

The Practical Ramifications of Interstellar Packet Loss - a short story by William Shunn

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Fuhrmann closely scans the ragged line of debarking passengers--their befuddled eyes dim with the aftereffects of cryosleep, their gaits unsteady in the space station's light gravitational field, their auras betraying forlornness and bewilderment as palpably as gray clouds. As each one passes, a matching name scrolls by at the periphery of Fuhrmann's vision, along with ancillary data such as point of origin, education, and net worth. As always, he marvels at the number of people who arrive at Netherview Station with literally nothing, or less than nothing, and at how far and ill-prepared they have come for the privilege. Fuhrmann has never traveled outside his home system, and cannot imagine ever doing so. Abruptly, a blinking name draws his attention. The young man just leaving decontamination looks as lost and helpless as all the rest, but Fuhrmann views him in a different light. Tall, gangly, hands like spatulas, this one projects an innocence that the others do not. He may be confused and out of place, but his eyes still glow with curiosity, his face still radiates wonder. With his mussed hair and puffy eyes, the young man resembles a child who has just awakened. Only his unshaven cheeks and his height spoil the illusion. Time to spoil more than just the illusion, Fuhrmann thinks. He steps forward.

Cove blinked in the bright light of the arrival lounge, his skin still tingling from the microlasers of the decontamination chamber. After having been herded this way and that with his fellow passengers through doors and tubeways and elevators and processing stations, he found the openness of the lounge disorienting and a little intimidating. What now? There was no obvious place to go, no easy direction to take. He felt like a tiny packet of information spilling out through a rupture in the interstellar communications network, lost and unrecoverable, floating free in space and never to find its way home. Idly he wondered if a redundant copy of himself routed along a different path might eventually reach his destination in his place... Whoa, pal! Cove told himself. You're really out there! When you start confusing work metaphors with real life, it's time to come back to the ground. He wasn't lost. As far away from home as he was, there was supposed to be someone here to meet him, someone familiar. He glanced around at the thin crowd of travelers in disposable jumpsuits like his, at their greeters

clad in unfamiliar clothing and decked out with strange body modifications, and amid all the wonders he searched for a glimpse of any familiar face. He wasn't certain quite whom he should be looking for, but

he knew she would be around somewhere. He knew it. Probably. Possibly.

Cove became aware of a pain in his chest, an ache far deeper and more insidious and basic than any physical complaint could be, like a lost piece of his heart, a missing breath.

Maybe she'd be here, maybe not.

Probably not.

"Miles Covio?" said a voice near his shoulder.

Cove turned, startled, a smile forming on his lips and breaking up again

as he realized that the voice belonged to a shaven-headed man in a bright

caftan and not to a woman. "Um, yeah?" he said with a vague disquiet.

"That's me."

"Wolf Fuhrmann," said the man, raising his hands palms-forward, as if someone were pointing a firearm at him.

Cove stared for a moment, then belatedly realized that he was expected to

copy the man's gesture of greeting. "Um, hi."

"I'm with Himmlischen Kurieren," said Fuhrmann. He drew a holographic badge from a pocket of his caftan. "I'll be helping you get all settled and oriented."

"Himmlischen Kurieren?" Cove asked, giving the badge a cursory glance.

"Oh, wait, Celestial Messengers." His new employers.

Fuhrmann, who came to about the level of Cove's chin, nodded curtly.

"Quite so. I must say, this is a true honor. Your doctoral dissertation was transmitted to us when the Godspeed entered the system, and it was brilliant, just brilliant. 'Colophon Routing and Redundancy: New

Protocols

for Interstellar Data Exchange.' Did I get the title right? Very innovative material. I especially liked the section on the practical ramifications of interstellar packet loss. Put a very human face on the whole business." He smiled with what seemed to be an attempt at camaraderie. "You've got seventy years of developments to catch up on,

of

course--well, twice that, with the travel lag--but you're going to be very, very welcome here. We'll be pleased to put you right to work. Er, Miles? Are you all right?"

Cove shook his head. He had spaced out there for a minute. "I'm sorry.

I

was expecting..." The hitch in his breath caused his mouth to twist ruefully. "Well, I'm a little thrown, because to be perfectly honest I

was

expecting someone else."

Fuhrmann cocked his head to one side in a strangely birdlike way, and Cove

noticed that the man's eyes did not match in color. The iris of the right

eye was bright blue, but the iris of the left glinted like chrome, and the

white seemed ... well, too white in contrast with the other eye. "I'm not

aware of who that could possibly be," said Fuhrmann.

Cove shrugged helplessly, concentrating, and then it came to him.

"Helen.

Helen Pratt." He shook his head. "I keep losing her name." To say nothing of the memory of her face.

"Temporary dysnomia is a frequent side effect of prolonged cryosleep," said Fuhrmann. "It may be quite disorienting for a while, but should pass in a matter of days. Now, tell me about this woman. Who is she?"

"She ... well ..." Cove felt his face heat and his lips curve into a smile, which he tried to resist. "She's my friend from Enoch." But saying the words, the ache of his love and the attendant self-consciousness changed to something far more vast, and he comprehended for perhaps the first time the size of the gulf he had crossed. By the time he could ever return to his home planet, more than one hundred fifty years would have passed, and everyone he knew would be dead. Seventy light-years was not a distance to cross lightly. "She was supposed to be here," he finished quietly.

Fuhrmann regarded Cove for a moment with pursed lips. "Why don't I buy you some coffee, Miles?" he said at last. "You look like you could use some. We can pick up your personal effects in a little while."

The shorter man led Cove through an iris portal and into a wide corridor walled with white ceramic. The corridor curved upward in the far distance, and lush greenery overflowed planter boxes set into every possible niche. The corridor was not crowded, for which Cove was grateful; he had trouble getting around in the low gravity. It was easier to control his movements here at the outer rim of the station than it was in the weightlessness at the hub where they had docked, but he was still feeling only about half the g he was used to from Enoch. The slight counterspinward nudge imparted by the rotation of the station didn't help much, either.

Fuhrmann preceded Cove through a doorway in the opposite side of the corridor and into a small but cheery diner set amidst a stand of dwarf oaks. The tables and chairs seemed to be made of natural wood growing out of the floor, and the placemats and napkins resembled woven leaves. Fuhrmann purchased two bulbs of coffee from the autoserve and brought them back to the table where Cove was carefully maneuvering into a seat.

"You can dial up cream on the right side and sweetener on the left," said Fuhrmann, handing one of the bulbs to Cove. "If it's too hot, dial down the temp on the front." He sipped carefully from his own bulb. "Now, tell me, how does a young man from a planet like Enoch come to have a friend waiting for him on Netherview Station?"

"It wasn't for sure," Cove said reflexively.

"Even so."

Cove's gaze wandered to a nearby viewport sealed with superglass, beyond which a field of stars like diamond dust on black velvet swung sedately past. "You know the relocation stipend your company offered? How it was

enough for me plus a companion?"

"I do." Fuhrmann appeared to stare at a point in space about half a meter

before his face. "But your records were updated shortly before the Godspeed docked. Only one passage has been charged--yours."

Cove's flesh felt suddenly twice as heavy as it should. He closed his eyes

and released a long, slow breath. "Then she didn't come," he said.

"I don't follow," said Fuhrmann.

Cove leaned back in his chair and ran his fingers through his hair. "We were in love," he said. "At least I think I was, and I'm pretty sure she

was. We were talking about partnering." He found the nipple on his bulb,

took a pull of coffee without really tasting it. "I was in school, studying the Standard Curricula. When the compufessor granted me a master's degree in interstellar data exchange, it also spit out this automatic employment offer from Celestial--uh, from Himmlischen

Kurieren.

You know--'we've projected thus-and-such a need for researchers with your

particular talents on Netherheim over the next two centuries, and we want

you to come be a part of it all."

Fuhrmann nodded. "It still amazes me that people actually take us up on those offers--how close we come to hitting those projections."

"Yeah." Cove massaged the muscles behind his neck at the base of his skull. "Me, too, now that you mention it." Outside the viewport, the blue-gold limb of Netherheim was just swinging into view. So unlike green

me, Enoch, and yet so oddly similar. "I knew I needed to come to Netherheim for the sake of my work, but it was so hard to ask Helen to come with

to abandon everything she knew. Still, I couldn't imagine coming without

her. Oh, God."

Cove took several breaths and another swallow of coffee. "But even when she agreed," he continued, "it was an almost impossible thing to arrange.

Emigration Enoch has a lot of trouble sustaining its population, and the

you're laws make it really difficult to leave the planet, particularly if

us a woman. I finally got permission to come, but by the time Helen got permission there was no way for us to get passage on the same ship. The damn bureaucracy--just one more way the government tried to discourage

flight, from leaving. We could both have waited together for an even later

but that might have taken two or three years.

the "So we agreed we'd go with what we could get right then. I'd leave on

Barnard's Godspeed, which would be stopping along the way at Aphasia and

which World. Then nine months later, Helen would leave on the Quicksilver,

something would be stopping just once at Serendipity. Only thanks to the relativistic effects, she'd actually end up beating me here by

like eighteen months."

Cove stood abruptly, panicking when his feet left the floor. Fuhrmann shot up to steady him, but Cove moved to the viewport and watched as the planet below swung out of sight. "We shouldn't have done it that way," he said, and the words seemed to come from somewhere far distant. "Whatever we did--either coming here or staying there--we should have done it together.

Damn, why was I so stupid?"

"You're hardly stupid, Miles," said Fuhrmann, laying a somewhat cold hand on Cove's shoulder. "You're a genius, really. You are."

"Yeah, sure."

"Listen, your work shows a remarkably intuitive understanding of communications protocols, a flair for creative problem-solving--what we like to call an ability to think outside the box--and a ... a rare conversance with some of the less well-known ramifications of subquantum physics. The research teams are already wrangling over who gets first crack at you. You've got algorithmic teams, pure theorists, language deconstructionists, even one team working on faster-than-light communication--" Fuhrmann broke off, smiling with embarrassment. "Sorry if I wax a little overenthusiastic, but I get very excited about the prospects here for someone as smart as you are."

Cove shook his head. His face felt frozen. "Well, I'm at least smart enough to know the smarts we're talking about aren't the kind that are really important. Helen was my touchstone for things like that." A tear formed in the corner of his eye, but without sufficient weight to cause it to fall. He dabbed it with the tip of his finger. "She always told me I was too intelligent for my own good, and not smart enough by half."

"That doesn't sound like such a constructive thing to say to someone." Heat flared in Cove's chest. "Well, it all depends on who's saying it, and how they're saying it."

Fuhrmann nodded and removed his hand from Cove's shoulder. "You're right. I apologize."

Cove sighed. "Forget it. I don't expect anyone else to understand." He turned back to the viewport. "It's funny, though--I can't imagine her not being with me, and at the same time I can't imagine her ever leaving behind her whole life on Enoch. Which probably only proves her point."

He laughed without mirth. "So in the meantime, she decided she really didn't love me enough, or she met someone she liked better, or ... oh, who knows what happened."

"You do realize," said Fuhrmann with a strangely jarring brightness, "that imprecision on extremely long relativistic trips isn't such an unusual thing. It only takes a small variation in the ship's velocity to throw the arrival off by a year or two from our frame of reference, or even more. From the ship's reference frame, they hardly notice the time delta, but we certainly do on this end."

Cove turned his head from the viewport, one eyebrow raised.  
"Were you aware that your own flight arrived about six months early?"  
said  
Fuhrmann. "Maybe you missed the announcement in all the confusion of  
reawakening. The point is, relativistic navigation is really as much an  
a  
art as a science--a little like what you and I do. Schedules don't mean  
lot."  
"How--how can we find out...?"  
Fuhrmann cocked his head and pointed at his left eye. "Right here. I  
just  
subvocalize my query, and I can pick up the results on my eye. What was  
the name of her ship again?"  
"The Quicksilver," said Cove, his excitement mounting. "You can really  
find out just like that?"  
"Just like that." Fuhrmann stared again at the invisible point in front  
of  
his face, scowling a bit, but then his expression relaxed. "Well, the  
Quicksilver hasn't been in port here anytime in the last century."  
Cove felt both his eyes and his smile widen, and for a moment it seemed  
that his heart was whole again. "Then--then it's still on its way here."  
Fuhrmann nodded. "It certainly looks that way. In fact, it looks as  
though--oh, dear." His scowl returned, fading to a look of resignation.  
"Oh, oh, dear."  
Fear galvanized Cove's skin. "What? What?"  
"Miles, I think you had better sit down."  
"No! What?"  
Fuhrmann would not meet Cove's gaze. "Miles ... I'm sorry. It seems  
there's another explanation for the delay. You mentioned the  
Quicksilver  
being scheduled to stop in the Serendipity system. Well, there's a  
civil  
war in progress there. Or at least there was thirty years ago, which is  
the most recent information we have." He coughed. "When the Quicksilver  
entered the system, it was ambushed by a rebel armada. They apparently  
mistook it for, er, a troop ship."  
Cove stood with his mouth open, while the revolving stars outside  
seemed  
to stretch out and spin around him. "What are you saying? Are you  
saying...?"  
Fuhrmann's forehead wrinkled. "Er, I'm afraid so. I'm--sorry."  
"No! Oh, my God, no!" Cove gripped his head in both hands and turned in  
a  
circle, oblivious to the stares of the diner's other patrons. "Was she  
on  
it? Oh, God, please tell me she wasn't on it! Please!"  
"Miles, I don't know," said Fuhrmann quietly.  
Cove seized the shorter man by the front of his tunic. "What do you  
mean,  
you don't know?"  
"Just that," Fuhrmann said with only a trace of perturbation. "Miles,  
the  
ship didn't have time to check in at Serendipity before it was  
destroyed.  
The only copy of the passenger manifest would still be on Enoch, and  
they  
won't know to transmit it back here until they've heard about the  
incident  
from Serendipity. And since Serendipity is closer to us than it is to  
them, they won't get the signal on Enoch for another ten years."

"Oh, God, that's eighty years, at least," Cove said. "And with the likelihood of packet loss along the way..." His voice dropped to a whisper, and darkness crept in at the edges of his vision. "Even if I live past a hundred, I'll probably still never know. Never."

He returned to the table and drifted down into his seat, moving like a fragile leaf in the low g. Only one thought kept the darkness at bay, though it was several moments before he could articulate it. "Fuhrmann, you said something about research in FTL communication."

Fuhrmann sat down opposite Cove. "That's Dr. Saimamba's team, yes."

"Get me on it."

"Well, I can put in a recommendation..."

Cove seized the other man's wrist. "Get me on it."

Fuhrmann indicated his helplessness with a shrug. "I'll see what I can do, but--"

"You promise me," Cove said with grim focus, feeling the darkness contract around him. "If your company wants to keep me here one minute longer, then you promise me now."

Fuhrmann picks up his bulb and finishes his coffee before speaking, the better to conceal the troubling mixture of satisfaction and discomfort he feels. To get the result you want, as he has always believed, you need only present the problem in the correct terms. No falsehoods necessary--only facts, properly ordered.

Not all the facts, either--only the necessary minimum. The fact, for instance, that Kim Saimamba has paid Fuhrmann handsomely to get the kid onto her research team--that's nothing Covio needs to know. Her hunger for a Hawking Prize-- similarly irrelevant.

And then there are the disturbing rumors he picks up here and there in the company, rumors conveyed in whispered fits and snatches...

He sets aside the empty bulb, which has completed its job and now rattles as hollowly as Fuhrmann fears he will when he stands up from the table.

He takes Covio's hands in his own and gives them a solid squeeze, staring straight into the young man's eyes. "You'll get on that team, Miles," he says, with just the precise degree of solemnity and determination. "I promise you that."

The young man's eyes widen in surprised gratitude, trembling on the verge of dissolution, and Fuhrmann has a moment to wonder how plausible it is that the company has really translated its interest in highly motivated researchers into a galaxy-spanning network of independent saboteurs.

And then Covio's brave front crumbles into keening sobs, and Fuhrmann can only pat the young man's hand to no effect as the grief pours out like a river. If the rumors are true, he will have many more such scenes to look forward to in the coming years.

Murmuring empty words of comfort, he tries without success to swallow the ashes in his mouth--ashes like the cold remains of a blasted starship.

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