARTH. YOU ARE AGAIN WARNED. IF THIS ACTIVITY PERSISTS OUR GOVERNMENT MAY RELUCTANTLY BE COMPELLED TO TAKE MEASURES. END MESSAGE.

Lowenstein cocked an eyebrow at me. “Can see from your faces you weren’t expecting that one, maybe?” We nodded cautiously, in turn. “Don’t appreciate the threats, even in a supposedly good cause. When we allow you back, *if* we allow you back, we’ll be asking you to let your masters know Pallas can’t be threatened with their damned ‘measures.’ Don’t have internal conflicts any more—and we do have a *newadvantage* .”

Rossa: “The nullbomb?”

A smile from the general. “StraProgCom have tentatively agreed to call it the Lowenstein effect...”

There didn’t seem to be anything worth saying. He eyed us a while, and then softened slightly with what looked to be an immense effort. “Sorry. Got a mite uptight. Run along and have a drink or something.” He watched us expressionlessly as we went out.

In the suite, Rossa spent a longish session performing on her bracelet and I locked myself in particularly painful yoga positions to shift my mind away from the agony she was sending out. We’d agreed it might have been nice to ditch Earth entirely; but for the time being their interests and ours seemed to run together ... Maybe it would help to scream out the way Rossa said she used to, scream with the pulses, in Morse code.

“The general,” she said when she’d finished, “is already looking for new worlds to conquer.”

Whatever plans Lowenstein might be pushing back and forth on his desk, the feeling of sublevel 6 had changed. The place seemed sloppier now, not what you’d call sloppy anywhere else, but not with the operating theater shine it had had while the tension was on. There was a faint pink splash on the corridor wall not far from the officers’ mess where we ate now; it must date back to the victory parties, and it stayed around for days. Sniffing hard, you could persuade yourself that there must be a puddle of stale liquor somewhere way down the air conditioning ducts, stale liquor with cigar ends floating in it.

So when the next change came it wasn’t hard to spot. Security came down tighter and tighter as if someone was slowly turning a screw, people marched along the glacier-white corridors with eyes locked in the dead-ahead position, the pink stain vanished from the wall, and not even Keeb ate with us next time we went to the mess hall. I could extrapolate the curve in my mind: what was coming was meals back in our rooms, and then a guard on the door, and then the door was going to be locked with two guards outside. But I couldn’t guess why.

“No. I can’t imagine what can be happening now,” Rossa said when I asked. I’d been sort of counting on her to guess better than me.

“All right, then let’s try asking.”

“Do you really think that’s wise ...?”

“We’re bloody heroes, remember—even if Lowenstein’s making sure he’s the one who gets into the history books, we’ve still got some clout now...” We even had cute little medals, the Great Island Star or some such nonsense. I’d been proud of the Force decorations I’d won, even if I didn’t wear them, but now it all seemed silly. I don’t know how we’d have sorted out the problem of asking Lowenstein without an invitation; we were being ignored a lot, again, like rats in the old high-rise buildings, and there just aren’t any channels for a couple of rats to go through when they want the general. A letter did get drafted, “Delegates Jacklin and Corman request permission for private interview with Gen. Lowenstein,” but we bogged down on delivery: stick it under his door? Give it to the first guard you met in the corridor? Before we could do either, Lowenstein decided he wanted more words with us.

Keeb was with him. Keeb licked his lips from time to time, and Lowenstein’s face was white. “Listen to *this*,” he snapped, and there was the screen in the wall again. The speaker hissed and crackled; blizzards came blowing across the screen with someone’s face flickering in the middle of it all: it wasn’t until I heard the soundtrack through its hailstorms of distortion that something clicked into focus so the face was obviously a woman’s. You needed the same focus trick with your ears to lock onto what she was saying, maybe to guess she was reading from a sheet of paper...

“...unsanctioned by government. This is a unilateral declaration from Hawking Center ... use of AP disruption bomb undoubtedly violates ... we believe ... atrocity ... continental government has no ... possession of *full* records from destroyed orbital laboratory. We are in possession of disruption bombs manufactured from specs transmitted by this lab ... integrity of an independent New Africa ... more honorable than ... will fully observe the protocol ... president to withdraw his surrender, and we require the Archipelago government to respect New Africa’s independence ... national honor ... liberty or death ... not met, a disruption bomb will be detonated in” (a name I didn’t catch) “swamp. Further devices ... intervals to be stated. No compromise ... destruction ... central oil field if necessary. We think that if the Archipelago can’t trade fairly ... Africa’s better off without it. We call on President Weston to resign and Planetary Governor Dorey to make ... new country’s to be destroyed *we’ll* do it ... assure you we will rather than let Weston sell us out ... right to nominate ... reestablishment of orbital network. The disruption bomb’s been used as a terrible ... let the threat of its use help build the peace...”

She ran into a particularly bad patch of static around then, and Lowenstein cut her off. My neck was stiff from where without noticing it I’d been craning to hear the dribbles and hisses from the speaker.

“Would I be right in guessing that Hawking Center is or was New Africa’s ground-based AP research establishment?” Rossa put the question very calmly, very slowly, as if trying to keep Lowenstein from speaking for as long as she could.

“That’s right,” he said. “Can’t handle everything at once—we’ve barely had time to move troops into Columbus (that’s the first town over there) and look what happens. Might be bluff. Possibly isn’t. What’re you going to do about it?” There was a fine, almost invisible trembling in his forearms where they lay on the desk, and his fists were tight-knotted.

“Us?” I said.

“Not Colophon after all,” Rossa was mumbling. “They should have called it Pandora.”

“You. You turned up with this godawful continent-smasher, and now a bunch of lunatics from Hawking want to break up New Africa if they can’t have it the way they want it. The *oil field* is at stake. Can you grasp that with your tiny minds? The whole point of this war was the oil field, and you’ve handed them the means to destroy it.” He stared at that odd see-through cube on the desktop, as if he was trying to

calm himself.

“It might be still worse than that,” Keeb said. “A series of explosions on that scale might conceivably set tidal waves—the term is a misnomer, of course—sweeping around the world to cause actual physical damage in the Archipelago.” I could see he’d shifted gear again, and gone back to being Lowenstein’s fact machine.

“That is *quite* unjust,” Rossa said calmly. “We tried to keep silence, but you insisted on knowing all about this terrible weapon—“ But that would cut no ice: one thing you learn in military life is that nothing’s fair, and another is that it isn’t ever the general’s fault. Especially, especially when he can find some handy scapegoats...

General Lowenstein leaned forward as if he was about to bawl at Rossa loudly enough to blow her out through the (closed) door. That was bad. Then he caught control of himself and his face went stiff like armor plate—you could almost hear the bolts clicking across as his jaw locked into place. That was worse.

“Item,” he said, “you’ve produced an appalling weapon. Item, you suggested the scheme that handed the weapon to the enemy. Could have got you shot on those grounds if I wanted to. That’s not what I want. I want a solution to this mess.”

I noticed that now it was being waved *athim*, it wasn’t the Lowenstein effect any more.

“General,” I said, “this ... thing is like the nukes. It’s outside your protocol, and for the same reason—that it’s just too big and there isn’t any defense.”

“Of course you might build a few nullbombs of your own and make the converse threat,” Rossa said. “But that doesn’t really seem to meet the case, does it?”

“You were holding something back when you were questioned,” Lowenstein said. “The power apparently comes from clear outside this universe—now if only the rate of release were controlled we might be able to dispense with this damned oil field altogether. Or possibly the FTL drive might have equally useful side effects. Or possibly—“

“Possibly you might buy New African oil on mutually agreeably terms,” Rossa suggested.

“No such things,” said the general. “Blasted fools want to go into full-scale conservation measures before we’ve even developed the planet properly.”

I said: “Hey, how did you get on without oil in the war if you need it that bad?” The general made a wave-all-that-nonsense-away move with one hand, so I had to remember for myself how there were floating oil rigs in the sea out west of the Archipelago. Just not enough of them, I supposed. Or—

“Completely impossible position,” Lowenstein was saying. “StraProgCom wanted you brainficed until I pointed out we might need to let you go back, some day. Nothing irreversible for our good ambassadors. You have me to thank for that. On the other hand, I’m at hazard unless I squeeze every last drop out of you. You’ve kept things back. I want those facts. Can’t make any decision on this new problem without all the information. Don’t dare pull apart your ship when there’s the chance of nullbombing our own neutral zone. Understand me?*I have no choice.*”

Rossa: “You want us to forgive you in advance for sending us back to your private inquisition?*I’m not*

going to stroke your conscience for you, General, but you're welcome to my permission for what it's worth. We've nothing to hide—but it'll *beno comment* all the way when your Torquemadas tread on Earth security..."

"I suppose that goes for me too," I said slowly.

"Permission's irrelevant," Lowenstein said. "Nothing stays held back—and it's not going to be your decision. You've lucked your way through a Grade One questioning; this time it'll have to be Grade Two. I'm sorry." His voice soared out of control with the last words, up into a squeak like a bat stalling in midair. I couldn't tell, from the way he looked from me to Rossa and back again, whether he really was sorry or only felt he ought to be: either way it somehow cracked off another layer of my training. I stared at that mysterious see-through plastic cube on the corner of the desk. It was the size of two fists together and I still couldn't guess what it did. I'd been too long away from the Force. While we waited for them to come and take us away, I could feel the tension like someone turning screws in my chest; and it wasn't only get-ready-for-battle tension, going-over-the-top tension, the sort of thing I wanted it to be. There was a new, wormy feeling in my gut that I hadn't had since early days in the Force. I was starting to be frightened.

Part Three

The Devourer

All things (e.g., a camel's journey through a needle's eye) are possible, it's true.

But picture how the camel feels, squeezed out

In one long bloody thread from tail to snout.

C.S. Lewis, *Epigrams and Epitaphs*

Twenty-Four

There is a thing about pain, a thing you can discover again and again because of what the thing is: You never remember it right. When I had the old, bad dream about that first run on the training ground, the spike and the grating bone, the horror was something to do *withthinking* about it—imagining I was crippled and broken, coming apart as the tendons peeled off the bone with nothing at all I could do to make it heal. You can cobble up queasy thoughts like that any day of the week, say by flipping through anatomy books to see how your elbow-joints work—it all looks so feeble and gimcrack, that muscle and that awkward lever, that to think about them makes you loathe the idea of lifting a weight. I suppose you could call that a sort of intellectual pain. Then there's the clean, sharp pain when you burn your fingers or get tweaked by gadgets like Rossa's armband—that sticks in your mind better than the real thing, even though you never remember it as being quite as piercing as it really was.

The real thing is something else, and it isn't clean. The real thing is padded steel jaws clamping slowly shut on your balls, heavy chains thudding over your kidneys, some big fellow jumping on your stomach until you throw up and black out at the same time, strangling on your own vomit, almost happy to do it because you want to die and escape the dreadful sick pain. That's the real thing, or as close to it as I can come when—the way I said—you never remember it right.

Grade Two questioning was a stiff dose of the real thing. The setup was the same as for Grade One, only this time they used the steel-web straps on the couch, and the electrical attachments weren't only the

polygraph readouts they'd slapped onto me before. I was stripped, and there were so many needle electrodes taped around my groin I tried to distract myself by inventing jokes about the sex life of hedgehogs. They slipped a test jolt into me before I reached the first punch line, and without wanting to I found the straps were strong enough to take anything I could do to them. Then the cold pressure injections. Then the questions...

"Can the Lowenstein bomb's energy be released at a safely usable rate?"

"No."

"That is not an acceptable answer." Pause. I could hear quite clearly the sound of the slack being taken up in a loose push-button that wobbled, that wobbled in its socket ... and terrible things began to happen. Something like a brace-and-bit creaking at my crotch, a sadist turning it with a shaky hand, grinding a wormy hole up into me, spoiling me every way and forever ... The straps took another beating. I don't know how many times the creamy woman's voice repeated the question before I could understand it again.

"I don't know any other way. I'm not a technician anyway. All I know is what's on those plans I gave, we gave Lowenstein..." White dazzle in my eyes—

"Are you quite sure? I'm afraid I'll have to give you another reminder ... What's the matter with you? Don't cry before you're hurt, big boy." What was the matter was a sudden and different and not quite as shattering pain that hit me without any warning while she was halfway through the line about a reminder. Second-hand. Rossa was collecting a reminder of her own in the next cubicle. I had time to think that, before my own dear lady hit the button again, and everything else in my body whited out like the stars in the face of Beta Corvi. I was turned inside out more times than I could count before she gave up on the business of beating nullbombs into plough shares.

"...Let's leave that for the moment. Do you know anything about this FTL drive?"

"No..." (but the drugs were pushing at me) "comment."

"I'm afraid that is no longer an acceptable answer. You must understand how necessary it is to cooperate. (Level three, please.)" Hadn't thought it could get any worse, but it did, way beyond where you could squeeze it into words. I swam back up into the light, very slowly, and found my wrists burning where the straps had held them; and my throat was raw.

"Why make it hard for yourself? You must understand that we already know *almost* everything. Your companion has told all she knows ... you didn't expect her to last the course, did you? She's only a woman. Now, just to confirm what we now know—tell us in your own words about the FTL system. The sooner we confirm, the sooner we can ease up on your friend."

Standard interrogation trick, isn't it? We already know. And of course there was a chance, there was just a chance Rossa might have opened up. I'd have thought she was tough, but you can never guess what people will do when—Without another word from my personal torturer, it hit me again. The same pain but somehow muted, somehow skewed ... secondhand. I tried to bottle up the scream, but it broke out anyway; I felt like a sword-swallower throwing up. All my universe was here under the jagged lights, but somewhere outside the universe Rossa was getting a touch more of level three. They wouldn't press her that hard if she'd started babbling; so I mustn't say anything; but I had to say something and keep off that next hammer blow of pain that wanted to smash me. So...

“I ... don’t know how ... the FTL drive ... works.” By thinking hard about the physics and not at all about what had happened between Tunnel and Corvus, I found it just possible to say the words.

“I’m afraid you can’t deceive the machine, Lieutenant. I can see quite clearly that that’s an evasion. Now explain what you know about the FTL drive systems which brought you here. Explain how the equipment can be in the ship and not in the ship.”

I clamped my teeth together until I thought they’d crumble and break. I waited for what had to come. Only the maggoty notion came crawling and writhing in my head: was it that important a secret after all? Why not abandon the whole silly FTL pretense, since the only point of it was to impress people like Lowenstein, and—

“Level four, please.” And my mind blew apart, splashed all over the walls of the room. For a while I wasn’t me, I wasn’t anything human. I don’t know how much time went by. When the pieces of me had come squirming back together I knew that I couldn’t have taken that hell for another half-second ... but then, I’d probably have thought the same if it had stopped sooner. Much more of this and they wouldn’t have anything left to interrogate—just quivering jelly on the table.

“—absolutely indefensible,” a man was saying sharply. “Stimulation at level four might have caused permanent nerve damage. You’re an incompetent, an utter incompetent! This means a triple demerit at the very least, and if Lieutenant Jacklin’s damaged, you can expect to face a court of inquiry before the day’s out. *Now get out of here.*” There was a pause, a sound of footsteps, a door opening and closing. I lay waiting for whatever might happen next. By that time my brain was simply recording what I heard or saw, not doing anything with the data except file it away.

“Lieutenant Jacklin? Are you all right? I really must apologize—that woman grossly exceeded her instructions. She’ll be broken, I promise you, broken. Now let’s get the formalities over and take you for a good meal—you look as if you need one! Ms. Corman has given us her version and we simply need to check it out, the matter of the one-point-nine-centimeter parameter in the FTL system and so forth. I do understand your loyalty position. The best compromise would be for you to give a simple, nontechnical description in your own words of the FTL drive apparatus and anything else which seems relevant—feel free to leave out classified details, of course. How about that?”

“Ye-es ... Can I...” I lost the sound and had to take it from the beginning: “Can I have a drink of water?”

“Of course.” Straightaway there was the sound of pouring. You have to keep water handy in torture cells—calibrated pain makes people thirstier than almost anything else. The man lifted my head gently and touched the rim of a plastic cup to my mouth; I took a gulp, and then another, water spilling over my chin. Still couldn’t see anything through the blur of tears, but pieces of me I hadn’t realized were missing kept drifting up from the dark and locking into place. Standard interrogation trick number two...

“Now if you’re feeling a little better we can finish this quite quickly.”

Standard interrogation trick number two. “You’re the nice guy,” I said. “She was the nasty one. You save me from her and so I trust you all the way.”

“Kind of you to put it like that,” he said with more of an edge to his voice. “Now I’m afraid our time is short in view of events outside, so perhaps—“

And the confident, convincing reference to 1.9 centimeters—wasn’t that something I’d let slip in the first questioning? “Not playing. I’m not playing that game. Let me off this thing, give me a feed and then I’ll

think about getting chatty, Mr. Nice Guy. Sir.”

“You’re making matters very difficult for all of us,” he said sadly, still with the remains of friendliness. “I’m afraid I must go now...” Footsteps, and did I imagine the low voice at the door? “All right, Parsons, he’s all yours again. Give him hell for me.”

Hell got to me before she did, with another present from Rossa’s trick nervous system. (_Blank. Empty blank_.)

...Each time it was getting harder and harder to climb back up into the light and start thinking again. Rossa was still holding out, then. Rossa must be getting level five, and the thought of taking it firsthand was too terrible to face. A tiny seed started sprouting in me about then, next to the question about whether security really mattered anymore: it was unfair. I was getting double rations of nerve-scramble, more than even that bastard woman Parsons was handing out to me. If I cracked, I had something pretty damn near an excuse...

And I was so tired, so very very very tired.

“Level five,” I heard the woman Parsons saying somewhere far off.

“Don’t,” I heard my own voice saying, far away in something like the same direction. Standard interrogation trick three, come back hard and fast when the sucker’s been having it easy awhile with the nice/nasty routine. A few empty minutes for the pain to sink in and for all my clever little nerves to tune themselves up, ready to feel the next blast with topnotch efficiency—tiny radiotelescopes collecting every scrap of pain there was in the air. “Don’t,” I said again before it happened.

In the long run it doesn’t help to know the tricks. You only think too much about what’s coming.

“Tell me about the FTL drive, Lieutenant Jacklin.” Parsons’ voice was all bright, matter-of-fact, and almost friendly. She could have been any smart woman secretary in Admin. She waited patiently.

“It’s not really an FTL drive,” I said hoarsely. “It’s a trick. See, there’s this small MT gateway that’s limited to 1.9 centimeters, that’s how wide the aperture is...”

Once you’ve started, it’s hard to stop. “Confession is good for the soul.” The questioner comes to be like your own father or mother—or priest, if you went Keeb’s way. You want to sweep out all your secrets, all the lumber that’s been lying around locked cupboards inside your skull. Parsons popped in a question, once in a while—

“Why the charade of an FTL ship in the first place?”

“Supposed to impress you, I think, make you listen to what we had to say if we had FTL and suchlike.”

“That’s plausible. However, I note that General Lowenstein’s scientific think tank deduced your craft was an orbiting factory from Earth, fitted with FTL drive. From all accounts it’s an orbiting factory, or at least a machine shop. Why?”

“I don’t know, I don’t know at all.” After a touch of level two (I’d say) to jog my memory, she decided that perhaps I didn’t.

“Why does it have an oversized airlock, when a small personnel lock would do?”

“Don’t know again. We thought about that all a good deal—never got anywhere.”

“Would you agree that it’s possible the FTL charade also had the purpose of making possible that orbiting-factory explanation of your flying machine shop—which might in fact have some purpose hidden even from you?”

“Anything’s possible. It’s your idea, not mine.”

“Lieutenant Jacklin, you are becoming perky. Up to level three again, please—“

It poured out faster and faster. All our doubts, all our fears, all the things Rossa and I had tossed back and forth between us. The Force. Tunnel. Ngabe, Birch, Wui. The tanks: seemed they didn’t have anything like them on Pallas—long on physics and short on biology. The 1.9-centimeter gate, Kraz and DEVOURER. The last item caught Parsons’s imagination and she tickled me up to level four and blackout before deciding maybe I didn’t know what was lurking behind that particular door. Onward ... When you’re spilling everything right down to the bottom of the brainpan, you can hold a couple of items back if you’re clever. I was still just clever enough to sit on Rossa’s special comm talent—I could kid myself into feeling that much better about cracking if only I could hold back on what wasn’t my secret. I hadn’t felt anything for so long from Rossa that I guessed she’d broken too, or that they’d given up on her. Another thing I didn’t let out, and that was half because Parsons didn’t choose to probe about it, was the shambles Earth was really in while we pretended to represent a united world government etc. Sheer self-preservation: I told myself it would help Rossa too if Lowenstein’s mob thought we had a whole world behind us, a world that might just one day look after its own and beat the shit out of anyone who hadn’t treated us nicely. Not that I thought too hard about that or about anything at the time. The logical reasons came later.

When she decided she’d got a clear picture of how we really came from Earth to Pallas, Parsons let out a quiet whistle that I almost failed to hear. “Jesus,” she said after a while, “I don’t believe there’s anything we could do to you that hasn’t been outdone—in advance—by your own people.”

It wasn’t a question and so I didn’t say anything. Under the numb, dead feeling left over from a touch too many of level four, the ache that had got built into me on the way was still gnawing on my bones.

Twenty-Five

“No,” Rossa said, “I simply passed out after a rather long while. Didn’t I tell you that long pain makes me dreadfully sleepy? And for some reason they simply let me sleep.”

I’d slept fourteen hours straight off, when they’d helped me back here, so that was fair enough. But *she* hadn’t cracked. Half of me wanted to give her a medal and the rest hated her for it. “What happened then?”

“Oh ... they came and asked for confirmation of this elaborate story, or most of a story, and it was obviously on a different order from the naive ‘we know all’ tricks they were playing earlier. So I didn’t worry about holding back: I filled in the gaps for them and they were perfectly happy. You know, Ken, I don’t believe that any of this information will do them the least good.”

I nodded slowly. That was the first excuse I’d been going to use for having broken apart, and now Rossa had pulled it out for me I wanted to argue and say it wasn’t much of an excuse. Nothing’s an excuse for breaking. I sat in my chair, still numb, and Rossa came to perch on the arm. She bent over,

put her arms around me as if she were trying to cheer me up a bit, and her mouth came close to my ear. The tiniest of whispers: “I know you kept silence when it came to my talent ... you did, didn’t you?” I nodded. “Thank you very much for that, Ken. That is important to me. Now listen—you mustn’t feel you’ve failed merely because I didn’t happen to make any revelations before you. Do remember that I’m *trained* to suffer stimulation like this, or something not terribly different. You’re not—you have other talents altogether. And there must have been extra pressure on you because you were sensitized and receiving...”

Trouble was that I’d thought of those excuses, too. They sounded pretty good in the lonely spaces of my skull, and I might have talked my way into believing them if I’d been talking to *Rossa* ... but this way around they didn’t convince. I couldn’t say anything out loud, now, without shifting position and maneuvering my mouth next to *Rossa*’s ear. I just shook my head, unhappy.

“Speaking of being sensitized,” *Rossa* said as if she’d just thought of it, “I wonder how long darling *Birch* carried on trying to decode that set of signals before begging for the cutoff serum. Remember, he must have picked up everything they fed into me...”

“Closer,” I said grumpily, a safe enough thing for the bugs. More self-pity.

Rossa wriggled closer, but she’d spotted what I meant all right. “Oh come on, Ken, you know better than that. The signal’s independent of distance and the inverse-square law—they’ve run the most tremendous programs of tests.”

I pushed at her, not hard, and she let go of me. “Thanks a lot, *Rossa*,” I said out loud. “Nice of you to try cheering me up. Now ... just leave me alone awhile. I need a breathing space to handle what’s happened. In the Force, you know, you win or you’re dead...”

“Liberty or death,” she said sourly.

“Yeah, that kind of thing; what I mean is I can’t cope with losing just this way—I need some time to get to live with the thing...” After a short while I noticed my mouth was still hanging open as I sat there. I shut it and stayed there with my brains churning like cold, sour porridge. The secret now was to hold on tight to the last of my excuses, the one I didn’t really much like, the one about how the Force couldn’t expect me to put out loyalty at the old 100 percent rate when they’d messed me up so thoroughly in the *Corvus* transit. Brain porridge pouring through that little knothole. But then I didn’t like that point of view too much because I supposed I was still the Force’s man; there’d never been anything else for me; I owed them any number of lives they’d given me in the tanks. Or if you wanted to turn it the other way around, I owed them any number of deaths...

Rossa had been looking at me as if wondering what to do about this nasty mess on the floor. She said, “While you sit there wallowing, you might consider the *minor* fact that you’re not all alone in your sufferings. I’m used to pain, I said—but that session was precisely the worst thing that has ever happened to me. Kindly figure that into your personal *weltschmerz* .” There was a new snap in her voice.

“I surrender,” I told her after a little. “Suppose I was looking for good reasons not to think about ... well, what the hell happens next?”

“More ‘house arrest’ in our roomy and palatial embassy. They must realize we can’t play any part in their war now—the really enormous question is one of which side’s nerves can last longer...”

She was wrong, as it turned out within a couple of hours.

“I see you’re wide awake,” Keeb’s voice said from the door—he was still full of helpful information, that man. “The general would like another word with you, if that’s all right.”

It rather had to be all right. Rossa did murmur something about a previous engagement; Keeb said “ha, ha,” without any special emotion and held open the door for us. He seemed even edgier than he’d been when Colophon peaked.

“Sorry about that, um, formality,” Lowenstein said when for the last time we’d been put in chairs facing his big desk. Keeb stood stiffly on our left, the general’s right. “Afraid one or two of our interviewers were a little overenthusiastic ... No hard feelings, I trust?”

“In point of fact, yes,” Rossa said.

“Quite understandable at present, of course. When this war’s all over I expect we’ll be having a drink and laughing about all this, though, eh?”

I almost nodded. It was already less easy to remember how shatteringly cruel the treatment had been. War’s like that. “You know everything we know, now,” I said to Lowenstein. “Don’t tell me there’s somethingelse?”

He thumped an even thicker wad of orange-barred UTS papers, with a smile that made his mustache hunch up like a wooly caterpillar. “Interview report,” he said. “Very interested in weapons potential of an MT device you mentioned.” He waited.

Rossa said, “You*have* the most appallingly huge of all MT weapons—unless you want to deal in novas or wreck the universe the way our people fear? There is no defense against nullbombs—and we don’t know the least detail of how to construct any other AP machine. I believe you’re talking nonsense.”

“Not at all. Think in terms of precision weapons, you see—this nullbomb is about as precise as an earthquake. Now Jacklin mentioned something called a sunbeam—very pretty name indeed. How about that as an answer to our problems?”

Oh God. Beta Corvi radiation blasting through a 1.9-centimeter aperture. Powerful stuff. But strategically, surely it just wouldn’t work, because—

“That’s no use to you, General,” I said. “You’ve already got fifty times more precision weapons than you need, all those brain missiles. Precision’s no good when the rebel nullbombs are hidden in jungle, or mountains, or whatever they’ve got over there.”

Rossa went back to the line she’d been taking before. “We *do not* know how to build such a weapon, in any case.”

Lowenstein leaned back with an even bigger smile, rubbing his chin like someone polishing a doorknob. “Answers to both those points, of course. Corman, my dear girl, building one will take no time at all once our MT people have dissected that, what d’you call it, minigate business aboard your tin can up there.”

“It’s booby-trapped,” I said quickly.

“Report states pretty clearly you’ve an override on most of the traps—spilled a little more than you thought, didn’t you? Come back to that in a minute. Precision, now, obviously you haven’t thought this

through. (No, Keeb, you be quiet.) Can you even state the problem, either of you?"

"In your rather distasteful terms," Rossa said slowly, "I assume the problem is to kill off those poor people who are trying to blackmail your side into peace terms with an unknown number of nullbombs."

"Not good enough, not good enough. Could do that with a saturation nullbomb attack, couldn't we? Jacklin, you're supposed to be the soldier. State the constraints, man."

I was starting to see where this was going, and I didn't like it. "You want to smear those last rebels—or destroy the nullbombs at least, that's got to be the prime objective—without smashing up the oil wells. Or starting any big tidal waves—someone mentioned that, didn't they?"

"Better, much better. Nullbomb's an imprecise weapon, it annihilates in three dimensions. Sunbeam operates along one dimension only, one single line of super-hot radiation-plus-plasma." He rubbed his hands together, a smug schoolteacher. "Problem, to destroy an unknown number of nullbomb units, with or without their operators, in unknown locations scattered over two dimensions in New Africa. A plane, or the surface of a sphere if you want to be pedantic. Solution, the sunbeam. Afraid we need it, and we're going to have it."

Rossa still hadn't put it all together. I liked her for that. "I don't quite—" she said.

"Our friend the general," I said carefully, "wants to sweep sunbeams horizontally over New Africa, fast, a good many units to make sure of covering all the curvature—and burn the whole damn continent to scorched earth and rock. That's what."

"The main logistics problem would be the capping of the wells as soon as the ground is cool enough; we would have to assume they would all be ablaze, at least where there's a fluid pressure margin—" Keeb was using a dead voice I'd heard from him before. Colophon had hit him badly enough; what was going on behind those dog-eyes now?

There was a pause as Keeb trailed off. We were all looking at the same picture: perfect mathematical lines, thin and horribly bright and thousands of miles long, shaving off the surface of New Africa the way you might slice polystyrene with a hot wire. (Or would they be thin lines? How did diffraction work at the edges of a minigate? The sort of question only a pedant like Ellan went asking, until --) If that was what we were all seeing, only Lowenstein seemed to like it much.

"Energy beams," he said, nodding his head slowly; his hair was working loose where it was combed over a bald spot. "No protocol restriction whatever on energy beams. *Limited* war potential is what the textbooks say."

"What is the actual population of the continent?" Rossa asked.

Keeb: "Relatively small, as a matter of fact; a few millions; we're much more concentrated in the Archipelago." He squeezed his lips together. Maybe he didn't like having to say the number that'd be getting roasted if this plan went through. Now I thought about it, nor did I. War is something you do to, well, military targets. At least (memories of "police actions" over Europe), this sort of war should be like that...

But then, if the Force had told me to, I'd have happily gone driving through central London letting people have it with a semiportable laser, watching their guts explode as the beam flash-boiled the stuff inside—wouldn't I?

“...atrocities in history,” Rossa was saying. “You simply cannot plan a horror like this. I know the military mind is supposed to occupy itself with ‘thinking about the unthinkable,’ but really—“

“No choice,” Lowenstein was saying, not looking specially worried. He was keeping an eye on Keeb, but mostly he was watching me.

I was looking at a mental picture of my own, nothing like as fancy as one of whole continents being seared clean by imported sunpower. I was seeing the truth about the Force, and it was a mess. You got killed again and again, and they put you back together again and again, until dying didn't really matter very much any more. Death's OK. Death's just something that happens and doesn't get in the way of life. For you or anyone else. So you don't care about people, and you do to people whatever the Force tells you to do, because it's all a game anyway and deep down you know nobody gets hurt. Sure I'd have gone killing at random in the city, if they'd asked. I'd have queued up for the chance, interesting outside duty, break in routine, all that.

Rossa was still talking, white-faced, losing ground. “You'll pass into the language, General, like Lynch and Guillotin—or like Hitler and the Rippers. You and all your unspeakable strategy committee...”

Never catch him that way, I thought. He'd love the idea. Rossa ... Rossa was about ninety percent of what had happened to me. She was a friend, somehow; her snapping at me just now had sort of pulled that into focus. Forcemen don't have friends. Forcemen have messmates and games partners. Forcemen don't ever care about people ... Go around thinking about people and by God you might start getting ideas like not wanting to kill them.

“General,” I said. Rossa had already petered out; Lowenstein hadn't even been paying much attention to her but he still kept flashing looks my way. That was it. “General, I know why you're sneaking peeks at me. You can't break Rossa, but you broke me all right, and now you think I'm going to hand you the minigate. Let me tell you—that comp's coded to take instructions from me and *heronly*. I don't know if I let out the password -- ?”

“You did. *Twill d'un bob saes*,” said Keeb. “A Welsh oath, I'm told.”

“Wonder what damned idiot thought that one up,” Lowenstein said with his eyes still narrowed.

“It doesn't matter,” I said. (Wui again, I thought.) “One of us two has to give the instructions *personally*. Got that? The comp system is one hell of a lot cleverer than you think ... it can tell all right. And if you reckon you can make us hand over something as classified as the minigate when we need it to get back home...” I stopped then, thinking maybe I'd said a word or two too many. When I talked I must have made it clear that going home through that hellhole wasn't exactly number one on my priority list.

“Clears the air, doesn't it?” said Lowenstein with something like satisfaction. Keeb was looking even more unhappy. “Cards on the table again, then. I now know—and StraProgCom will know in an hour or two—just what MT weapons Earth actually holds. Pitiful, isn't it? Nullbomb: we have it. Sunbeam: we *will* have it. Minigate: ditto. Jammer, now there's an interesting one, and one thing we have learned from our research is the odd way e/m radiation behaves near the source of an MT disturbance. Imagine we'll have the jammer in a year or two, now we know it's possible. Cards on the table, and your people don't have a card we can't equal. So much for imperialism.”

“There is still one,” said Rossa, playing it casually. “There *is* still the final contingency plan, and DEVOURER.”

“Bluff. We turned Jacklin inside out and all he knows is the name.”

Rossa said, “Obviously the rest was kept from us so we couldn’t jeopardize plans should the worst happen. You, General, are presumably the worst ... My own guess is that DEVOURER will operate if ... if MT research continues.”

“Bluff again. Been running ‘safe’ MT bursts to check our detectors, daily, all along—matter of security—need the detectors to watch the rebels aren’t still MT researching in some blasted hole. And where’s your contingency plan? I say bluff.”

“Some kind of time delay—period of grace,” I suggested, but it sounded feeble. Anyway, Lowenstein looked as though *he* thought it was feeble.

“Cards on the table,” he repeated to clear his throat. “Trying to play this game clean and fair and by the rules, but now my hand’s been forced again. Again I have no choice.” A pause while he stuck a finger in the corner of his mouth and gnawed; a couple of times there was a small noise as his teeth slid off the fingernail and clicked together. Then he took the finger out and pointed it at Rossa. “_You’re_ never going off-planet again. Can’t break you with PsychSec and so I can’t trust you. Now you, Jacklin, you’re something else. Expect you to open-sesame that protection and hand over the minigate like a good boy. In the best interests of everyone...”

Except a million or three people on the other side of the world who were going to be dead if the general sold his latest operation to StraProgCom. But I’d been thinking on a new line since the news that I was so broken and wretched as to be someone Lowenstein could trust. I could see the easy way out, and no more thinking to do.

“Sure you can have the thing, General,” I said, trying to sound not just frightened but like someone trying not to show fright. “You’re bloody right about grade-two questioning—I’ll hand over half a dozen sunbeams before going in for that again. Sorry, Rossa.”

It was natural enough, I reckoned, to look her way when I reached the end of that speech. She blinked, took a sharp breath that I could hear hissing in—and then let it out very slowly. Her face didn’t change one bit. Maybe she’d guessed.

And Lowenstein was laughing; it was a smallish laugh that shook him gently and came out in tiny snorts as if from a steam engine a long way down in his belly. “Very good try, Jacklin,” he said after a while. “Quite the little hero. Don’t think you properly took in what I was saying a minute ago—about how it doesn’t matter anymore what Earth thinks. You’re not going to play hero, trip the traps in that hulk and send our neutral zone the way you sent *theirs*. Not stupid, you know. By then you’ll do what you’re told and be glad to—or maybe ‘you’ isn’t the right word because it won’t be the same person any more. Do what we like with you now, and the hell with what Earth government thinks. Not that I want to do all this. Matter of security, world security, you do understand?” He’d sagged forward a little; *hestill* thought he could con us into getting sympathetic about his problems.

“Afraid we’ll have to brainfix you, Jacklin,” he said slowly and sadly.

Keeb jerked even more rigidly upright than he was already, as if someone had connected a few kilovolts between his head and boots. “Sir! The protocol—“

“Think about it, Captain. Protocol applies to *Pallas citizens*: right? Now you explain to our guests what

we're being forced to arrange for Jacklin. Corman too, possibly, but definitely Jacklin."

The captain's face was strained, and he stared straight ahead of him without looking at anyone or anything except perhaps the wall, as he said: "A microcomp module is implanted under the skull and multiple electrodes run into sensory areas of the brain. We—they find the best or most 'pleasurable' pattern of electrode stimulations, empirically, and lock this program into the microcomp. Also an immobilizing pain pattern, but that's seldom used. Subject is programmed to require regular applications of the pleasure-pulse, which can only be triggered externally by a coded radio signal..." He shifted his weight slightly, and added something about being sure we were acquainted with the details.

Rossa said, in a matter-of-fact tone, "That's inhuman."

"Fighting a war just now, in case you'd forgotten." Lowenstein looked at me then. "Got that, Jacklin? The biggest pleasure-jag you've ever felt. We brainfix you and inside three days you're a thing. Give you the radio button and you'll sit there pressing it and pressing it, thousands of times every hour, not moving, until you're nine-tenths starved, swimming in your own shit and too weak even to press a button. Psywar ran one brainfixing experiment where the button only gave you your jolt if it hadn't been touched for a full five minutes. Turn the power off after a week of that and they still kept sitting there, pushing the button every five minutes whatever else they were doing, check your watch by them. People are just machines really. Think of that when they go on about freedom and humanity and the rest ... Think of that when we take your button away from you until you lift the computer overrides. Even money, you don't hold out more than a few minutes. Any questions?"

The question was, could I take that sort of treatment and still blow the ship when the time came? I didn't know. I didn't know at all.

Rossa: "Is there anything we can say or do to change your mind about this now?"

Lowenstein: "Up to you to think up something convincing. Hard to convince me of anything now after all your lies and evasions. Your own fault."

I remembered his sermon on game theory and saw this was a sugar-coated "no." Still, I found myself thinking, Lowenstein was playing fair in his own terms—he put his cards on the table himself, to use his favorite line. As far as that went, *hedid* do his own dirty work—

Rossa had turned to Keeb. "Does the StraProg committee know General Lowenstein's latest decision to use illegal methods, Captain?"

"Keep your mouth shut, Keeb. Damned committee can take the *fait accompli*, they've done it often enough before."

I had the feeling of being forced into a corner. Too many things were still changing inside my head, options blinking off the screen one by one until there was going to be no choice left at all. Then Rossa gave me the final push:

"As I said an hour or two ago, Ken, *you* have other talents altogether." And she folded her arms very calmly, smiling at General Lowenstein. I could feel her nibbling on her lip again. His hand had been going up to his mouth with another of the bright green sweets; it slowed halfway and almost you could hear wheels turning inside his head ("people are just machines really"). The room tilted into a kind of slow motion as the green light went up over my last option and I snapped upright from the chair as:

- (a) Lowenstein's fingers dropped and went running like spiderlegs across the desk to that recessed control panel;
- (b) little points of pain danced on my underlip as Rossa chomped harder on hers;
- (c) Lowenstein's voice said loud and clear, "Cover him, Keeb!"
- (d) Keeb's hand dropped in slow motion to the bulky holster on his belt.

What was actually in my head was all mixed up together: a dive to the right and the desk would be plenty of cover against Keeb on the left and ten to one the defenses if any were in the front of that mechanized desk or in that clear cube and they couldn't be automatic if Lowenstein had to press a button and this is piffing stuff after Admin office defenses and anything's better than the brainfix and sometimes no matter how terrible a thing it is you do you really do have to kill people as the only way out of a problem—

Low and to the right, then, and fast. There was a loud clack somewhere like spring guns firing; a sound on the borderland between a buzz and a whine; a yelp that might have been Rossa as a terrible bright streak of pain speared my heart; the crash and bang of a heavy caliber gun; and a massive thud. Something big had fallen; a huge plate of armorglass from the ceiling, slamming down onto Lowenstein's desk to protect him from the gun I didn't have. I couldn't see what was wrong with Rossa. The glass starred slightly as Keeb's next shot whined off it; I was on Lowenstein's side of it now and the general was reaching for his own gun. But the glass only came down to desktop level and Keeb was already ducking under ... All my dreams of going death-happy in Admin were coming true now I didn't want them, as I came up from the half-crouch, pivoting with right hand on the floor and swinging my closed left hand in a wide arc that took Lowenstein in the throat. You can feel the larynx give when that one connects properly. By now I wasn't really thinking at all, and Keeb was still straightening up from under the glass partition when I hauled the limp general down off the chair and broke his neck backward over my knee.

He was half-right; you can *make* people act like machines, and I still had all the Force programming that sees you make sure of the kill.

Then Keeb was looking down at me, very tall and pale, a wisp of smoke trailing from his gun's enormous black muzzle that for a moment looked all of one point nine centimeters across. "Don't try it," he said very carefully, as though he was having trouble balancing the words on his tongue. The textbook movements were still flipping through my head, *cover your heart with one arm, always duck if the weapon is pointing at your head, close at the earliest opportunity, and get your hand on the weapon*. From this position, I saw as I straightened slowly, the textbook was a handy guide to suicide.

"You're damned fast," Keeb said. "I wouldn't have believed it ... Is he dead?" He flashed a glance down at Lowenstein, who was on his side with the neck at a funny angle. There seemed to be an odd smile on the general's mouth. I could have taken Keeb then, as he glanced down, but I'd no quarrel with Keeb.

"I should think so," I said, and slowly remembered there weren't any tanks here.

"This room isn't bugged, you know; the general didn't like it. He taped some conversations but not this kind." A pause. "I can't blame you for doing that, not really. It is a mortal sin and still I can't blame you. I'd never heard him ... gloat like that before. But what StraProgCom will say..."

I shook my head to blow out the red smoke of battle fever; my left hand throbbed and I might have stretched a muscle too far in one leg. Back through the cracked glass I could see a bullet hole, two holes, high in the wall opposite where Keeb had been standing. “You fired high. Either you’re a lousy shot or you fired to miss.”

“No comment. But StraProgCom would never have approved the brainfixing—except retrospectively.”

I was looking at the transparent plastic cube on Lowenstein’s desk. Some polarization trick—from this side you could see a 3D image in it, a plain-looking woman and a snotty kid.

Then I saw Rossa. She was slumped in the chair and a couple of wires were hanging down her; there were more on the floor, some of them straggling all the way to the far wall. “What’s happened to her?” I was ducking under the glass again before Keeb could answer. He followed me, explaining: “Emergency defenses for the general; he triggered them and the shield just as you came around the desk. They’re safe to touch now ... multiple taser installation, you see.”

Stungun. The barb-headed wires caught onto you like burrs and a heavy electric jolt came down the line. The narrow panel had flipped open in the desk front and more than a dozen of these wires had come springing out—too late to help Lowenstein, who like half this damned planet put altogether too much trust in machines. But Rossa had taken a double dose from the two that struck her. She still had her arms folded, and her face was pretty calm, and, yes, she was breathing OK. When I held Lowenstein’s cube to her nostrils, it fogged just as it should. I pulled the wires off her then, feeling angrier about them than I had any right to feel, and turned back to Keeb.

“All right. Now what the hell do we do?”

Twenty-Six

Even when you’re playing at stage center, you seem to find later that you’ve missed great chunks of the action. When she came around in a roomful of Security, Rossa had winked at me; later she said, “I see you picked up the message,” and it turned out her lip-biting had been a transmission of advice in the usual code—advice to finish off Lowenstein. She was almost peeved when I mentioned that I hadn’t noticed or needed *that* suggestion; but after a while she smiled and shrugged.

“Then is this the happy ending?” she asked in the blue-and-silver locked room. Her tone of voice hardly called for a reply.

Everything had come to a point there in Lowenstein’s office, and I still thought I’d picked the right action—yet somehow life went dragging on instead of going into a neat fadeout at that point. It was “confined to embassy” again, and StraProgCom was squirming like an eel with its head cut off, and out of shock they’d fallen back on mindless routine: a full-scale court of inquiry, no less. Another captain, a plump one called Pareto (straight black hair just longer than the bounds of Pallas military fashion, stains under his eyes as though something gray-green and nasty kept oozing from the sockets) drifted in and out to take notes for my defense. At first he sweated a good deal, perhaps wondering whether I might decide to send him after Lowenstein before the two guards at the door could squeeze their triggers; but after an hour or two during which I didn’t sprout fangs, he relaxed enough to pass on some rumors blowing about the bottom levels of STRACEN-1. One was that with Lowenstein’s platform as StraProgCom chairman gone ashes to ashes dust to dust, the revised committee was talking again about compromise terms with those bits of New Africa that were still rebelling. The second: word had gone out at last that MT research was a no-go area until further notice. Loud enthusiasm from Rossa and myself at that one—loud enough to cause a hasty leveling of weapons from the doorway. Pareto told us not to worry about anything, and

edged out of the room.

Within two days that silly court was, as they say, sitting on me. If ever I find it hard to sleep I only have to remember that bare room and the days of grinding boredom I spent there: the thought of the wall clock and those squared-off steel chairs starts me yawning straightaway, and the snores begin before I can call up the three faces of the StraProgCom “judges” behind their long table. “It has to be StraProgCom people,” Pareto whispered, “because the issue’s so military, so specially important: and the Supreme Court topside is not cleared to hear the evidence, oh dear. Now don’t worry -- “

“The court is open,” the woman behind the long table said quietly after a glance at the man to her left and the older man to her right. On the far side of the room from my seat, a colorless man with a bony face and hair like dirty ice stood up and lifelessly intoned, “The charge is that Kenneth Jacklin deliberately took the life of General Felix Lowenstein the prosecution will show that this was an act of murder made more serious by the fact that the Archipelago was and is in a state of war and that General Lowenstein held a key position in its strategic councils call Captain Evan Keeb please—“

In the next three days there were endless statements from what seemed like half the population of this hemisphere: all one long gray buzzing. There were also a few disturbances that stuck in my mind. The first came just after Keeb had told his life story and the tale of what happened in Lowenstein’s office (much stress on how good my reflexes must be for him to have missed me when he fired; a dead little silence when the word “brainfixing” came up). The thing happened then, as Keeb was walking out through the ranks of lurking guards and Rossa had just been brought in. Suddenly ... everything in that room was a thin bright image painted on a brass gong, and somebody had struck the gong. Or it was a reflection in still water, and someone had tossed in a pebble. I’d felt that same ripple all those weeks ago when we were waiting for the curtain to go up in Tunnel.

Rossa turned her head my way, eyes opened wide; all I could do was nod a little to signal that I’d felt it too, shrug a little to tell her what she knew already—which was that I hadn’t a clue. Two of the three behind the long table shut their eyes hard, and the other shook his head as though bothered by flies. Pareto felt his soft stomach carefully, pulled out a bottle of pills and swallowed two. The prosecutor didn’t blink. The skin was stretched over his face like plastic film over a skull...

The tall digits of the wall clock read 15:55.

Someone, somewhere, was playing again with MT.

When Rossa had said her piece, some PsychSec staff came on to confirm we’d been “interviewed at the second grade of inducement and questioning pressed to level four of insistence in the male subject’s case, level five in the female’s. This was carried out at the direct order of StraProgCom as relayed by General Lowenstein.” Much urgent whispering behind the long table, and much shaking of heads. Then all the general’s doings over the last months were reviewed in appalling detail: what had all that got to do with me? Pareto turned my way and winked.

Funny, I was thinking, that a game-theory worshiper like Lowenstein should take the risk of that last interview. I wondered if he had his own little glimmer of fairness, the great god Minimax telling him to brainfix me while somewhere he still felt he should give me a chance. A chance to die the clean way under Keeb’s or his own gun if I could be pushed into making a move; a chance that backfired when I moved too damn fast?

Certainly the dead general had worn a very odd-shaped smile.

A tall scientific fellow called Winkel was vapping about MT and nullbombs when there was a second and smaller disturbance: somebody came in breathing hard, with a slip of that orange-barred paper, and laid it on the long table. The three StraProgCom members looked at it for a long while, and then took their turns to squint suspiciously at me.

More days and witnesses came and went, each witness standing in front of the silly chair in the middle of the room: no one ever sat in it that I could see. A procession of folk with glasses from Monitoring & Archives reported on everything audible that Rossa or I had said in our well-bugged room, and admitted that, actually, we hadn't been heard to shout, "Hey, let's kill General Lowenstein." Finally the prosecution man ran out of witnesses and sent an icy shock through me by throwing in such phrases as "a clear case" and "must be found guilty and sent to the firing squad." Somehow the awful boredom of the court had deadened the thought of what might come afterward.

Pareto smiled at me, stood, shuffled papers—and again a flustered messenger moved quickly up to the long table with a sheet of orange-striped UTS paper. The woman stared at it, frowned, smoothed her graying yellow hair. The men read it in turn.

Pareto coughed, and said in a tired voice, "This court has no jurisdiction. Lieutenant Jacklin is an accredited ambassador possessing diplomatic immunity." He went on for some time, and before he'd finished, a third messenger with a third sheet of UTS paper was waiting at the long table like a dog hoping for scraps. "Two minutes," I heard the older man tell him with a stop-bothering-me wave. Whisperings behind the long table.

"Captain Pareto," said the woman at last, "shut up." Sinking feeling. "We agree. The case is dismissed by this military tribunal although it may later be reopened by the civil government. Court closed." She bent again to the papers. The room began to empty.

"How come?" I said to Pareto as he passed.

"What? Come on, this inquiry was a farce from the start. Partly catharsis, mostly a way of looking officially into Lowenstein's activities without the uproar of a full inquiry about *him*. You should have known you were out of danger when they focused on what *he* 'd been doing lately."

"Yes," I said feebly. "...Thanks."

He shook hands with me, greasily.

Rossa was back in the room. The prosecutor had gone. Pareto was going. The three were standing now behind their table and the woman was saying, "Come here, please, Lieutenant. Lieutenant Jacklin, could you please come over here—You too, I suppose." The last bit was for Rossa.

When we'd come: "Congratulations on your legal victory, I suppose, Jacklin. You needn't worry about a retrial—as a diplomat." (Rossa patted my arm, smiling wide.) "No time for that sort of thing, woman. Look. Something strange has happened. It concerns your damned craft—No, Greg, I'll take the responsibility. I want their reactions to this." She slapped down the memos. We bent over to look at them, a strange curdled feeling growing in my stomach...

The first said, after the usual headings: *Earth envoy craft radio activity logged 15:53 6:04:95. (1) beamed signal into outer space (2) general transmission as follows: "Attention attention attention. Earth expeditionary craft calling Beta Corvi II. This is a planetary broadcast. Please relay. Regular MT disturbances have continued in this locality without pause in the generous*

period of grace since the previous warning. We regret the measures we must now take. We draw your attention to the point in space which on the mark will be at zenith at a point 37.8 degrees from this craft's location in the direction of planetary rotation, latitude 8.5 degrees north. Mark. Our ambassadors were necessarily ignorant of this emergency measure and should not be censured in what time there is left. This message will repeat. Ends."

"You didn't stop the MT research," I said, and it wasn't really a question. The room was cram-full with all the ghosts that had peeped out at us since the start; the final contingencies, and whatever else Corvus Station was built for, and DEVOURER.

The woman said, "We gave strict orders that the Center should only monitor in case of unauthorized New African research."

"I heard that once from Lowenstein—and the other thing he said was how you made waves in, in whatever MT makes waves in—every day—calibrate the monitors—oh bloody hell."

"I don't quite understand," the older man said, rubbing the bald top of his head. "The calibration bursts are perfectly safe and involve no new frontiers at all. Or so the scientists insist—is Winkel still here? Surely it was dangerous *original* research you're supposed to have warned us about?"

A feeling of frozen horror. "Yes, but..."

Rossa said, "The computer up there cannot tell the difference, I'm afraid."

"Look at the next one," said the woman.

Urgent message extremely repeat extremely intense A/P burst monitored 15:55 on instrumental monitors here stop more unique than any previous disturbances almost stop query action if any to be implemented stop detailed computations follow stop colonel (sci) blair end.

"Illiterate oaf," the woman murmured with a sort of objectless anger. "'More unique'..."

I let her finish and said: "Did you *feel* it? A kind of twitch in the air? You remember, I saw you blink, and the clock was 15:55 or something like that—"

"What does this mean?" said the younger man, looking ready for bad news.

"It means," Rossa said slowly, "...it means they have set an MT weapon against—this whole planet, perhaps. I'm only surprised we're still alive here and talking."

The third memo...

Preliminary results priority satellite observation stop something there all right stop rad and forward mass detector triangulation gives rough distance 2e6 km rough mass 4e12 kg stop apparently small hot source emission peak in gamma stop no detectable proper motion wrt pallas stop investigation continues stop overlord ends.

"Maybe we ought to get that Winkel fellow back," I said, more to give me thinking time than anything else. "He'd understand this science jargon."

The woman said coldly: "I understand this science jargon, thank you. There is an unknown object two

million kilometers distant, weighing four million million kilos—four thousand million tons. Roughly.”

I mentioned how I’d read somewhere that the Great Pyramid, quite a hefty bit of work, weighs in at around five million tons. Eight hundred of them would make a fair pile. Rossa looked startled as I said this; the StraProgCom woman carried on.

“The lack of proper motion with respect to Pallas—that’s motion perpendicular to the line between Pallas and this object—indicates that if it’s moving at all it’s either moving directly away, or—“ She looked at me hard.

“If anyone thinks it’s moving away I’ll take the bet all right,” I said. “It could be a mite hard for me to collect, though.”

A present from Earth was coming. But how the hell had they done it?

Twenty-Seven

It was a fast walk to the War Room, with the StraProgCom folk in a hurry but too formal to run; we strained like people trying to hit top speed in a walking race without breaking the rules. Half my mind picked up introductions as the woman decided that with all our Utter Top Secret insights, a few names more or less wouldn’t hurt: she was Fusco, the balding man was Smith, the young fellow who smiled was Ronder. The other half of me was crossing off ideas on an imaginary notepad ... it wasn’t a jammer because communications were fine, it wasn’t a nullbomb or a peephole into the sun because it *stayed* there and it was *heavy*. Only: if it massed in the thousands of millions of tons it wouldn’t, it couldn’t really be standing still in space. It would be falling.

Guards trailed us down the corridor, not looking sure whether we still had to be guarded. They acted like a London dog pack wondering if it’s safe to attack. By my side Rossa said, “I used to know my way around in physics ... Assuming this planet were the same as Earth, which I suppose approximately it is, couldn’t one make a guess at how hard the thing would hit? Half the mass times escape velocity...”

Fusco looked over her shoulder without breaking step. “Approximately is the word, and personally I wouldn’t trust mass detector readings at this range. The figure you want is about 2.5 times 10^{20} joules.” She cut off the conversation by swiveling her head forward again.

“Impact energy,” I muttered, trying to turn the figure into a scale I could understand. “Say sixty thousand megatons. Wouldn’t want to stand underneath.”

“Ken, there is something peculiar about this. That’s not a patch on that dreadful nullbomb explosion. Don’t you see?”

“It’s funny all right,” I said. Somewhere at the back of my head, half an idea was wriggling...

The War Room looked like an ants’ nest five seconds after you’ve put your boot through it. I spotted a familiar head, red hair receding and fading to pink: Winkel had arrived before us and came scurrying with the latest bad news. The big screen showed a star pattern with an overlaid red arrow aiming at one light-point more or less centered, and in small letters across the base it said SIMULATION. I wondered what good that did anyone.

“Corrected mass estimate 2.1 times 10^{13} kilograms,” said the neuter voice from over the screen. “Corrected distance estimate—“

“It’s falling,” Winkel said happily. “This is absolutely fascinating. I don’t think the mass figure is decisive yet, it’s been fluctuating all over the place—“

Still, I thought, let’s call it thirty thousand megatons, plus.

“Corrected distance estimate,” said the only voice in the room that didn’t sound excited. “1.98 times 10^9 meters. Trend of corrections suggests a slowly but steadily decreasing distance. Please stand by.”

Winkel was rustling a dozen sheets of printout. “—tell you I’ve never seen anything like it. It’s hot, *damned* hot—this is a blackbody spectrum peaking up in the *gamma* for God’s sake, Lydia, still a point source as far as any of the instruments can tell, I mean it simply defies *logic* ...” He started punching buttons on a tiny calculator.

“Corrected mass estimate—“

“Jacklin, Corman, come here again,” said Lydia Fusco. “I take it that whatever’s happening out there is the final measure of your appalling government. The immediate question is, is it a final warning or simply final?”

“You’re on the record, if I remember rightly, with some mention of a minimum-loss-of-life strategy—unquote,” said Ronder.

I felt annoyed with Fusco for having slipped halfway to the idea I’d caught squirming in my own head a few minutes back. “You mean they could just be letting you know what they can do? I’d thought of that. It makes sense—whatever it is, I’d reckon you’ve got a chance to deal with it before it gets here.”

More people with that look of authority were coming our way across the room.

Smith said: “Might the thing—call it UFO, unidentified falling object—might it not be manned? We hardly dare attack it if that’s the case.”

Winkel snorted. “Not likely—sir. Look at this.” He waved the calculator; its display area had a lot of numbers showing. “Surface temperature something times 10^9 kelvins. If there’s anyone alive on the UFO, they’re dead.” He threw out a smile to make sure everyone knew this was a joke; the smile went rigid and fell apart before it had got far. Fusco stared at him with a kind of friendly exasperation. “G-type stars average 6000 degreesK surface temperature, that’s all. I wonder why we aren’t dead as well? It can’t be very big...” A back-to-the-drawing-board glaze went over his eyes and he poked again at the little calculator.

“Corrected motion estimate: to a first approximation it appears that object is accelerating toward a point further along Pallas orbit. No evidence of powered course alteration. Acceleration wholly gravitational, probability 85 percent. First estimate of time of nearest approach 800 hours plus or minus 50 percent. First estimate of direct collision probability 60 percent plus. Please stand by.”

The important-looking men and women had got here now; the crowd was breaking around our group as though it was a rock, such a dangerous rock you sailed well clear ... In the lead there was a small, wrinkled woman who looked very tired and had more fancy ribbons aboard than anyone I’d seen except Lowenstein.

“General Skene, acting StraProgCom chairman,” Smith told us quickly.

Skene said, "I think we have a quorum here. May I ask you for a swift decision on whether or not to take immediate action against this UFO? We have a special weapon reserve after all ... I personally favor this course of action."

There was a quick murmur of "Aye ... Aye..." from the others, though not Winkel. He whispered something that might have been: "Lydia ... no..."

"Very well. We have at least 400 hours. Please direct that the 'nullbombs' be demounted from the emergency missile flight—"

Ronder looked embarrassed suddenly, and shuffled nearer to me and Rossa. "Afraid Lowenstein insisted on doing that as, um, a final strike capability. Assure you I voted against the proposal..."

"Corrected thermal characteristics report: object is apparently emitting blackbody radiation peaking in gamma radiation band, power level on the order of 5 times 10^8 watt steady output. Optical sighting report: *Overlord* satellite observatory visual scan cannot resolve body, which appears a point source at all magnifications. Visible emission intense blue-white."

The sudden StraProgCom meeting had broken up into muffled conversations. Fusco was saying, "No. There's no point in giving detailed orders --*they're* the experts in extraorbital work. Just shuttle the nullbombs up there and tell them to hit that bugger as soon as they possibly can."

"Give them the tools and they'll finish the job," Rossa murmured. She'd been so quiet I'd almost forgotten she was there. "I rather suspect, Ken, this is more of a problem than our friends realize. There is something very, very wrong with the physics of this so-called UFO, don't you think?"

"Christ, I wouldn't know—what is it?"

Rossa smiled a little, though only on one side of her mouth. "I've no idea at all; but if one really wants to know one should ask a physicist." And she pointed a finger at Winkel. Now I looked, I could see he was sweating, and gnawing on his lip as if it were chewing gum, punching harder and harder at his tiny keyboard. Every so often he'd shake his head furiously, glance at Fusco (who was watching him with a worried frown), and shut his eyes before starting all over again.

When the physicists get that bothered, maybe it's time to head for the bunker.

Fusco: "I don't suppose you two have anything to contribute? Still seem to be some, well, areas of uncertainty? Please?" She sounded ready to start shouting.

I said, "I've had a quick think about the MT gadgets I know—none of them seem to fill the bill at all. Could be it's something new altogether."

"MT devices," Rossa said slowly. "The 1.9-centimeter gate—Look, suppose the method were to connect two places with one of those gateways, with one place deep inside a blue-white sun. The power and radiation would come streaming through—"

"The sunbeam, yeah," I said. "That won't work, though, this thing's bloody *massive*."

"Well, isn't a sun massive—yes, I know, much *more* massive. What I wanted to suggest was that perhaps when you look at a solar-sized mass through a small peephole, it seems relatively small because

one only ‘sees’ a tiny, tiny part of it. Could that possibly work?”

“Hey, yes, maybe,” I said.

“That’s very ingenious,” Fusco said with something of a frown, thinking about it.

“But it won’t work, Lyd—Major Fusco,” said Winkel, who’d stopped his compulsive button-pushing to listen in. He sounded disappointed. “The temperature is*quite* incompatible with that. It’s whole orders of magnitude above any conceivable solar level.”

“One of the things I do know about AP/MT gadgetry is that it messes up the laws of physics,” I told him. “Maybe they don’t apply to that thing out there.”

He looked at me as though I was an interesting specimen of Neanderthal man.

“Corrected motion estimate: acceleration is wholly gravitational, probability 95 percent. Corrected estimate of time of nearest approach 550 hours plus or minus 15 percent. Corrected estimate of direct collision probability 75 percent. First estimate of probable collision zone: equatorial. Please stand by.” The useless star map blinked off the screen and a display of about a hundred changing figures came on instead.

“Even if that notion couldn’t work, it was ingenious,” Fusco said. “Any more where it came from?”

All my memories of Tunnel, where the clues had to be if there were any clues, seemed to have jammed together and fused on the far side of that horrible gulf of pain. I hated thinking back that far. Instead: “Remember DEVOURER,” I said. “The thing was set off from the orbital station, you caught the signal. We found a program in the banks there—there were half a dozen with fancy names, locked against us. One was DEVOURER, and I know the guy who set up a lot of this likes clever code names.”

“Cleverly meaningful names,” said Rossa.

“Hm,” said Winkel. He stuffed the calculator into his pocket and stood there rubbing the thumb and two fingers of his right hand, not looking at anything in particular. “Hm. But that’s ridiculous. No ... Could I have another look at the second interrogation transcripts, somebody? There was one item there—“

“I’ll see to it,” said Ronder, who’d been hanging around in an edgy sort of way, not looking sure of what to do. He went.

“This is what they called grasping at straws, I suppose,” Fusco said. “At least our counteroffensive should be inarguable—no matter*what* sort of anomaly is involved, a teraton-level explosion can’t help but knock out the apparatus.”

“If there is any apparatus,” Winkel said, speaking from a long way away.

“I don’t like that talk,” said Smith nervously. “If something goes wrong we’ll all be dead.”

Rossa looked sort of dreamy. “I remember...” she said. “You mentioned the pyramids—well, it’s from the Egyptian Book of the Dead. ‘Behind Thoht stands the female monster Amam, the Devourer, or Am-mit, the Eater of the Dead ... She has the forepart of a crocodile, the hindquarters of a hippo and the middle part of a lion.’ Which is, of course, as utterly irrelevant as anything can be.”

She's flipped, I thought.

"A myth," said Fusco like someone saying "A heap of dog shit."

"No personal reference was intended," said Rossa. "The Devourer, Ken, waits to eat your soul if your heart should fail when weighed against the feather of truth. She waits for each and other, she waits for all men born ... *I am* sorry. I'm talking sheer nonsense. The atmosphere isn't exactly soothing."

The buzz of talk in the War Room was getting louder as figures flickered and changed on the big screen. We were all on edge. If we'd known what the damn thing was, even eight hundred Great Pyramids coming down right on top of us ... it would have been easier. Everyone's afraid of what they can't understand, and the more you heard about this "UFO," the weirder it seemed.

Ronder came back and passed Winkel a wad of UTS paper, without saying anything. He squinted up at the big screen and mopped his face with a handkerchief, whether because he understood the figures or because he didn't, it was hard to tell.

"If only it *makesense*," said Smith as though someone were slowly twisting at his balls.

Winkel turned over the pages. The dead machine voice narrowed down our life expectancies to a bit under 500 hours (plus or minus 10 percent). General Skene came wandering over to mention that the "special warheads" would be up at the *Overlord* station in a shade under fifteen hours. Winkel stopped, went back a page. Did we all stand here for 500 hours plus or minus 10 percent, waiting, or was there any chance of something to eat? The anthill crowd was thinning out now; maybe the word had got around that StraProgCom had made its decision so everything had to be just fine...

Then Winkel let go of the UTS interrogation report and it went whirring to the ground like a lurid orange-barred duck. (Smith bent to pick it up, giving Winkel reproachful looks; in Smith's world you didn't do that sort of thing with UTS papers.) He got out a notepad and scribbled; he looked up every so often and seemed to be copying from an invisible reference book about halfway up to the ceiling. I could see the long S of the integral sign here and there on the notepad. Then, at last, when he was presumably sure everyone nearby was watching, he nodded his head with vast emphasis, and looked around.

"Next," said Rossa softly, "he will tear off his clothes and dance naked about the room, shouting 'Eureka!' at erratic intervals." I grinned at her. This was Winkel's big moment; let him enjoy it all he could.

"You're on to something, Chris," Fusco snapped. "Let's hear it."

He started to look not so pleased with himself as (I guessed) he made the connections between his lovely mathematical pictures and the mess in the real world. "Oh dear," he said. "Those nullbombs." He bent back to the notepad and scribbled more figures. The result didn't seem to make him any happier.

"We might as well forget the nullbomb attack for a start. If I have it right, a million-megaton energy release at one-meter range won't transfer enough energy to this thing to, to light a match. I make it about ten ergs. The nullbombs are futile."

Fusco simply looked angry. Ronder said, "What is the UFO?"

"Jacklin was right. It's a devourer. It's going to eat us all and we can't stop it. Major Fusco, you know

your physics—what’s as near as dammit a point source and still weighs about 2 times 10^{13} kilos?”

“Doctor Winkel, I am not here to play games ... Oh, I suppose a black hole would do it, approximately. No such thing as a true point source in nature. Look, that thing out there isn’t black.”

“Excellent,” said Winkel. “A black hole. A body so massive and dense that even light cannot escape from it, unquote. You gave me the clue, Jacklin, and thank you very much. Remember? Your interrogation where you, er, revealed that the Earth project had discussed the affinity between minigates and black holes? I do wish I could talk with those people. No doubt one can home in on a black hole rather as you say your people homed in on our own MT work. Risky business, I should imagine!”

“Winkel, darling,” said Fusco gently, “you need a rest. The UFO is not black. The UFO is putting out hundreds of megawatts of radiation. Would you like to lie down a while?”

Winkel sniffed. “Some people are *centuries* behind the times. Hawking showed way back in the 1970s that small black holes are *not* black. 2 times 10^{13} kilos is tiny—a black hole that size had radius around 3 times 10^{-13} meters. That’s small enough that there’s a definite quantum uncertainty in the event-horizon radius—energy comes leaking out like crazy! (That’s not a rigorous treatment of the problem, mind you.) The effective surface temperature works out on the order of 10^9 degreesK, which checks very nicely with the observations. It simply has to be the answer.”

“It’s not the answer,” Fusco said. “It’s the problem. Will this—I can’t call it a black hole, it sounds ridiculous—will it all have leaked away before it gets here? It can’t have long to go with an emission rate like that.”

“I worked that out too,” said Winkel as if he were apologizing to her personally. “I make it around 10^{13} years lifetime. Roughly.”

“Then what the hell’s going to happen?” I asked. “What was that about the nullbombs again?”

“The area of the target, so to speak, that’s the problem. This object is about 3 times 10^{-27} meters in area—we can’t come near the energy densities you need to throw anything significant into an area that small. As I said, a teraton explosion at one meter’s range would transfer something like ten ergs. All the rest wasted on empty space. Piffling.”

Fusco looked shrewd. “There’d be a gravitational focusing effect, though.”

“Negligible, I think, in this context,” said Winkel sadly. He sketched out the rest of the picture for us and it kept on getting grimmer with every new line. The object would fall clear to Pallas and hit at something much less than escape velocity. Its pull was over 135 gravities at one-meter radius, so it would happily scoop out a tunnel for itself and carry straight on through Pallas without stopping. By the time it got through, on a curved path because of the world’s spin, it would be one hell of a lot heavier from all the mass it had sucked in. It would swing out and fall back again—and again and again. Every time it passed through it was going to be a happier and heavier black hole; every time it passed through it would be a good bit cooler because (I didn’t quite see why) bigger black holes don’t leak so much as little ones—sounds just like people and toilet training. After a few swings it wouldn’t even come above ground—just orbit inside Pallas gobbling away like a maggot in an apple. When it was bloated enough it would settle dead center and let the planet fall in on it. The happy ending was going to be when the hole had finished Pallas and got quite cold. Then, Winkel said, there’d just be the hole, a little moving blot in space not quite a centimeter in radius—a happy hole because now it would be big and nonleaky enough to last approximately forever.

So it was all planned—a happy ending for the hole but not much of one for Winkel and Fusco and Rossa and myself and all the other people and things on Pallas that were just more tasty mass as far as the DEVOURER was concerned.

“Technically, of course,” Winkel said, “technically it should be possible to feed a massive electric charge into the thing—from accelerators, you know—and *manipulate* it electrostatically.”

“Can we do it in—what’s the latest figure -- 495 hours?” Fusco said.

“Certainly not.”

“Then it’s by no means a final *warning*. It’s final, absolutely final. *Damn* every single one of your fucking people,” she shouted at me, Rossa or probably both of us.

What I had to say then was just too obvious for words—something Winkel wouldn’t have thought of but something Rossa and I had been forced to think about more than we wanted. I had to get myself braced against disappointment before I said it...

Rossa said, “How *big* did you say this object was?” She’d beaten me to it. I caught her eye and winked to let her know it had been a close thing.

“Radius approximately 3 times 10^{-14} meters. Almost invisibly tiny; a point source or nearly so ... say, ten times the size of an electron.”

“Then,” (she grinned at me) “I think Ken has something to tell you.”

I wanted to laugh—gallows jokes again, or something. But I asked it.

Winkel thought for a little while. “Impossible,” he said finally, and shook his head.

Twenty-Eight

It certainly is a wonderful thing, that minigate. Ellan used to claim someone had once used it to commit murder in a locked and sealed room. Wui and Lowenstein had loved the idea of pouring bits of sun through the hole. And we knew all about what it could do in the way of second-class travel ... Now Winkel had worked out a new trick—only the Tunnel staff had thought of it first.

You take a version of the minigate apparatus, the large-size tunable one they used in Tunnel, and you point it (or you tune it—Winkel wasn’t 100 percent sure) at a black hole. There are a good many black holes lying around in space, thick as potholes on the old North Circular Road, only you don’t see them on account of their being black. Distance is no object with the minigate, and your hole can be dozens of light-years away ... but if you’ve any sense you don’t do this trick from your own lab. That was one MT mistake no one on Earth had ever made—I knew that because Earth was still there when I last looked. What you do to make sure your planet stays there is to build the apparatus way out in space. You might even do it at two removes—double-safe—by first building this silly great spacegoing factory (which will come in handy when you want to send out a couple of suckers) with an outsize airlock. The DEVOURER package sails off into the dark; even if Corvus Station gets smeared it’ll still be out there, ready to fail-dangerous.

It’s one hell of a neat way to sweep your problems under the carpet if people won’t stop MT research

when you tell them.

The small details of the difference between homing in on a big black hole and conjuring up a tiny one ... that was where Winkel was guessing, but it made sense. The minigate comes on: all right. Two zones of space are joined together by a 1.9-centimeter peephole, one next to the MT apparatus two million kilometers out from Pallas and the other inside a big black hole, an old collapsed star a few kilometers across. What happens then, Winkel guessed, is something called the law of cosmic censorship that says you can't see into a black hole. An event horizon, the hole's outer surface where light just fails to get away, starts to form across the minigate opening—so it tries to be a dead black disc. But long before *that* can happen, gravity goes crazy, black-hole gravity leaking through the gate. The generating apparatus breaks apart and gets shredded by gravity differences as it falls into the hole, like the famous oozelum bird that flies around in ever-decreasing circles until it vanishes up its own orifice. So the contact's broken before the event horizon is quite formed and it's "as you were"...

...except that even a partial event horizon can't just vanish

"A very unscientific way of putting it," Winkel said critically, "would be to say that part of the black hole is nipped away when the gate closes, as though the gate were a closing cigar cutter. Think of that, nipping a piece off a black hole! It collapses into spherical form and there you are. The proper laws of physics are back in charge, and a good thing too."

And what's left is a microscopic point in space that you can't even get near, that'll roast you with its energy leakage and rip you apart with its gravity slope before you ever come close. The DEVOURER.

"I don't believe a word of it," said Fusco, twining her fingers into knots.

"Try telling that to the thing up there—no rush," I said. "We've got an appointment with it in 494 hours plus or minus a bit. How about something to eat?"

"Corrected estimate of direct collision probability 93 percent—"

"It's impossible to *think* in here," Fusco said while the dead voice was still telling its tale. That sounded a mite unfair to her good friend Winkel, who seemed to have been thinking rather effectively. "Suppose we can't fight this thing on an empty stomach. Ronder—"

By now I had young Ronder pegged as StraProgCom's errand boy. He was told to cancel the nullbombing run and have the nasties stored on arrival at the *Overlord* station, pending instructions. Come to think of it...

"I guess we haven't time to send a few more people back to Earth, the second-class route?" I said to Rossa. "If this place is all washed up—"

"That would depend on Tunnel opening the door from their end ... if Tunnel still exists. And now we know what ultimate unpleasantness they had in store, I really cannot see them taking the chance. They never spoke of opening the gate again, remember, or of any return journey. Their game-theory experts will be advising Central never to risk what Pallas can do now for revenge..." Her dark eyes met mine, in a brief silence; then Fusco snapped her fingers as she left the War Room and we followed with Winkel tagging on behind.

"Mmm, yes," I said. "If they warm up their MT rigs now, someone could home in, start the whole Corvus Station racket in *the* solar system, nullbomb the planet, the lot."

“As things stand there’ll scarcely be time,” she said. “So that won’t make any difference. Ken, I’m still clinging to the hope that this isn’t *necessarily* the end of everything.”

“Nice to know that. Any chance of hearing why?”

“Three things really,” she said as we swerved into the long messroom. “A minimum loss of life strategy, the thing Winkel supposes is impossible and the thing even Winkel doesn’t know. This ... this ouroboros *plancould* still work. But I’m terribly afraid. If by some impossible chance we should survive what’s coming ... I refuse to face going back to my old hell in Communications. No—don’t ask me any more, not now.”

It was a grim little party at the table; Fusco, Winkel, and ourselves, holding the wake in advance. Most tables were empty; most people were rooted in the War Room watching the screen the way rabbits are supposed to watch a snake sliding in for the kill. If it had been a rock we might have nullbombed it, if it had been a rock we might have survived the impact blast if it struck anywhere not bang on top of STRACEN-1 (and wouldn’t *that* have evened out the war balance?) ... but the mass of hundreds of Great Pyramids was squeezed into a deadly mosquito too small to swat, far smaller than a mosquito. Hell. Fusco was shoving mounds of food down her, wanting to rush back there and stare at the snake-eye figures on the screen; Winkel looked almost sick after his big effort, and picked at vegetables without touching the greenish fishmeat at all. His eyes and Fusco’s kept meeting across the table, and then sliding away. I was in no mood to let him rest...

“OK. Now why, in detail, was that idea of ours impossible? Why not use the minigate from our craft against this thing?”

“Oh ... dozens of reasons. You can’t get near enough. Gravity—by the time you get to 10-centimeters approach the thing’s pulling with getting on for 1400 gravities. Radiation—the last power output figure I saw was over 700 megawatts, and peaking in the gamma too. Interesting to think it can radiate on wavelengths greater than its own diameter, like a radio aerial ... Communications is my third reason. You’d have to radio-guide a device such as you suggest, or possibly use a modified brain missile, if only for course corrections. Those brains can strike within a meter of their target, but you’re asking a damn sight better accuracy than that. Where was I? All the wavebands swamped in that hellish emission, hard radiation to degrade any machine brain ... Did I mention the pair-production problem? Plenty of those gammas are energetic enough to form electron-positron pairs in the middle of your volatile memory. As my military friends like to put it, pow.”

“But ... shielding...” I said.

“Last and worst,” Winkel said with an evil look, “the jamming effect you’ve already told us about. A final spoke in the wheel for any electronics near your MT rig.” He sipped water as if not particularly interested in this tedious problem, not any longer.

I had all the pieces then, and from Rossa’s strained unhappy face it seemed she’d already put them together. It was like one of those I&I courses, initiative and intelligence, they used to run in Force recruit screening. Days and days of half-witted tests, sorting out prospective Combat from prospective Admin, Psych, Supply, Comm, the rest; you’re running around with a big plastic badge shouting your name to everyone, and they grade you all the time, even when you’re eating and probably on whether you snore. The tests proper, though, were things like this:

You’re put in a room. The instructor says, “You are only allowed to use the apparatus supplied by the

Force. I shall be watching at all times. Your task is to tie together those two pieces of string hanging from the ceiling—without at any time pulling them down or otherwise damaging them. Start now.” It’s nearly a bare room, you see, with these two strings hanging down to about waist level. You take one by the end and hold on with one hand while you stretch the other hand as far as you can toward string number two without letting go of string number one. You can’t quite reach it. The instructor makes a note. If you could leave string one hanging at an angle in the air while you went to fetch string two, the thing would be easy. But of course string one falls back the moment you let go. If it was good stiff rope you could set number one swinging, go for number two and catch number one at arm’s length when it swung back your way. But this is rotten, lousy, limp string. (They tell me some people take half an hour just thinking of the swinging idea.)

All right. You’re a fool. What you should have done was look at the “apparatus supplied by the Force” *first*, and the instructor would have given you more points. You look at it. There are two pieces of apparatus. One is a feather. The other is a weight labeled *25 kilograms*. First thoughts: hang that on the string and it’ll swing like a pendulum. Second thoughts: that’s the weight of a sack of damn potatoes, put it on the string and it’ll break. Third thought: you haul on the weight to make sure it really *does* weigh 25 kilos, and the instructor gives you points for checking. The feather’s no good, it’s only ten centimeters long and the string would have to be a meter longer to be any help. Crazy thoughts like stealing the instructor’s note pad and tying *that* to the string to make a pendulum weight. Instructor’s looking at his stopwatch again. He knows you’re stupid. Long pause. Apparatus supplied by the Force—oh the cunning *bastards*. And if you’ve thought of that in time, you whip off the plastic name badge and tie it to string one—set it swinging—and so on.

The idea is, they said afterward, you’ve got to be able to recognize all the resources when a problem comes up—and then you have to decide which resources not to bother with. Here, now, we had nullbombs, spacecraft, hordes of satellites, orbital factories, Corvus Station and *Overlord*, the research center and STRACEN-1 and whatever else in the way of resources there might be on the rest of the world ... and something over 493 hours. Push the bits of problem about. Which ones fitted into something that made sense? No sense came. Which resources, you stupid trainee, have you failed to recognize? Blank. I knew there were people around me but I didn’t notice them, as things whirred like broken clockwork in my head ... Nothing. But just as I began to relax, ready to give up for a moment, I remembered CommAux and the dream/ hallucination I’d had in the transit or after it. For good-enough reasons we didn’t use brain missiles on dull old Earth. And: General Lowenstein put too much trust in machines. And: What resources have you failed to recognize?

That was it. I wanted to say to Rossa, “You cunning *bastard*,” only she mightn’t have understood...

When I looked up they were watching me, plates empty; even Winkel had tackled his fishmeat at last. Mine was cold. “We can do it,” I said slowly, and saw a terrible sick realization on Rossa’s face. She’d gone almost the foul color of the fishmeat. Then she closed her eyes ... opened them again ... and smiled.

“Expound,” said Winkel. “Hold forth. Explain. For God’s sake man, don’t just sit there looking like it’s the end of the world...” He thought about that and flipped one eyebrow up. “One does find oneself saying these things.”

“If you’ve thought of something it’s your duty to discuss it at once,” Fusco said rather loudly.

“There’s time, I think, plenty of time. Whatever happens we’re going to need a shuttle—so you take ten minutes getting one arranged while Rossa and I have a private word about *our* plan. No questions.” I found I rather liked ordering top brass about. I saw how it could get to be a habit. “See you in the War Room.” Rossa and I got up and headed across the gravy-colored floor to the exit. At the door we found

Keeb coming in: he blinked when he saw us, then stuck out his hand. I shook it.

“Congratulations, of course. I knew Pareto was a clever sod; he loves a surprise. I could tell you—But this black hole business, I had an idea from the interrogation transcripts. (Really put you through it, didn’t they?) Suppose, just suppose, you could use the 1.9-centimeter gate that’s still aboard—“

“Join the club,” I said.

“There’s Winkel, all alone at his table,” Rossa said. “He’ll tell you precisely why the thing is impossible...”

In the corridor: “Sorry,” I said. “I know I’m forcing your hand a bit.”

“All right, I’m being selfish. I keep trying to make myself tell them how my talent can bypass all Winkel’s communication problems ... I keep trying, but there’s this awful thought that we might succeed. And then, forever, for the rest of my life, they’d want me in their version of CommAux—back in hell with those Morse messages of pain running through and through me. That’s selfishness. *Your* risk would be much, much greater—and, you know I’ve come to like you. I expect that’s selfishness too. And the alternative might leave us as war criminals...”

I put a hand on her shoulder. “Listen. Like they say in the gags, I’ve got some good news and some bad news. The good news first; only it’s not news: they’re good on physics here but their biology’s lousy. Remember? They couldn’t make that sensitizer juice if we tattooed the recipe on their forebrains. You transmitting to me is just a freak case, see? It’ll wear off, say, five minutes after the job’s done.”

“But the serum’s effects can last—oh. Thank you.”

“Bad news. You’re about to get blackmailed. Whether you’re going to help or not, I’m trying all I can to make that drop. Chances aren’t that good, but it has to be better than sitting here waiting for It to show up in the sky. Winkel reckoned it’d cover the last few thousand kilometers in under ten minutes...”

Rossa wrinkled up her forehead. “I wanted to have *time* ... make the decision for myself. You’ve forced it on me now—and I’ll never know if I would have done justice to myself. Ken: you’re a chauvinist beast. I hate you.”

“Pity. I was just going to say I quite liked you too. In a sort of selfish way, of course.”

Somehow, without any reason for it, we were wrapped around each other with a kind of desperation as though we were huddling against subzero cold. For a minute, two minutes, we stood like that in the bare white corridor on sublevel 6 of the most secure fortress on Pallas. Twice I heard footsteps, and they speeded up no end as they passed. I felt very different from that other Jacklin who wasn’t too sure of what you did in a cathouse—

Back to the War Room. We’d decided without having to say any more words. I was going to be a damn fool hero and take on the DEVOURER with my bare hands, sort of, and Rossa would shout useful advice all the way.

“Winkel thinks in terms of mass, length and time—machines and never people,” she said on the way back, echoing what I’d thought about Lowenstein. “Otherwise—No. It’s best that we tackle this thing ourselves. Politically, I mean.”

I chewed that over, not wanting to look stupid. I was still chewing when something else popped up in my memory. “One thing,” I said by the War Room door. “Why the hell is it an ouroboros plan? You called it that, or something like that, maybe an hour ago...”

“Oh, that. You soldiers are *so* uncultured, Lieutenant Jacklin. Ouroboros is the great serpent that coils around the world and bites his own tail.”

“Where do snakes come into it?”

“They don’t. It came into my head when I thought of fighting fire with fire—one MT *diabolus ex machina* swallowed up by another. You see?”

“Oh,” I said, “well, it’s probably just as good a way of looking at it as the ooze-lum bird.”

We went into the War Room together for the last time, and I couldn’t tell from Rossa’s face whether she’d ever heard of the ooze-lum bird. Now we had to explain it all to Fusco and Winkel and Smith and Ronder and Skene and...

Twenty-Nine

...I was falling head-down into the DEVOURER, locked up in the craziest spacecraft anyone had ever built. It had two moving parts, a mechanical swivel affair and Lieutenant Kenneth Jacklin. It was free-falling into the tiny not-black hole, in the same way *asthat* was falling into Pallas. Big fleas have little fleas on their backs to bite ‘em, and so on down ... There was a shaft running clear through *Birdcage*, which Rossa had called it because that was what this falling monstrosity looked like, and I was standing on the ceiling. The DEVOURER’s droptime to Pallas had been around five hundred hours, and three hundred of them had shredded away before I started my own slow fall. We were still more than a million kilometers out, me and the hole, but it had cranked up to something like a thousand meters a second and was still accelerating as Pallas reeled it in...

I’d separated from the good ship *Dragonfly* at a lazy walking pace, a kilometer or so out from that blue-white horror, and my drop-time was going to be something under seven minutes. You can get through a lot of thinking in seven minutes.

The first plan we’d had was to take Wui’s wizard’s staff out of Corvus Station, and simply drop it—with its eternal 1.9-centimeter MT gate—into the hole. Cleverer than it sounds, because if it fell dead straight, the hell pouring out of the hole would get shunted off through the gateway before it reached the potted circuits halfway up the pole; even a 1.9-centimeter disc casts something of a shadow. And in the last part of the drop the gravity would sort of lock the staff into a straight fall, one end getting pulled harder because it was closer, the rest trailing and holding it on course like the stick of a rocket. So the gate would come down like a candle-snuffer while the circuitry was still a good meter away, before the frightful g-gradient could tear it all apart (tidal force, Winkel called it). When it got there, the snake would gobble its own tail and the hole would fall through the hole ... if you see what I mean. You couldn’t rely on its working, though, because suppose the “staff” got turned around while it was falling? It had a long way to fall—even a kilometer away, the radiation was sleeting at dozens of watts per square meter, and no one wanted to get closer except fool Jacklin. If it twisted even slightly off the true vertical, then gammas and positrons would come sneaking around the side of the gate opening and maybe ruin the MT circuitry: blackout. While I was thinking about my old Force tests, I’d even had the idea you could lower the thing down on a kilometer of string—but how d’you stop it acting like a pendulum?

Boiling-oil pain washed up and down my arm, *pulse, pulse-pulse, pulse* in the old Force code. I wanted

to grab the arm and nurse it, but the p-suit I wore wouldn't let me. First course correction—so soon? *Plus 20 centimeters X axis, plus 15 centimeters Y axis* . I moved the right number of centimeters in the right direction along the grid painted on the ceiling/floor of *Birdcage* . This was nothing but a circular plate of hull metal with shiny steel rods set every half-meter all around the edge, holding it to the heavy part of this craft up “above.” Beta Corvi was beneath me somewhere, and its hard light showed tinsel-fragments floating in vacuum, threw up squatty shadows of the bars onto one side of the concrete disc overhead. It and the two yellow battery lights in the cage weren't so bright I couldn't see the starlight between the bars, all the lights green-tinged by the golden shielding of my faceplate. The rest of the furniture ran to a couple of slim machined tubes running from floor to ceiling, a few centimeters apart with a swivel to line either of them up with the handy 1.9-centimeter (plus) holes dead-centered in floor and ceiling. The one that was lined up now was the sighting tube, hollow and empty. On the far side of it from me, a big lumpy counterweight was fixed down to the hull metal. And up above, beyond a ton of concrete with a hole in it, a point of hell that should have been too small to see was burning away, waiting for me. Ten thousand times smaller than an atom. I stood very still, boot magnets holding me down—there was hardly any feeling of gravity, not yet—trying not to let my body lean or tilt and shift *Birdcage* 's center of mass before the next correction.

Center of mass ... It had been funny, the preliminary balancing in sync orbit—you could set the whole of *Birdcage* spinning in free-fall with the spin axis dead-centered and lined up with that 1.9-centimeter shaft that went clear through: and *then* they remembered me and how I'd be riding it down. Which was why, across the floor from me now, there was this ugly great counterweight balancing the Central Jacklin Position. In theory I'd move a little to start a tilt, then just as far from center in the opposite direction for the same time to stop it, and then back to center again. In practice it didn't work quite that way, because my drag on *Birdcage* kept changing as we moved closer and closer, faster and faster. Jacklin, the stick of the rocket.

There was a thing about that weight: it was the last piece they put into *Birdcage* , and whoever welded it there used his or her laser to leave a message in bright runny lines on the metal. GOOD LUCK, JACKLIN, it said. I needed it.

Oh, the fun we'd had convincing them about Rossa and myself. Fusco had frittered away hours, demanding tests, and more tests, and double-blind tests of Rossa's ability to throw her pain across space at me. “Trickery,” she'd said, and: “Radio ... accomplices ... muscle-reading ... coincidence?” All the while, a couple of million kilometers away, the Final Solution was drifting closer.

“I think we really must accept this evidence,” Winkel would say cautiously in the War Room after another trial, and Fusco would fly out at him like an angry cat. “Don't you get above yourself, Chris! The responsibility isn't yours!” And she'd demand some even more complicated test with locked rooms and secretly written-down numbers randomly generated by the computer; Winkel would take a deep breath, flick a swift apologetic look my way or Rossa's; I'd wonder again whether his “gullibility” made him a better or a worse scientist than Fusco. Then we'd all get down to the *next* absolutely final conclusive test, so Fusco could disbelieve it again. Meanwhile the computer voice reeled out its newest impact guesses, handy figures like a 90-percent probability of impact in the Eastern Ocean—as if the exact spot where the worm gets into the apple mattered a damn.

The hedgings and safeguards of those last tests were too silly to believe or remember. Suddenly Fusco's skepticism cracked wide open, and with Winkel egging her on she swallowed the whole ridiculous plan. Mere hours later she'd sold it to a quorum of StraProgCom ... which meant that at last we could risk our necks for Fusco and all the other Fuscos. Gosh, that really made us feel good.

...When you go falling a long way in space it's not like an ordinary fall. In the long drop the gravity

changes—inverse square law—the closer you come, the stronger the pull. The center of mass of this flying hearse was a meter or so over my head in that slab of steel-banded concrete that kept off the gammas; I was further away from Winkel's near-as-dammit point source and I wasn't being pulled in so hard. So far the difference wasn't much, but the ceiling where I stood *was* accelerating faster than I was, on account of its being welded and bolted to the rest of *Birdcage*. The feeling was of being pushed with a feather touch to the steel ceiling/deck: all the gravity pull was coming from the DEVOURER, but in a faint way, more a drift than a pull, “down” was definitely in the other direction. I wanted to laugh. I was falling up.

There was a carefully machined hole, lined with steel, that came through the concrete base, up through the hollow tube and through the matching hole in the plate I was standing on—a straight skewer hole running through the whole *Birdcage* contraption and its theoretical center of mass. Somewhere under my feet was a ship called *Dragonfly* as near a twin of *Silverfish* as makes no difference, holding itself dead-still in space as far as the DEVOURER was concerned ... That's not too hard when you've a handy computer and a gravity pull so low that you could go into stable orbit at less than 5 kph. On the ship they mostly couldn't see the blue-hot hole because I was in the way—if they hadn't been in my shadow they'd have been toasting gently in those few dozen watts per square meter of gammas and suchlike. But the hard rays did shine through that long narrow sighting hole, and made a hotspot somewhere on the ship hull, a hotspot that wasn't supposed to move even a fraction. We'd spent fifteen hours lining up and balancing *Birdcage* for its fall. If it tilted, the hotspot on *Dragonfly* would move and change as it got a different sort of light from the cloud we'd made around the hole, and the comp worked out what center-of-mass shift would correct *Birdcage's* fall, and Rossa told me in pain waves so I could walk my own mass this way or that on a painted grid that in my eyes was furred with visual static from the MT thing on board ... If the hotspot went out, then probably *Birdcage* had tilted so far that we were all dead. The others would have a long while to think about that. I only had a little over four minutes.

My left arm shrieked as Rossa did things with her bracelet. Another correction, and thank God it took me back close to where I'd started. Too many corrections one way, and sooner or later I wouldn't be able to move the center of gravity further. The bars would stop me and it would be the end of the world.

...Into space had been another transit where we didn't see the countryside. I had the thought that when this was over I'd like to lie for years and watch a blue sea sloshing to and fro. To lie watching those delicate greens in the sky, and try to forget Keeb's explanation about the green tints being from some mucky airborne algae. A tunnel with moving pavements whipped us from STRACEN-1 -- one way or the other, I guessed, we wouldn't be visiting that place again—onto a bare concrete airstrip with gray rain coming down like machine-gun fire, continuous lightning all around the horizon as though the laser barrage was fighting off another maximum strike. A smart, fast VTOL plane sliced through the foul weather, lifting us for too short a while into sunlight; at Port Island the half-repaired ruins were muffled in fog and we didn't recognize our shuttle till halfway up the ramp to the access lift...

I'd borrowed a lurid yellow p-suit, the one I was wearing now, and Rossa had a lime green one that fitted her. The trip down kept on unreeling like a film played backward until we were hanging on by the closed airlock of Corvus Station, twirling with its slow spin and locked outside until we thought of touching helmets against the acoustic pickup to shout the override words. After polished places like STRACEN-1 the station looked even more of a mess than before, which was saying a lot.

“We could stay safe in here and forget them all,” Rossa said with a smile.

“Till the eats run out.” Both of us pretended not to remember the heavy-duty lasers mounted on *Dragonfly*, hanging so lazily in space outside.

We repeated the override at the console; I unclamped Wui's magic staff from its safety blocks of explosive while Rossa put some queries about other MT cargo: "no other minigate devices aboard."

"Attention. Are there others, then? List, please."

"AFFIRMATIVE. ITEM: AP DISTURBANCE MONITOR, ONE. ANY OTHER ITEM OR ITEMS TOP CLASSIFIED, NO DATA AVAILABLE."

"Nullbombs," I called, threading my way back across the cylinder with the—gatepost, I suppose you could call it. One end hissed furiously, air being sucked into the ever-open 1.9-centimeter hole and making a cloud somewhere out there with the stars. "Maybe we ought to—"

The speaker went crazy, "GRAAAAAAAAAAK!" it shouted. The static noise drowned out the hiss of my handy spaceship vacuum cleaner. FACTOTUM twitched all its arms.

"Ken! Take *thataway*!"

"Oh bloody hell..." I ran for the airlock with the pole, to dump it far from the touchy computer circuits. As if I needed to be told what MT did to electronics, after the last few weeks. But before I came back ... there was one thing I wanted to try. In the twilight by the lock, keeping my eye well back for safety, I lifted the MT staff and looked directly into the 1.9-centimeter sucking hole at its end. All I could see at first was blackness, but as I tilted the pole this way and that I caught a glimpse of a star. There was one window in Corvus Station, after all.

"GRAAAAK. EMERGENCY STATUS. SYSTEM CRASH. HARDWARE FAILURE. PLEASE WAIT. ANY ATTEMPT TO INPUT OR TAMPER WITH SYSTEM AT THIS STATUS LEVEL WILL ACTIVATE PLEASE WAIT. RELOAD AND HARDWARE CHECK PROCEEDING—"

"What I was saying," I said when I got back: "We *guessed* there'd be a nullbomb self-destruct on this thing. Let's push it out of the way of traffic, eh?" (After that mistake, I wanted to change the subject quickly.) So when the system was operational again we told it to start drifting and to take up sync orbit in what used to be the neutral zone around the other side of Pallas. Nothing there to get hurt if Corvus Station took it into its microchips to self-destruct...

Before we left for what turned out to be the last time, Rossa asked a last question. "Attention. List in reverse order all major programs invoked in the last three days."

"AFFIRMATIVE. RELOAD. PASSWORD, PASSWORD, PASSWORD, DEVOURER, MTMONITOR."

"At least we were right about *that*," Rossa had said...

Through the thin bars of *Birdcage* I could see a vague fog, a haze of tiny lightpoints out there with the stars. As well as hauling the dead weight of *Birdcage* a million kilometers out, we'd brought extra stocks of the aluminum dust they used for radar fogging and soaking up laser bolts in open space. Tons of it were floating free to spread out the DEVOURER's light into decent target size, drifting in big swirls to the place where, as Winkel put it, curved space came to a point and the bottom fell out of the universe.

What you could see from the one-kilometer range was a pinpoint of hellish blue-white with a pale haze around it, like the ring you see around the Moon when a frost's on the way. The falling aluminum powder was all lit up by Beta Corvi anyway, and I couldn't decide if it was already a whole lot brighter from

backscattered hole-radiation. The idea of the dust was that when *Birdcage* did tilt, some light still shone through to *Dragonfly* from the glowing cloud around the thing itself—and the changing of the light spot on the hull was data enough to program the new course correction. I'd shifted ground four times now, getting nearer to one side of the cage. Rigid, bolt upright, trying not to think, trying to be a good moving part. The MT interference ran its spiky fingers through my brain. What kept me happy was remembering I was doing a job the computers couldn't handle, not without going GRAAK!

A minute left, perhaps? There'd be some real gravity—"tidal force," that is—in the last twenty meters, meaning the last just-over-a-second. That was going to be the worst time. Meanwhile, it was surely getting brighter out there. The word was that the A1 dust didn't have dense enough nuclei to scatter much really hard radiation my way. Feeling hotter might only have been imagination. But yes, it *was* much brighter now—the stars were fading away. Must be within two, three hundred meters now, going faster all the time.

I tried tongueing the switch of my suit's radio. "GRAAAAK!" it told me.

The machined tube that *wasn't* lined up with the holes above and below had a trigger mechanism about shoulder-high. I checked I could reach it easily, and swung the arm back fast before the tiny center-of-mass shift could do anything. Inside the p-suit I could feel sweat crawling under my arm. More pain. A course of correction so tiny I only had to edge centimeters sideways. Then another fast-coded sequence of pains in my arm that made me see Rossa's thin fingers dancing on the bracelet that hurt her so much. *Thirty seconds*. Well inside the two-hundred-meter radius, then. Maybe a thousand, two thousand watts per square meter soaking into the other side of the concrete, power-level rising faster and faster. Too late, surely, for more course corrections...

Quick, came the pain-signal in Force shorthand. *Correction: plus 90 centimeters X axis, minus 50 centimeters Y axis*. I made the moves on the grid, too big, too late. *Birdcage* was still turning. Ten to one we were all dead.

...It had been one hell of a job out there in free-fall, even with high-powered folk like Winkel on the team. The engineers overloaded two orbital factories getting *Birdcage* slapped together with all the parts being made simultaneously for sheer lack of time. No time, then, for anything resembling a proper job. The concrete slab was a real find, shielding from an orbital reactor they'd been tinkering with when the war looked like making energy shortages. They socketed the thing for the steel bars, and bored a hole through the middle. One side was still hot from reactor trials, and out of kindness to me they made that side the one that would face the DEVOURER, where it would be getting a damn sight hotter. There weren't safe facilities for working with something that size, either, and three or four engineers were hauled off with rad-poisoning from neutrons, even worse than gammas.

Winkel said he'd had another good reason for wanting to come up into orbit. He reckoned he could "make some interesting observations." Turned out he didn't only mean watching me and *Birdcage* crumple like paper in the gravity and then get eaten: his idea was that if that happened he could go back to *Overlord* station in the sync orbit and observe what happens when a nucleus-sized black hole acts like a python and slowly stuffs a whole planet down its maw. Always supposing, of course, that the thing didn't come too near *Overlord* on any of its swings in or out. "I should think there's quite a considerable margin of safety," Winkel said when Rossa suggested that little risk to him. But I never knew all his reasons. I heard him once on *Overlord*, sternly telling Fusco (who was supposed to be on a flying visit) that she mustn't take the shuttle down again until everything was over. She ticked him off furiously; but she didn't go. Instead, other StraProgCom faces appeared on *Overlord* ...

"We missed our big opportunity," Rossa said to me quietly. "Now if only we'd instructed Corvus

Station to destruct *there* after we leave the neutral zone, we might have made a clean sweep of military leaders and earned the undying gratitude of everyone below...”

“You’re not serious?” I still couldn’t always tell.

She looked at her feet, wriggling the toes inside her shoes. “I could be *persuaded* to be serious in that particular direction,” she said darkly.

Not too many hours after, it was time to board *Dragonfly* and cross a million kilometers with *Birdcage* on tow, accelerating/decelerating all the way and burning 90 percent of the fuel margin: some other boat, perhaps *Silverfish*, would follow with fuel to bring us all back, or all but one. The last thing I remember going through my mind before they pushed *Birdcage* off down the slope was that General Lowenstein’s game-theory gave me one last edge over Rossa even now. Whatever happened, *I* wasn’t likely to have to make excuses or apologies afterward. You take what crumbs of comfort you can get.

...Maybe the final correction had worked and maybe it hadn’t. There was a final margin for error, a radius which was exactly half of 1.926643 centimeters. *Pain*. The 20-second marker. Inside 100 meters now. Was I imagining it or was I being pressed more firmly against the deck by the fake gravity of the tide force? Outside, the universe was searing blue fog. Somewhere further in, the glare of radiation would have blasted the aluminum dust into vapor --*don’t waste time thinking about things like that*. By now they’d know on *Dragonfly*, they’d know if that hotspot had shifted so far and changed so much there was no chance of my pulling back to the straight line. I hoped they wouldn’t tell me if that was the way it was. Too late, really too late now for any correction. I reached for the twin vertical tubes, grabbing the one that wasn’t lined up, the one that wasn’t leaking gamma from the beam shining up through *Birdcage*. You take care of yourself in the small ways even when you’re going out in a big way. And Jesus Christ, no one had ever gone out just like this before, a safe bet no one ever would again. Squeezing through a 1.9 hole a bad trip? Forget it: this time I was booked for a hole too small to see.

Fifteen seconds. I pulled at the tube—for a crazy moment I thought the swivel had stuck, cold-welded in vacuum—it swung and clicked into place. Tube number two was lined up. On *Dragonfly* I would’ve looked like a shrinking black circle against the bluey-white glow, with one bright point centered like the compass prick someone had made when they drew the circle. Now they’d have seen that last light blink out. What was coming up through the thin shaft in the slab was vanishing into the wizard’s staff now, into the 1.9-centimeter hole and out God knows where. There was a big coiled spring in this tube, behind the “staff,” and only the trigger was holding it back. *Birdcage* was one bloody great spring-gun, 1.9-centimeter bore, big bore for big game. My heart was smashing against my ribs like something wanting to be let out. I felt like the old Jacklin from before the Force, scared, but somehow it didn’t feel too bad.

Outside, the light kept changing. The closer I fell the brighter the fog; the closer I fell the bigger the shadow-cone *Birdcage*’s base was throwing on the fog outside the bars. The gravity slope was steepening and I could feel myself getting heavier.

Ten seconds. Rossa started the one-second pain flashes then. Picture of her sitting in *Dragonfly*’s comp room with the machine calling off the seconds and her teeth set hard together as she hurt herself for me...

(“Through the needle’s eye,” she’d said near the end. “But you’re not a camel and you mustn’t try to go through ... If I’m to be theological, I wonder how many invisible black holes could dance on the point of a pin?” Around that time her talk had all been like that, bright like blown glass and just as ready to crack.)

Nine. This had to be timed just right. They'd complimented me on my reflexes. Nice of them.

Eight. Inside the fifty-meter radius now. Dozens of kilowatts per square meter burning at the bottom of this death wagon. And the tug to the floor was growing now; my feet were furthest from the center of mass and they felt it most.

Seven. I reached my hand to the trigger. The sooner I fired the more chance there was that the hell of scattered radiation up front would knock out the MT gadgetry.

Six. If I didn't fire in time, the DEVOURER would climb up the shaft and eat me. It might just fall into the 1.9-centimeter hole as well, but ... The counterweight glittered blue at me. Good luck, Jacklin.

Five. Finger on the trigger, taking up the slack. Or if I fired only a little too late, the two holes would meet close to the base of *Birdcage*. When the DEVOURER came within a meter of this silly craft's center of mass I'd be feeling, what had Winkel said, 120 gravities or so in my midsection and more at my feet. I'd puddle down to the deck...

Four. Get in rhythm, count with the ticks of pain, keep in sync with Rossa. But time seemed to be stretching out, didn't time do funny things near black holes? No, Winkel had said, you'll never get that close. "I hope," he'd added.

Three. What would Rossa and I do afterward? Was there going to be an afterward? Was the trigger going to move when I pushed it? Suppose the gammas had already firestormed my central nervous system, suppose my finger didn't pull when I told it, suppose I was dead already, again, without knowing it ... I could feel the floor thrusting up at me harder and harder. I could feel a cold hollow in my guts, a hot flowing on one thigh. I was shit-scared, wet myself for the first time in ten years, oh Jesus, what's happened to the markers, I've lost count...

Two.

My finger wouldn't move. Fire at one second out, twenty meters from hell. Hole meets hole. A good big 'un will always beat a good little 'un, the way they used to say. What if Earth tuned into the gateway now? My finger still wouldn't move. How much of eternity do you have to count off before it adds up to one second? The reflexes buried inside me knew better than I did myself; I jerked, pulled hard at the trigger, stiffer than I'd thought, and the tube twanged under my hand as the floor pushed up harder and harder and the last welcome dose of boiling oil came washing over my other arm:

One.

The blue glow swept away as *Birdcage* shadowed half the sky. Gravity came full on, roaring up the scale like a rocket motor, writhing as the gateway sheared through lines of force. I was clinging to the tube and the blood sang out of my head; a pile-driver tried to mash me into my boots and bone splintered somewhere down there. A crack opened in the concrete overhead, its center a thin, broken line of hellfire. It was the end of the world. Then all the lights went out—

...Slowly, very slowly, I remembered there wasn't really any difference between being unconscious and being dead. Not at the time. In free-fall it's harder to pull out of dreamland: you're still flying when you wake up. Where I actually was, was fastened by one boot's magnets to a steel bar, one of the vertical bars that made *Birdcage* look like what it was called. There wasn't any acceleration, and I hung at a crazy angle. Somehow in that last moment when the snake gobbled its own tail and space got cracked like a whip, I'd left the floor, or ceiling, and floated free until I fetched up here. A faint stink of urine in the

p-suit ... my face burned when I remembered. I looked around the cage for something else to think about. The two battery lights hadn't been welded on too reliably—the tide had popped them off the ceiling and they'd smashed against the deck. Broken glass in the air, and one naked filament still burning ... You could hardly see the dark up there where the slab had started to break up—maybe heat expansion in the multimegawatt glare, maybe the shifting gravity.

My ankle hurt badly where the bone had cracked. It wasn't fatal, I guessed. A wider crescent of Beta Corvi light was shining on the ceiling, a new moon broken by shadows of the bars; that meant *Birdcage* had tilted, was still turning very slowly, maybe had been turning right at the last, but not enough to fail. I wondered how long I'd been out. Must still be heading off at a hundred kph or whatever final velocity we reached before...

I remembered the radio would work now. I felt for the switch with my tongue, a switch still slimy from the last time I'd tongued it: "...can you hear me? Please activate your suit beacon by pulling the red toggle at your waist. Message repeats. *Dragonfly* to *Birdcage*, can you hear me?" That reminded me of the one last thing Rossa and I had whispered about on the way here. The MT harpoon I'd fired at the DEVOURER was joined onto *Birdcage* by steel cable that might have snapped or might not. Winkel had wanted it for "further study." Tough luck, Winkel.

The beacon toggle could wait a few minutes. I floated myself out between the bars of *Birdcage* and painfully made my way around to the other side of the circular plate where I'd stood all the way down. Then, with my good left leg, I pushed myself off as hard as I could, off toward the blinding sun.

Thirty

When you're dropping through the dark and expecting to die, you promise yourself things if you ever get out of this. All I'd wanted was to sit on a beach, watch white breakers falling, soak up the sun and wind, that kind of high-powered action. After a few years of that treatment, I'd thought, it might be time to think of doing something else.

Of course it wasn't easy. There'd been medics crawling around me like termites for days, pumping liter after liter of gunk into both arms and buttocks to fight the (mild, they said) gamma burns I'd managed to pick up. There'd been thank-you sessions, TV cameras, more damned medals, and a man who wanted to set me up as a martial arts teacher because a lot of the traditions had been lost ... that last was something to think about. Now I was back on Port Island convalescing, wearing a boot three sizes too big on my right foot to make room for the stiff polymer jacket they'd sweated over the break and most of the way up to my knee. It was supposed to make walking no trouble at all. Walking hurt like hell. The beach was all shingle that squeaked and grated underfoot, and soaked up twice the energy you'd use walking on proper ground; the sun was there all right, white-hot, and you had to smear sticky stuff like the yellow tank fluid all over yourself if you wanted to stay in sunlight more than twenty minutes, this time of year; and when I sat and watched the too-green sea I didn't get breakers, just tired little ripples that slouched to the shore, heaved themselves up a few centimeters and fell over dead from the effort. Streaky clouds drifted in a sky that sank smoothly through hundreds of blue-greens that my eye couldn't separate, down to an uncertain haziness where it fell into the sea. After half an hour or so—

"Maybe it wasn't such a good idea coming out here after all."

"Oh," said Rossa, who'd been looking under pebbles. "You talk, do you? *I had* been wondering." She threw the stone she was holding toward the sea. It didn't quite get there.

"Sorry. Made myself tired walking here, and then it didn't quite match up to what I'd been expecting.

But I meant, um, coming here from Earth hasn't really done anyone much good, has it? The open war's out of the way, but everyone's still uptight about the blackmail business with the nullbombs..."

"Present company excepted, surely? You and I have done better than I ever dared to hope—which reminds me! I've been putting this off for too long." She unclasped the heavy armband, hefted it and threw it after the pebble but a damn sight harder. It arced a few meters out over the water, and vanished with a white plop. (The day before I'd felt her send our final report, or final warning, into the dark between the stars—whether or not anyone was still listening.) Now the last of the ice seemed to have melted out of her face.

"Got a point there. You said 'welcome back to the human race' a while ago, a bit too soon—well, thanks. I reckon I'm back now. All the way back."

"What convinces you at last? Have you a vast and uncontainable bulging in the trousers?" She looked at me very earnestly as she said that.

"No ... Well, yes, some of the time, but it was what happened out there. You know I pissed my pants with fright? That never ever happened to me before, not since I was just a kid. It was new, knowing I really cared in my guts about something—even if it was only myself. Funny to get tagged a hero after that."

The salt wind came off the sea, over us both and up into the solid wall of blue-green not-quite-trees where, I guessed, a guard or two would be keeping an eye on us. Rossa put her hand gently on mine, which had its tendons pulled tight with the strain of propping me upright.

"...God knows what they'd have done to us if it hadn't been for the hero business," I said. "In the sickbay I was wondering—if *they'd* thought faster they could have found their own suicide candidate to ride down into the DEVOURER. Keeb would've loved it. They could, you know. Some sort of laser rig, signals, *something* like that to contact whoever it was."

"It surely wouldn't have been as reliable as our magical selves ... No, the meaty part of our offering was the notion of using a human being as the cybernetics of that dreadful birdcage—instead of the machine brains they use for everything, until Winkel couldn't even think of substituting a person. The Talent just tipped the balance and helped them swallow *our* solution. Had they saved themselves any other way you might not be a hero now. We might be war criminals ... for bringing the DEVOURER. Surely I said all this when we'd decided?"

I shifted, trying to seat myself comfortably on the lumpy beach. "You didn't spell it out. So call me stupid ... I had a few other things on my mind just then. Dying. And you."

There was a smell of sea and seaweed in the air; it was already getting hard to imagine seaweed that would smell any different. Over the sea and around the world, some people were holed up with nullbombs; and StraProgCom, or maybe the Archipelago government, was still negotiating about them in New Africa. It was too early to tell what was going to happen: but everyone was so afraid of MT now that you could be hopeful that they'd keep from ever using MT bombs, the way they'd never used nukes in their damn silly war. I still didn't know which side was in the right; the odds were I could listen to them both for ten years and still not be sure. In Military Philosophy II, I'd heard a line about how the really painful clash wasn't good against bad, it was good against good. And we'd shoved in new factors ... But command responsibility had shifted now. Rossa and I had taken our turn at the wheel.

"You can't ever go back," I said aloud but not too loud.

“—Not, thank heavens, along the road we came,” said Rossa.

That was final. 100 percent final, or nearly so. They’d never found the minigate again. I must have drifted out of *Birdcage* while I was still blacked out, mustn’t I? Funny thing, they’d located the black hole again: it had been flipped umpteen million kilometers out of the ecliptic and was falling back in again. They guessed it would end going around Beta Corvi in a tighter orbit than Pallas, something nice for Winkel’s merry men to study when and if they pushed a ship out there. No hurry—it would be hanging around for another something times 10^{13} years. And Fusco, more practical than Winkel, had deduced a second DEVOURER out there somewhere—she insisted they had to have tested the effect once beforehand. And Winkel had looked at her and muttered almost wistfully about the very, very remote chance of DEVOURERS One and Two crashing together in space and coalescing, an event which he reckoned could release the energy of hundreds of millions of nullbomb explosions in one appalling flash. If it happened it would erase life from the Corvus system, he cheerfully explained. I didn’t believe a word of it.

If I’d really wanted to worry, what I’d have worried about until the day before would have been Corvus Station. The comp system there might just have had programmed plans for building more MT nasties, maybe even another 1.9-centimeter gate. It had been well protected, though. They’d played the satellite pics over the comm network and we’d caught them in the whitewashed house on Port Island where we’d been filed for reference, looked after by an old fellow called Tappen. Same thing: a sudden growing and fading circle of pure white, so perfect it looked more like a machine simulation than anything that could possibly be real. The voice-over had kept quiet about whether Corvus Station had just got tired of hanging around, or whether a team had gone in to ferret for secrets...

It was all very neat. You could say it was too neat. All the problems on Pallas were still around except the one they hadn’t known was a problem, the MT research—catch anyone doing *that* now when it might open the road for another DEVOURER! It was *Earth’s* problem that had been nicely sorted out with “minimum loss of life” ... Something reddish-brown with wide furry wings swooped from behind, shrieking, which jolted me off that line of thought for a second. The flying thing came to within a meter of the shingle and swerved off parallel to the ground and the shoreline, giving us a chance to admire its long and evilly hooked beak.

“I think that’s the beastie which attacks people,” Rossa said calmly. “Especially small children; it carries them off for its young. Gobble gobble.”

“Hear the safety catch click in the bush back there? I might have imagined it—but I expect someone’s watching over us very carefully ... Let’s shock them,” I suggested, trying to put my arms around her. The other hand complained and I had to go back to propping myself with both arms.

“On the ground, like *this* ? It would certainly be an experience, Ken, but can we welcome you formally back to the human race a little later on?” For just a second she stroked what she’d chosen to call my vast and uncontainable bulging, and I trembled all over. “...Yes. You have changed.” And she laughed suddenly.

“You too. You didn’t used to laugh—not for real.”

I laughed myself, for no reason at all, and freed my right arm long enough to throw a stone out there where that armband from the torture chamber had sunk. Then I caught hold again of what I’d been thinking—

“I was thinking,” I said. “I was thinking that maybe Central Comp had it all sorted out from the start. Minimum-loss-of-life strategy, *you* remember, and all that yap in Tunnel about hawk-and-dove compromises. And you know Winkel said what a convenient DEVOURER it was—how if it’d been much smaller the radiation would have killed the scheme, and if it’d been much larger the gravity would have done it. The way it all worked out ... well, the thing did take enough time coming for us to do what we did. So maybe it could have been what Fusco thought for a while. A final warning instead of a complete wipeout. God, they’re all scared of MT *now*, and hardly any lives lost...”

Rossa laughed again. “You’re pulling my leg, you must be—though it *would* be rather comforting to think all their ludicrous contingency plans made some sort of sense. No, but there’s no proof that they could choose what size of black hole they conjured up in their magic circle. Surely nobody could have predicted, possibly, what’s happened to us both—never in ten years of crystal-gazing...”

“Maybe. I’d like to think even Central wouldn’t waste a whole planet to tidy away its problems. Anyway, we’ll never know, will we?”

“No,” she said. “We never will.”

My hands had got tired and I let myself down to the pebbly ground, flat on my back and staring up into a greeny-blue sky that looked more and more the way a sky ought to be. When it was just a sky and not a strange greenish sky, I’d belong to this place and not to Earth anymore.

I heard more pebbles shifting and squeaking. A fine needle of pain ran into a finger of mine that was curled up safe in my fist, and at the same time Rossa said, “Ow.”

“I didn’t feel a thing,” I said to the sky, without moving. “It’s worn off, remember?”

“Evan Keeb said everything I’d ever find on these beaches was harmless. I shall be having a word with that man ... See, it’s like an orange slug with a wavy fringe—oak-leaf border.”

I wasn’t wild about heaving myself upright just to gape at an orange slug. Instead: “You know, we’ll have to keep together, so when I jump suddenly there’s a good reason—like I’m rushing to find just why you squealed.”

“Spurious,” she said with a twist of the voice that might as well have been an outright laugh. “A very, very spurious argument...”

I shut my eyes; the light was starting to hurt them. Rossa scratched my belly gently through the cloth, and that was nice. She was lovely in the sun and wind, something I was noticing more and more now the old world had come to an end. Here we stayed, without any tanks to make you a zombie ready to fight and die again. No one now was going to wreck the universe and let it unravel around us, we hoped, unless perhaps there was some other place where something with scaly or slimy fingers was making its own first experiments with MT ... Never mind *that*. What we had waiting was the strange experience of ordinary life, together or not, and I still hadn’t any idea of what that was like.

I remembered one of the odder sights we’d seen in these last few days, a sundial of all things, a sundial that old Tappen had shown us outside “our” whitewashed house. Rossa had peered at the writing on the face and said, “How *corny* ... I mean, how completely out of place...” But privately, I’d rather liked it—

As sande in the Phiall

Men tumble to Duste:

Time moves on my Dyll

And dy-all ye must.

To die in your own sweet time, and only once ... you can't ask much more than that.

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