Ship of Fools

They stopped me on the gangway and rolled up my left sleeve.

"Clockwork? Or quartz?" asked the one with the hammer.

"Oh -- quartz," I said.

"Sorry, but rules are rules," said the one with the leather bag. I nodded. He gently peeled the watch off my wrist and laid it over the ship's railing. Crunch: the hammer rebounded. He scooped what was left back into the bag, careful not to drop any glass fragments on the deck.

"I just forgot," I said, slightly stunned. "Is there anything else ...?"

They looked at each other and shrugged. The one with the bag looked a little guilty. "Here, you can borrow mine," he said, offering it to me.

"Thanks." I tightened the strap, then carried on up the gangway. It was an old Rolex Oyster, case tarnished with decades of sweat. I glanced back. The hammer team waited patiently for their next target. The one with the hammer was wearing a red T-shirt with a logo on its back. I squinted closer at the marketing slogan:

UNIX - THE TIME IS RIGHT.

Rita was already in the fore-deck lounge when I got there. I had half expected her not to show up, but we'd booked the tickets five years ago, three years before the divorce, and her name hadn't disappeared from the roster since then. I suppose I'd assumed she'd forget, or dismiss it, or not think it worth bothering with. I waited for the usual cold shudder of unnameable emotions to pass, then headed for the bar.

Polished brass and wood gleamed in the gas-light like an old-fashioned pub. (The overhead electrics were powered down, except for the red glare of an emergency light's battery charge indicator.) One guy was already sitting on a bar stool, elbow-propped above his beer glass. I looked at him for a moment before I blinked and realized that it was the Professor. A blast from the past; he'd retired two years ago. I sat down on the stool next to him. There was nobody behind the bar, but I figured a steward would be along shortly.

"Marcus Jackman ... isn't it?" he asked, glancing round at me. Time hadn't been kind to him; burst blood vessels streaked the tip of his nose and his eyes looked sore.

"Eight years and counting," I said. "What are you drinking?"

He glanced at the row of optics behind the bar: "Perrier for now, I think." He yawned. "Sorry, I haven't had much sleep lately."

"Anything in particular?" I asked.

"The usual," he said. "The chancellor put a gagging order on me, can you believe it? Said what I was saying was bad for the institute's public image.

So I packed my bags and came here instead. Olaf said he'd keep a berth open for me but I didn't think I'd be taking him up on it until ... oh, a month ago. If that."

I shook my head. A barman appeared silently: I tipped him the wink and he refilled the Professor's tumbler from the fizzy water tap. I asked for and received a double gin and tonic. I felt I needed it. "They wouldn't listen to you?" I asked.

The Professor shook his head. "Nothing ever changes at the top," he said sadly. "So what did you make of yourself?"

"I run a big switch site. Loads of bandwidth. Nothing that's going to be hit by the event -- at least, not directly. But still, I don't trust my bank account, I don't trust the tax system ... there's too much brittleness. Everywhere I look. Maybe I've just been tracking risks for too long, and then again ..."

"You made a down payment on this holiday three or four years ago, eh?"

I nodded.

"They wouldn't listen to me," he muttered. "I kept on for as long as was reasonable, even though they told me it was a career-limiting move -- as if some little thing like tenure would stop them -- until I was too tired to go on."

"I get to see a lot, out in the real world," I volunteered. "That standard lecture piece you did, on the old reactor control system -- I've seen worse."

"Oh yes?" He showed a flicker of interest, so I continued.

"A big corporate accounting system. Used to run on a bundle of mainframes at six different national headquarters, talking via leased line. Want to hear about it?"

"Pray continue." I had his attention.

"They downsized everything they could, but there were about fifty million lines of PL/I on the accounts system. Nobody could be bothered to bring it up to date -- it had taken about two hundred programmers twenty years to put it all together. Besides which, they were scared of the security implications of reverse-engineering the whole thing and sticking it on modern networked machines. In the end, they hit a compromise: there was this old VM/CMS emulator for DOS PC's floating around. They bought six stupidly powerful workstations running something a bit more modern. Stuck a DOS emulator on each workstation, and ran their accounting suite under the VM/CMS emulator under the DOS emulator --"

I waited while his spluttering subsided into a chuckle. "I think that deserves another drink: don't you?"

I took a big gulp from my G&T and nodded. "Yeah." More fizzy water for the Prof. "Anyway. These six, uh, mainframes, had to talk to each other at something ridiculous like 1200 baud. So the droids who implemented this piece of nonsense hired a hacker, who crufted them up something that looked like a 1200 baud serial line to the VM/CMS emulator, but which actually tunneled packets through the internet, from one workstation to another. Only it ran under DOS, `cause of the extra level of emulation. Then they figured they ought to let the data entry clerks log in through virtual terminals so they

could hire teleworkers from India instead of paying guys in suits from Berkhampstead, so they wrote a tty driver just for the weird virtual punched-card reader or whatever the bloody accounting system thought it was working with."

Someone tapped me on my shoulder. I glanced round.

"Yo, dude! Gimme five!"

"Six," I said. Clive beamed at me. "Been here long?"

"Just arrived," he said. "I knew I'd find you propping up the bar. Hey, did the guys on the gangway give you any aggro?"

"Not much." I put my hand over my watch's face. The whole thing disturbed me more than I wanted to think about, and Rita's silent presence (reading a book in a deep leather-lined chair at the far side of the room) didn't contribute anything good to my peace of mind. "I was just telling the professor about --"

"The mainframes." The professor nodded. "Most interesting. Can I trouble you to tell me what happened in the end? I hate an interrupted tale."

I shrugged. "Drink for my man here," I said.

"Make mine a pint," said Clive.

"In a nutshell," said the professor.

"In a nutshell: they'd put it all in an emulator, and handled all the logins via the net, so some bright spark suggested they run six emulators in parallel on one box and use local domain sockets to emulate the serial lines. It looked like it would save about fifty thousand bucks, and they'd already spent a quarter million on the port -- as opposed to eighty, ninety million for a proper re-write -- so they did it. Put everything in one box."

"And what happened?" asked Clive.

Well, they stuffed the old corporate accounting system into a single workstation. You've got to understand, it was about fifty times as powerful as all six mainframes put together. The old mainframes were laid off about two months after the emulator went live, to save on the maintenance bill. So they moved office six months after that, and they managed to lose the box in the process. The inventory tag just went missing; it was so unobtrusive it looked like every other high-end server in the place. By the time they found it again, some droid from the marketing department who though Christmas had come early had reformatted its root partition and installed a multi-user game server on it ..."

"Man, that's bad," said Clive. He looked improperly cheerful.

"Yes." The professor looked worried. "That almost tops the reactor story." He drained his glass then absent-mindedly checked the dosimeter he kept clipped to the breast pocket of his sports jacket: "but not quite."

Unscheduled Criticality Excursion -- (jargon) term used in the nuclear engineering industry to refer to the simultaneous catastrophic failure of all of a fission reactor's safety features, resulting in a runaway loss of coolant

accident. (Formerly: melt-down.)

The ship set sail three hours later. I was already adrift, three sheets to the wind, and Clive steered me out on deck to watch the pier drift astern.

"Feel that breeze," he said, and leaned out over the railing until I worried about him falling overboard. (An accident, so early in the voyage, would be a bad way to start; there was plenty of time for such incidents ahead.) "It's cool. Onshore. Loads of salt. Iodine from decaying seaweed. Say, did you bring your iodine tablets? Sun block? Survival rations?"

"Only what I figured we'd definitely need," I said, slurring on my certainty. "Didn't know about Rita. Shit. Don't need that shit. Are you okay over there?"

"Don't be silly!"

And guess who'd seen fit to join us on deck? If it wasn't my ex. I was drunk enough to be a bit out of control and in control enough to feel vulnerable: not, in other words, at my best. "And whash you doing here?" I asked, leaning against the rail beside Clive.

"Coming to ask what you're doing here," she said. "You're a mess." There was no rancour in her voice; just a calm, maddening self-assurance, as if she thought she'd earned the right to know me better than I knew myself.

"Funny, I could have sworn he was an engineer," quipped Clive.

"You used the original ticket?" I asked.

Rita leaned up against the railing a couple of metres away from me. "I tried to exchange it," she said guardedly. "By then, the ship was over-booked."

"More fools," quipped Clive. He leaned even further overboard: "cretins ahoy!" Rita's stare could have frozen molten lead, but Clive bore its weight unheeding.

"Let's talk," she said. I followed her around the curve of the deck, away from Clive. The sea was still, but even so I had difficulty keeping my balance as it gently rolled beneath my feet. She stopped in the shadow of a lifeboat. "You know what this means?" she asked.

More histrionics, I thought. "It means we both just have to be very careful," I said, emphasizing the final word.

Unexpectedly, she smiled at me. "Two years and you didn't change your ticket!" It was not a very pretty smile.

I shrugged. "So that makes me a fool?"

She looked at me sharply: "no more than ever, Marcus. See you later." She turned and stalked off in the direction of the door we'd come through. I looked towards the stern of the ship, a dark mass of shadows in the night: the breeze became slightly chilly if I stood in one place for long enough. I stood there for a long time.

Risks of embarking on an expensive sea voyage booked too far in advance, number 12: having to share a cramped cabin with a spouse who divorced you years ago.

I went to bed drunk, and when I awoke the next morning the cabin was mine. I sat up. My neck ached as if I'd lain too long in the wrong position; my tongue tasted as if something small and furry had died on it far too long ago. The cabin was a mess. My trunk was stowed neatly beneath the lower bunk bed -- but a familiar suitcase was open and strewn across the table, and she'd spread her toiletries across every available surface in the cramped bathroom.

I groaned, sat up, and hastily made for the toilet -- the head, I remembered to call it. Today was The Eve of Destruction; December the 31st, to the real world at large, and we would be sailing south-east and out into the endless blue eye of the Gulf of Mexico. Theoretically I had booked a two week holiday from my job. As a matter of caution -- I checked carefully in the bag full of dirty socks in my trunk before heading for breakfast -- both small, extremely heavy bars of metal were still there. Five thousand ecus each, they'd set me back: a whopping great hole in my savings, but if what we were expecting was the case, well worth it in the long run.

The dining lounge had seen better days; although this cruise ship called itself a liner, I had my suspicions. It reminded me of a run-down hotel, formerly a grand palace of the leisured classes, now reduced to eking out a living as a vendor of accomodation and conference space to corporate sales drones on quarterly kick-off briefings. I sat down at one of the tables and waited for one of the overworked stewards to come over and pour me a coffee.

"Mind if I join you?"

I looked up. It was a woman I'd met somewhere -- some conference or other -- lanky blonde hair, palid skin, and far too evangelical about formal methods. "Feel free." She pulled a chair out and sat down and the steward poured her a cup of coffee immediately. I noticed that even on a cruise ship she was dressed in a business suit, although it looked somewhat the worse for wear. "Coffee, please," I called after the retreating steward.

"We met in Darmstadt, `97," she said. "You're Marcus Jackman? I critiqued your paper on performance metrics for IEEE maintenance transactions."

The penny dropped. "Karla ... Carrol?" I asked. She smiled. "Yes, I remember your review." I did indeed, and nearly burned my tongue on the coffee trying not to let slip precisely how I remembered it. I'm not fit to be rude until after at least the third cup of the morning. "Most interesting. What brings you here?"

"The usual risk contingency planning. I'm still in catastrophe estimation, but I couldn't get anyone at work to take this weekend seriously. So I figured, what the hell? That was about two weeks ago."

"Two weeks --" I stopped. "How did you wangle that?"

She sipped her coffee. A lock of hair dropped across it; she shoved it back absend-mindedly. "There's always a certain roll-over in things like this," she said. "It just depends who you talk to ..."

Show-off. Whoever had set up the booking system, whatever troll from the deep, dark, underside of the ACM SIG-RISK group, had known more than a little about queueing theory; I'd spent two months, on and off, trying to get Pauli aboard the lifeboat, while she'd just walked on board. "I thought there was a waiting list," I said.

"Even lists have holes." She stared coldly at the steam rising from her coffee

cup; "and even institutional coffee tastes better than this rubbish. I say, waiter!"

"Why did you leave it so late, if you believe in the rollover meltdown?" I asked, wishing she'd just let the coffee quality issue die.

"Because it's not the meltdown I'm interested in," she said; "ah, it's about this coffee. It's disgusting. Have you been letting the jug stand on a hot plate for too long? So a few legacy systems, big hierarchical database applications for the most part, wrap around and go nonlinear when the year increments from 99 to 00. A fair number of batch reconcilliation jobs go down the spout at midnight, and never get up again. Yes, some fresh arabica will do nicelyh. Maybe even some big ones, like driver licensing systems or the Police national computer, or the odd merchant bank. But nothing bolted together in the past ten years will even break wind, so to speak. Excuse me, break stride. And real-time systems won't even notice it; they mostly run on millisecond timers and leave the nonsense about dates to external conversion routines, if they understand the concept of dates at all, thank you very much, like a Mars Rover running on mission elapsed time in seconds. Good, much better, thank you."

The harried waiter made a break for the other diners and I began to dig myself out of the hole in my chair I'd unconsciously tried to retreat into.

"It's just an artefact of the datum," she continued implacably, ignoring the coffee cut placed apologetically before her. "You might as well have picked on the UNIX millenium; it only runs for two to the thirty-one seconds from midnight on January first, nineteen-seventy, then some time thirty-two years from now the clocks begin counting in negative numbers. Of course, not many systems run for seventy years without maintenance, but there's been an alarming trend lately towards embedding UNIX in black-box applications it's totally unsuited for. Personally, I think twenty thirty-two is a much more realistic armageddon-type datum, for that and other reasons."

I cringed slightly. "What brings you here, then, if you don't think there's going to be a fairly major disaster?"

"Because this is a ship of fools," she said brightly. "I wanted to observe and see how you're managing under percieved stress. Not to mention that some people here have jobs to go back to. I'm thinking of collaborating on a paper with a sociologist from my local university on stresss-related idiopathic delusional complexes in closed professional bodies. Chicken Little crying `the sky is falling', when quite simply it can't fall yet because this is a premature software apocalypse."

I gritted my teeth and swallowed the last of my coffee. "You're very sure that this is a false alarm."

"But it can't be the real thing! It's too early -- only the two thousandth anniversary of the birth of Our Lord Jesus Christ. Now the two thousandth anniversary of his Crucifixion is another matter, and the coincidence with the UNIX millennium is another sign. But what really clinches it is the timewave zero hypothesis advanced by Terrance McKenna, who proved that the Aztec cyclic history sequence actually comes to an end -- a singularity -- in the same time scale. If you think this is a survival trip, just wait for the next one in thirty-two years time! The ability of humans to anticipate an apolcalypse tends towards a maximum in line with the proximity of big dates in their numbering system; they unconsciously fail to plan for survival past the next one, so disaster ensues. Now in this age of computers I think the baseline has shifted from the millennium to the kiloyear -- which as you know, is two to

the tenth years, or one thousand and sixteen. And St John was quite obviously talking about access permission bits when he said that the number of the Beast was six, six, six. More coffee?"

I excused myself and made for the deck with all possible haste; I could tell it was going to be one of those days.

I didn't dare to venture back into the dining room for another hour, until I was sure Karla had finished browbeating the staff; I wandered the upper deck like a lost soul, staring out across the muddy green expanse of sea, towards the gently swaying line in the distance where green met greyish white. The weather was poor (rather worse than I had been led to expect) and my head still throbbed from the night before. Back in the ops room at the institute, Marek or one of the other admins would be sitting up with a dog-eared paperback and a stack of blank backup cartridges, waiting patiently for the autochanger to bleat for a new load to accomodate the terabytes of data spooling slowly down onto tape. If I was there I'd probably be doing a dervish whirl of emergency disaster recovery preparations, single-handedly preparing to hold back the deluge of user complaints due on the first day of the new year. But I wasn't there: all I could do was squint into the wind, face pinched in by impotent tension, and wish I was in another line of work.

When my face turned numb I went below, back to the gently rolling warmth of the dining room. Karla had evidently finished; Clive waved at me from a corner so I went and joined him. "How's the morning?" I asked.

He pulled a face. "As you'd expect. Some woman tried to chat me up but it turned out she was recruiting for some Church or other. I managed to get away in one piece, though. Are you on for this evening's festivities?"

I nodded. "What's everyone doing today, then?"

"There's a seminar session on disaster recovery techniques for large transaction-based systems in the forward lounge on C deck. Some old salt is giving a lecture on navigating by the stars in the bar before lunchtime, then the Professor is giving his account of the Sizewell `B' disaster -- the one he gave at the ACM bash in London this year. You were there, weren't you? Oh, and there's a bingo game somewhere or other, it's on the noticeboard on D deck."

"What are you going to do?" I asked.

Clive put his knife down with a clatter. "I'm going to read a book," he said. "The weather's crap and the sea's going to get rough according to the shipping forecast. Might as well hole up and relax a bit."

"There's a radio?"

"I bought mine along." He fished something out of his pocket; a tiny Sony multiband reciever, with an old-fashioned analog tuning dial. "Shortwave reception's okay."

"Read a book," I echoed. "Sounds like a good idea." I could already smell the boredom rising from the great and borderless sea outside our hull; a boredom born of nervy fright, knowledge of what countdown was now in progress in the real world. Karla, for all her objectionable manner and dubious hypotheses, had maybe had a point; humans set their historical clocks by the stars, and the beginning of a new millennium is no insignificant event. Even if the real fruitcakes think the show's coming thirty-two years later ...

Boredom: Knowing that the end of the world is due to happen in less than eighty-one thousand seconds, but being unable to hurry it along, impede it, or even ignore it and do something else in the meantime.

I had brought along a book on formal design methodologies to break my head on for the voyage, but I didn't feel like reading it. When I returned to my cabin I found that Rita was still elsewhere. She'd brought along a huge mass of junk literature; disposable magazines, novels, a two-day-old newspaper. I read the leader columns in the paper, then the lifestyle section, then finally the job advertisements. They were recruiting lots of corporate drones, chief information officers: scope for a hollow laugh at someone else's expense. But I didn't feel like reading much, as my stomach was slightly weak from the constant swaybacked lurching of the deck, so I lay down on my bunk to catch the forty winks of the truly bored.

I dreamed that I was being interrogated by three sinister, shadowy men in dark suits who kept a bright light pointed at my eyes. They wanted to know why I had abandoned Rita and our two-year old daughter. They didn't seem to understand that we had never had a child, and that Rita had left me -- not the other way around. They said I set a dangerous, risky example to society at large; that runaway fathers should be allowed to make off with the taxpayers money was not a message they were prepared to send. They were about to sentence me to -- something -- when I awakened with a panicky jolt. Rita was leaning over me.

"Are you alright?" she asked.

I tried to croak "I think so," but nothing very intelligible came out so I nodded instead.

"You looked as if you were having a bad dream."

"I was." I tried to sit up but she put a hand on my shoulder and pushed me down again. "Please ..." I said.

"Lie down." I did as I was told. "Who were you with this morning at breakfast?" she asked.

"Some fruitcake," who thinks the apocalypse is due in thirty-two years and we're all barking up the wrong tree. "She sat down at the same table and started trying to convert me to baptism or whatever the hell she believes in."

"I see." She was quiet for a moment. "Well just don't bring her back to this cabin, you hear me? Don't you dare." She turned away abruptly, leaving me too dumbstruck to say anything as she stalked out of the cabin and yanked the door shut behind her. Maybe I was a fool to be here, but that didn't make Rita any less blind herself.

I wandered along to a late lunch -- cold buffet only -- then an afternoon seminar on trusted anonymous systems validation. I avoided the deck, which was subject to an intermittent cold rain. There was due to be a banquet in the evening; I headed back to my cabin, had a shower, then changed into the suit I'd bought along for the occasion.

The bar adjoining the main dining room was drawing a steady business as twilight cast its shadow across the ship; refugee computer professionals in various states of formal attire held ice-cube clinking tumblers of whiskey in

tense conversational huddles, while spousal units watched disinterestedly or discussed the foul weather. I saw Karla Carrol, wearing a long green dress and too much makeup, and shrank into the `L'-shaped recess at the opposite end of the bar, where two hunchbacked mainframe administrators were trying to top one-another's dumb user stories. Karla seemed to have snagged an unfortunate woman who was something big in actuarial systems, and was talking into her ear: I ordered a double vodka and coke, and then another before the steward ushered us into the dining room.

To my surprise, I found myself seated next to Rita. She seemed to be enjoying herself as long as she payed no attention to me; as I hadn't seen her that happy since a year before we split up, I was quite content to maintain my reserve. Besides, the food was substantially filling and my glass never seemed to empty, until I leaned back in a bloated semi-stupor to listen to the Prof give his keynote speech (after some nonentity from the organizing committee, introduced to the limbo of my memory by one of the ship's officers.)

The Professor staggered slightly as he took the podium. "Friends, I am pleased to be here to speak to you tonight, but less pleased at the necessity for this voyage." He paused for a moment and fiddled with the microphone. I was surprised by how little he had changed from my perspective, even given an extra ten years of age on my own account. He was still impressive.

"Software allows us to build huge, invisible machines -- virtual mountains so complex that nobody can really understand the whole scope of a large application. But software is brittle: change an underlying constraint, and the whole edifice crumbles like a mountain hit by an earthquake. A single fundamental assumption that changes -- as simple as the shift from one century to the next at the junction between two millennia -- can break just about anything, anywhere, in the guts of such a system, and it could take seconds or months for the damage to surface. Back in the mid-nineties there were an estimated two hundred and fifty billion lines of vulnerable source code, waiting for the new century to rattle the ground from under them; at twenty thousand lines of code per programmer per year that would have taken a million programmers a year to fix ... so everybody pretended it wasn't there. Except us. Everyone here tonight has had some role in attempting to cure the crisis of complacency. Everyone here has been burned by the fire of bureaucratic inertia. And so it is that everyone here chose of their own free will to join this ship of fools on a voyage who's motto might be, `I told you so!'"

He covered his mouth and hiccuped as discreetly as one may in front of an audience of two hundred. I glanced sideways at Rita; her face was a carefully controlled mask for boredom.

"In about an hour, it will be midnight back in England. It is already five o'clock in the morning of January first, year two thousand, somewhere far to the east of here. The datum is sweeping remorselessly round the dark side of the world, leaving random malfunctions in its wake. Some of those malfunctions are doubtless trivial; bugs in systems long since retired. Others are naggingly pernicious but relatively harmless matters, such as the school districts that fall victim to collation routines that tell them everyone above the age of one hundred and three needs to be enrolled in a nurserey class. But one or two ..." he stopped, and for a moment seemed bowed down by a terrible weight: "might be serious. As serious, perhaps, as the Sizewell disaster."

I didn't want to pursue that line of logic, and neither (apparently) did the Prof. What happened at Sizewell happened because nobody understood the entire system, and nobody subjected it to formal proof: nor did they look into some of the more obscure race conditions that could arise if different subsystems found themselves marching to the beat of a different clock. The results -- of

which the least were the suicides jumping from the Lloyds building -- had proven a ghastly point: but one that the politicians did not understand. Or at least, not profoundly enough to budget for the consequences.

"I should like to stress that this holocaust of our own making is nothing less than a matter of complacency," the Professor continued. "Once we quantised time, we tied our work to the clock; and now that the work is automated, so is the ticking. We are a short-sighted species. That there was a quarter of a trillion lines of bad software out there seven years ago is no surprise. That such a quantity has been halved to date is good news, but not quite adequate. We have, in a very real way, invented our own end of history: a software apocalypse that in the day ahead will engulf banks, businesses, government agencies, and anyone who runs a large, monolithic, database that is more than perhaps ten years old. Let us hope for the future that the consequences are not too serious -- and that the lesson will be learned for good by those who for so long have ignored us."

Polite applause, then louder: a groundswell of clapping as the ship gently pushed its way through the waves.

I began to push my chair back; it was close and hot, and I felt slightly queasy. A hand descended on my wrist: "remember what I said earlier," hissed Rita.

"What are you -" I saw her expression. Being the object of such ferocity made me feel as if we had not gone our separate ways. (And what if, in the weeks of confusion after the Sizewell incident -- ten miles from the hotel I had been staying in while doing my contract work -- I had not visited the vasectomy clinic? What if my morbid fear over fission products, that had in turn caused our own atomic split, never quite reached such a pitch? Would we still be together, a nuclear family with glow-in-the-dark children?) "What do you care? I'm no use to you, am I?"

Her expression was unreadable as she let go of my arm. "What use is any of this? We're sailing on the Titanic, only the disaster starts when we go back to harbour. Don't spoil my cruise for me, Marcus, or you'll be sorry. I'll throw all your luggage overboard."

I nearly laughed, but instead I stood up and staggered slightly as I headed back to the bar. How like Rita; the paranoid over-reaction, fear of shadows, utilitarian approach to people around her ... I began to wonder how much I hated myself to have put up with her for so long, and not to have found anyone better.

I was into my second gin and tonic when Clive appeared. "Been in a car wreck?" he asked sympathetically.

"Rita," I said morosely.

"Oh." He was quiet for a minute. I heard faint applause from the dining room. The steward at the bar turned his back to us and polished the brasswork.

"Try one of these," he suggested, offering something that looked a bit like a handmake lump of chocolate. "It's the only way to see in such a fuck-up; totally stoned, drunk as a skunk, and happy with it."

I palmed the sticky lump and swallowed. There was a sweet, herbal taste under the chocolate that nearly made me gag. Not my favourite way to take the stuff, but better than nothing. (And Rita didn't approve, even of something as mild as marijhuana: which somehow made it more daring, more essential ...)

"Any more?" I asked, but he shook his head.

"Strong stuff. Got to have enough to go round," he added with a curious smile. I could see he'd been at it himself, then. "Settles the stomach, too."

I drained my glass, winced slightly, then walked over to the bar for a refil. The barman didn't bother with an optic, just poured in the gin and topped it off by eye. "Will that be all, sir?" he asked.

"I'd like one for my friend," I said. Another glass appeared as if by magic. All drinks were on the house, this night if no other. "Thanks." I returned to the table, where Clive was tapping his fingers idly.

"Let's go on deck," he suggested. I tried to dissuade him but he was adamant: "it's fresh up there but the rain stopped and the cloud's clearing. Let's chill out, okay?"

"If you must," I said. He stood up and lurched slightly as he headed for the door. I followed him, expecting a chill of damp air to rush in. Instead, I found that he was right; the overcast had lifted and stars twinkled high in a deep black vault. There was a slow breeze blowing from ahead, and it was no cooler now than it had been during the day.

"What do you expect to find when you go back?" asked Clive.

"Everything. Nothing." In the distance, a monstrously deep horn sounded a bass note; ships passing in the night, I supposed. "I can't quite bring myself to believe in the apocalypse. End of civilization as we know it. Construction of cyberspace, the usual nonsense; it's bollocks. We'll go back and find lots of database programs have fallen over and there've been some really major cock-ups, maybe even a local stock exchange or two, but life goes on."

"That's one view," Clive said morosely.

"What do you expect?"

"The end of the world." He leaned out across the railing, staring into the dark water beyond and below us. "Nobody expects things to continue, not really. Everybody wants a day of judgement, right? An end to the mortal coil. Pot of gold at the end of the information superhighway." Another, even deeper, horn sounded in the distance. "We've designed for obsolescence for so long that it wouldn't surprise me if the whole pack of cards tumbles down. A bit like the fundies, who believe that it doesn't matter how we run the world because they're all going a-flying up to heaven in a couple of years anyway. The rapture, they call it. Every city in the west is maybe twenty four hours away from chaos and civil war -- that's all the supplies they store locally, you know that? All it takes is enough cracks in the fabric ..."

I wanted to tell him he was sounding like an old-fashioned fundamentalist preacher but the words caught in my throat: at that moment an almost palpable wave of cold washed over me, as if the air around me had turned to seawater. A great distant moaning wail of a horn shuddered out beneath the moonless sky, so deep and loud that I felt my stomach relax and contract with its passage; a chilly sweat prickled across my forehead for a moment, and I felt brushed by the ghostly fingertips of drowned sailors.

"What's that?" I demanded.

"Tanker, probably," said Clive. "Really close, too --"

A smell like smouldering insulation made my nostrils twitch: " too close!" We were near the front of the ship, on the right hand side: I wondered if we should head for the back, or if someone on the bridge would be able to see whatever we were bearing down on. Burning insulation and a rancid undertone of sulphur, of reeking burnt meat, of something revolting and sweet at the same time; a dim red light loomed on the horizon. The ship rolled beneath my feet and I felt light-headed.

"Look, over there." I followed Clive's outstretched arm. "What's happening?"

Whatever it was, it bulked out of the darkness like a congealing fog bank, lit from within by a red glow. That dreadful horn sounded again, rattling my innards, and there was a faint echo from behind -- as if its distant partner sounded a desolate mating chorus from across the empty sea. Stars burned like halogen lights in the vast darkness overhead. One by one they began to fall, tracing bright lines across the sky until they faded out in the distance. I looked towards the rear of the ship, back the way we'd come; a false dawn bulked green on the horizon. "I don't like this," I said, clutching the railing with fingertips that felt like dry bones. "I'm too stoned."

"I'm not." Clive looked distracted, as if he was listening to something. "What ... did you ever wonder, what it would be like if the godbotherers were really right all along? If maybe their revelation was the truth, and it was all going to happen -- only they'd been out by a couple of thousand years?"

"Can't happen." My teeth were chattering. "No rapture. No singularity. It's just the way we think. We humans, we want to lose our problems in some future end of all worries. Natural tendency."

"Overruns," Clive muttered. "Schedule slippage. They got all geared up at the turn of the first millennium, then the apocalypse was cancelled. Now they've got it all over again. What if they held the end of the world but nobody came?"

Something dark bubbled up from the sea behind us. A deep bass rumble, like a cross between an earthquake and a sousaphone: the angular mass foamed the sea around, gathering shrapnel and wreckage together into the dark shape of an ancient submarine. Hakenkreutz half-rusted into the shadowy conning-tower, it ghosted through the waves towards the glow on the horizon, its charred and skeletal crew staring incuriously at us as it cruised past. Red and green afterimages rippled across the sea, across everything I looked at except the dial of my borrowed watch.

I shuddered in the grip of a dread so intense that my heart lurched towards pure panic. "Don't!" Clive began to walk forwards, along the curve of the deck towards the front of the ship -- "where are you going?"

"What if they held the end of the world, but we were all aboard the ship of fools and unbelievers?" he called over his shoulder: "I'm joining them!"

A seventh rumbling note cut through the night, so deep that I could barely hear it but only felt it in my bones. I turned and staggered back towards the door, back towards the warmth and safety of the bar and the dining room. Behind me, Clive called: "don't leave me behind!"

The door slammed behind me. I looked around; the bartender glanced up from polishing the bar and raised an eyebrow.

"Give me a drink," I gasped. "Something strong."

"Bad night?" he asked casually. "You look like you've seen a ghost."

I shuddered convulsively and took the tumbler, threw it at the back of my throat. "In a manner of speaking."

"Happens," he said, matter-of-factly. "Lots of funny things happen at sea. I could tell you some tales, I could."

"Please don't. I've had enough of them for one night."

He looked away as I drained my glass.

"This isn't a good cruise," I said, trying to communicate. "You know what? You know why we booked it?"

"Why did you book the cruise?"

He studied me with the professional eye of an experienced barman.

"There's something we're running away from. But I'm not sure it's the right thing."

"Then, if you'll pardon my French sir, wasn't it a bit stupid of you to come along for the ride?"

I headed for the inner corridor, meaning to check the roll of dirty socks in my luggage. "I'm not really sure ..."

So it came about that multitudes of people acted out with
fierce energy a shared phantasy which, though delusional,
yet brought them such intense emotional relief that they
could live only through it, and were perfectly willing both
to kill and to die for it. This phenomenon was to recur many
times, in various parts of western and Central Europe ...

--The Pursuit of the Millennium, Norman Cohn

Over the horizon, without any fuss, all the mainframes were quietly going down.