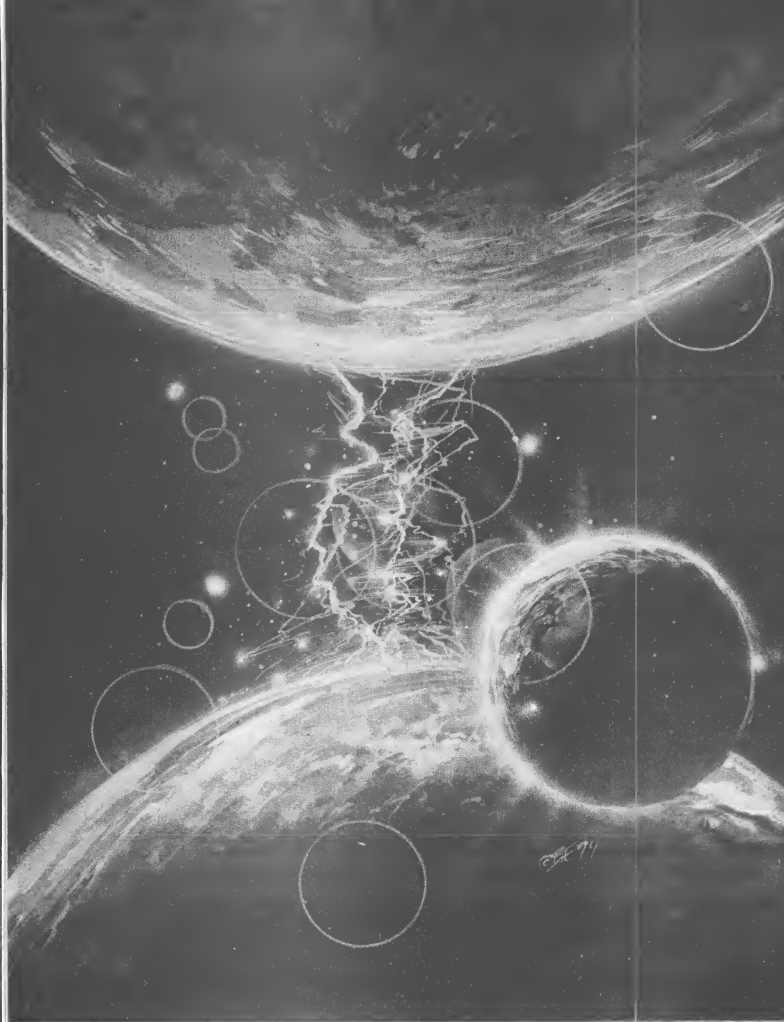




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THE MINDS WHO JUMPED

by
F. Gwynplaine MacIntyre

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The barmaid had changed sex three times that year, traded bodies bi-monthly, and she'd hocked her memories and bartered her thoughts so often that she couldn't remember her own birth-shape anymore. She believed that her name was Jen, and that she was originally female, human, and Earthborn, but of course there was no way she could know. The memories inside Jen's head might be *hers*, or they might be someone else's bootleg memories that Jen had picked up cheap on some back-alley planet. It was also possible that they were *nobody's* memories; they could have been scripped in a computer, on any of three hundred planets, and then the counterfeit memories were downloaded into Jen's head. Of course, it wasn't Jen's real head.

Jen had lost track of her original body. She vaguely remembered being blue-eyed, red-haired, and freckled at some yesterpoint in her life, but that was all. When she'd sold or bartered her original head, she had sold all its contents . . . including her memories. Her mental image of her original self—blue-eyed and freckled—might not be one of Jen's own remembering. It could have been a remnant bit of a rememory that was left inside Jer's latest brain by the brain's previous occupant.

Jen was wearing a hyde, like everybody else in the bar. The Jumpoint was crowded with visitors from a dozen different worlds, but there wasn't a single real *body* in the whole room. There wasn't a cubic centimeter of flesh nor a smear's worth of body fluids anywhere between the jukebox and the airlock. They all wore hydres. Jen's hyde was encased in bright pink syntheskin, molded into the contours of an adult female humanoid with tendersex genderspex. Most of the Jumpoint customers were wearing neuter hydres without gender options. Either they couldn't afford anything better, or they were just passing through on a Jump to some other planet and didn't feel like paying extra for gonads. Jen was here on Venator to *work*, so her hyde didn't come with eat-options or sleep-options. Her plastic body stayed awake 27 hours a day, nine days a week, without meal breaks or cowntime.

There were four conflicting memory tracks elbowing each other inside of Jen's head—inside her hyde-head, that is—and so she remembered four different explanations for why the cyberbodies worn in interstellar space were known as "hydres". Reason One: the hydres were invented by someone named Hyde. Reason Two: "hyde" was short for hydraulics, because the cybernetic bodies had hydraulic servolimbs. Reason Three: after you Jump out of your original skin, you trade your hyde for a hyde. Reason Four: when you've lost your own body you still need somewhere to hide, so you hide in a hyde. Maybe all four versions were true. Jen didn't know.

The Jumpoint relied on the nearby Jumpshack for its customers. Most of the hydres in the joint lacked eat-options or pleasure modems, so the bar wasn't selling much food or drink or smoke. The hydres were loitering between Jumps, flipping spare jingle into the jukebox and tasting various rememories. One selection in the jukebox—B-17, a memory of committing murder—was very popular; several customers had played the

rememory four or five times and were reliving it in greater detail every time. Kill-memories were popular fare hereabouts.

The Jumpoint was on Venator, the fifth planet of Beta Delphini, a white star 109 light-years (and change) away from Earth. Most of the hydres in the bar looked like Delfs: their cyberbodies were built to resemble the Beta Delphini system's native humanoids. The minds inside the Delf-shaped hydres probably weren't real Delfs, because if they'd been born in this neck of the galaxy they would probably be wearing their own bodies.

Just a 5.769-light-year Jump away from Venator's white sun is Gamma Delphini, the most beautiful double star in known space. Gazing out the window of the Jumpoint at the sky overhead, Jen had a fine view of the binary star; two suns within a single gravity well, orbiting each other in eternal cosmic foreplay. Gamma Delphini A is a yellow-white spheroid, and Gamma Delphini B is a golden egg-shaped sun, balanced precisely between yellow and orange. Two stars like joined lovers, forever. Gamma Delphini A has no planets, but the golden sun Gamma Delf B was encircled by a dozen Biodomes. Some day, if Jen could save up enough jingle to leave Venator, she hoped to visit the crystal Biodomes of Gamma Delphini.

A man made out of metal flesh was drinking graphite juice. The customer at the end of Jen's bar was inhabiting a male-shaped hyde, which meant that the mind inside his cyberskull was either male-born or a female spending a genderstint in male shape. He was called Doctor Johnny, and his hyde was more detailed than most of the other synthetic bodies on Venator because Doctor Johnny worked for the Sector Council and his body was paid for with taxpayers' jingle. Jen was sweet on Doctor Johnny. He'd visited every planet in the Delphinus sector, and he always came back to Jen's bar with tales of the places he'd been and the memories he'd tasted. The syntheskin that encased his artificial arms felt almost flesh-real whenever Jen touched it with her hydraulic fingertips. Doctor Johnny's plastic throat contained a liquid larynx that made his voice sound almost human. Most hydres on Venator had metal voices, cybersquawks, but Doctor Johnny's electric baritone sounded like it almost had flesh in it. Sometimes, when Jen closed her plastic eyelids and just listened to his voice, she could convince herself that Doctor Johnny was really standing there beside her, in a body made of flesh.

Doctor Johnny's torso was government property. It was rigged with eat-options so he could keep his internal servos lubricated, and now Jen watched as Doctor Johnny drank the carbon cola that kept his innards moist. Then he flashed his sweet silicon smile. "Gotta get back to work, Jen," he said in that almost-flesh voice. "Expecting that new cargo down at the Jumpshack. Tell you all about it tomorrow." Then he winked, which was something to see because most of the hydres on Venator were built with unwinkable eyes. A second later, Doctor Johnny was gone.

The door opened and in came a man made of *meat*. Human flesh. His body was *alive*, flesh and blood, so Jen knew he had

Absolute Magnitude MSFA

to be someone damn-sure important, and he was probably jingle-rich. Most travelers couldn't afford to bring their bodies along on interstellar trips; it wasn't cost-effective or energy-efficient. Much cheaper and easier to travel by Jump: leave your own body behind, and have a new body waiting for you at the far end of the journey. Some of the more expensive hydes came with counterfeit flesh, but Jen could always tell the fakes from the genuine fleshers. The people wearing artificial flesh didn't sweat, for one thing.

The meat-faced man swaggered up to the bar, and now Jen knew that his body was genuine flesh, in all its sweating stinking glory. Her hyde contained olfactory sensors, so she could get a whiff of the stranger. He wore a neon-colored suit. The man who was flesh had a spreadchuckle smirk on his face. He parked his butt on a barstool and flipped Jen a wink: "My name's Starbuck. Got anything to eat here?"

From underneath the bar came limping Quarrel. Quarrel's body limped because his portside leg had a hydraulic leak. Quarrel was the Jumpjoint's manager. He was big and ugly, with brutal servolimbs in case any customers got nasty. Jen didn't know whose mind was actually encased inside Quarrel's cyberskull; it was possible that the person who called himself "Quarrel" might really be several different minds taking turns in the same body, because Jen had noticed that her boss's moods kept in synch with Venator's nine-day cycle. Quarrel was friendly on Mondays and Thursdays but he was gruff on Tuesdays and Pluterdays. Today was Wednesday, so Quarrel was just plain *mad*.

Quarrel grunted at the flesher who called himself Starbuck. "You want food? Pay in advance."

The stranger reached into a Moebius pocket in his tesseract vest, and he flipped a gold ingot onto the counter.

Quarrel sneered. "You must think I'm a skeeve, mister. We've got matter replicators on this world. Gold is cheap as dirt. We use diamonds for doorknobs."

Starbuck's cocky grin disenchanted itself. "But I thought that Venator uses a matter-based currency."

"Yeah, we do. Give me something with a complex atomic structure that can't be replicated. A seashell, maybe, or a freeze-dried human fetus."

Starbuck's grin broadened. "So your currency is based on artifacts?" He reached down and picked up his suitcase: a Mandelbrot satchel that was bigger on the inside than it was on the outside. He took something out of the satchel and set it down on the bar. "Ever see one of these?"

It was a little model car. To Jen it looked like a cheap plastic mass-produced toy, with no intrinsic worth. Still, the plaything had a slight value here on Venator, because of the tremendous amount of energy that must have been expended to transport those few grams of plastic across the interstellar void at faster-than-light speed. But now that the toy car was *here*, on Venator, Quarrel could key its specs into any replicator, dump in a kilo of raw carbon molecules, and churn out a hundred little toy cars just like it.

Quarrel's artificial face remained impassive as he examined the toy. Then suddenly his hyde-eyes widened, and his hyde-lips let out a whistle of astonishment. "Take a look at *this*, Jen."

The barmaid looked. The toy car was unique. It had started as a mass-produced plastic kit, but the pieces had been hand-assembled, and there were glue-smear fingerprints on the plastic where somebody—some child of flesh, born long ago—had carefully and lovingly built this model, piece by piece. The imperfections enhanced the value of the artifact, because the flaws complicated the toy's molecular structure;

they *uniqued* it. Hand-made artifacts couldn't be copied cheaply; a matter replicator would churn out quasi-copies with all the flaws smoothed out, or else the replicator would use up an unholy amount of energy making duplicates that weren't cost-effective.

Quarrel put the toy car down carefully, almost in awe. "Okay, mister. Trade you one meal, even up, for this car."

Starbuck shook his flesh-born head. "Guess you don't know what I'm selling, friend." He took a small crystal out of his pocket. Jen the barmaid recognized it as a biochip, like the biochips that powered the jukebox at the far end of the room.

The flesher named Starbuck plunked the crystal onto the bar. With a high and distant *thrum*, the crystal began to vibrate. Jen reached out with both her hyde-hands, and one of her synthetic fingers touched the trembling crystal. Instantly, she *remembered*. There was a memory stored within the crystal biochip, and now it slipped gently into Jen's mind.

As Jen glanced at the plastic toy car, suddenly *she remembered building it*. She savored the pleasure of fitting the pieces together, the sheer sweet joy of creation recalled as she lovingly painted the model and affixed the decals. She remembered the smell of the glue, the click of polyplastic pieces snapping into place. It was a cheap toy, but *she* had crafted it, and . . .

The crystal stopped vibrating. Quarrel had touched it too, with his own thick hyde-fingers, and he had shared the memory. Again he whistled. "A genuine artifact, *plus* the original craft-memory that goes with it? That's a rare commodity here on Venator, mister."

Starbuck's head smirked a wraparound grin. "Tell you how I got it. Knew a lady on Earth with a son nine years old. I taped some electrodes to his scalp, and I recorded all his sensory input and his emotional feedback while he built this model car. How'd I bring it here, you ask, a hundred light-years from Earth to Venator?" Starbuck flipped another wink to Jen the barmaid. "Hell, I've got enough jingle to ship an elephant from here to Prox' Centauri, if I want." He winked at Jen again. The barmaid had never seen a real flesh-and-blood wink before . . . at least, her cyberskull contained no memories of winks. Starbuck's eyelid seemed to dance across his eye. He had a *real* wink, a flesh-wink; more alive than the stuttering hydraulic flickerwork that Doctor Johnny's artificial eyes always made. But Jen still liked Doctor Johnny better than this cocky flesher-man named Starbuck.

Quarrel grabbed the toy car and the memory-crystal before Starbuck could change his mind. "How long you staying on Venator?"

"Only two days this trip." There was a ruckus at the far end of the bar as Starbuck spoke; the jukebox was playing a particularly violent rememory, and several customers were crowding in to get a taste of it. "I'll be moving on next Scatterday."

"Fine. We'll give you room and board till then, and finance your next Jump . . . long as it's anywhere in the Delphinus system." Quarrel opened a compartment in his torso, stowed the precious toy and crystal within and lurched away, clicking his metal fingers along the bar's menu-monitor. "Treat him right, Jen. I'll be belowdecks."

Starbuck scrolled through the menu and ordered a double glopping of Altairean prognosh, extra spicy. "And keep the beers coming, honey," he said. Jen had trouble keying the sequence for *beer* in the food replicator; it had been a while since any actual bodyflesh capable of drinking alcohol had walked into this bar. While she served the flesher, she asked:

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"Where you headed, mister?"

Starbuck toasted his beer, faced the window, and drank a toast to the golden egg-shaped star Gamma Delphini B, floating in the sky 5.769 light-years above Venator. "I'm on my way to Gam' Delf B, honey. Gotta get there by Scatterday."

"What for, mister?"

"Tell you, honey. You see how them two Gamma Delfers are so close they're practically kissin'?" As Starbuck spoke, Jen looked out the window. The two components of the binary star Gamma Delphini were indeed much closer together than Jen had ever seen them before. "Happens only once every 7.3 years," Starbuck went on. "I heard it from a tudorisk, scripped by some glitchwipe who didn't have sense enough to cash in on what he knew." Starbuck swigged beer and swiped his hand across his beery mouth; it was a strange sensation for Jen to see actual droplets of moisture on a pair of genuine fleshed lips. The native humanoids on Venator got drunk on methane gas.

"At 1530 hours, come Scatterday," said Starbuck, staring into his beer while he recited the wisdom he'd snatched from a tudorisk, "the two suns Gamma Delphini A and B will attain periastion. That's the binary star's interchange phase. A stellar flare will shoot up from the yellow-white star and kiss the golden sun. The energy transfer means that Gamma Delphini B will gain luminosity, while it sheds stellar mass into Gamma Delf A. Damedest thng you ever saw. Crystal tides of plasma gas will ripple across Gamma Delphini B. Sunspots and corona and flares, yes, and liquid jasmine flame. Most beautiful sight in the galaxy." Starbuck quaffed the rest of his beer, and then he belched. "So I came here to make some money off it."

This was news to Jen. "You're going to sell a stellar flare?"

"Pack it and bottle it for sale to the highest bidder, hon." Starbuck tapped his beer mug, gesturing for Jen to key a refill. "Ain't every day that two halves of a binary star share an orgasm. Gamma Delphini does it only once every 7.3 years. I'll be in a ringside seat above Gamma Dee B when it comes, aboard Biodome Seven; that's the one that achieves periapsis when..."

"Periapsis?"

"Closest orbital approach, hon. There's twelve Biodomes orbiting Gamma B, but Number Seven will have the best view when those two orbs of stellar plasma get all hot and bothered." Starbuck smirked. "I'll be front row center with a row of stim-spigots taped to my scalp, recording every precious drop of awe and bliss and beauty that I experience when it happens. You have any idea how much a copy of that memory can be sold for at the Prox' Centauri memory-auctions?"

So now Jen knew why this man had come all the way to the Delphinus sector in his own flesh-and-blood body... or in someone else's Rent-a-Flesh. Starbuck's body was well-fed; he weighed at least a hundred kilos. He must have paid plenty of jingle for the tremendous quantity of energy needed to accelerate his physical mass through 100-plus light-years from Earth to Venator at hyperlight-speed. Most people who couldn't afford to pay starfare would have come here the easy way, by leaving their bodies back on Earth and traveling in Jumps from one star-system to the next... with a different hyde greased up and ready for them at each Jumpshack way-station. But Jen knew that a hyde's cybersensors were incapable of recording a memory in great detail. You needed the sophisticated tware of a brain—dendrites and neurons and ganglia—in order to get a good recording for a memory crystal. To fully experience the majestic spectacle of Gamma Delphini's stellar kiss, and in order to record the experience and his emotional reactions to it, Starbuck's mind would have to inhabit a flesh-and-blood brain.

The half-life of a dream is sixteen seconds, or the half-remembered savor of a whisper or a kiss. Any short-term sensory pattern on the human brain's cortex—such as a visual image—will diminish by 50% in the first 16 seconds. Half of the remainder fades in the next 16 seconds, and so on. Like radioactive decay, it never quite reaches zero. What remains are the dregs; long-term memory. You recall that the wine tasted sweet, but your mind can never reconstruct the precise flavor. Memories die. That's why Starbuck was rich: he put his dreams into bottles and his memories into cages, and he sold them all to the remember-addicts.

Most of the crowd in the Jumpjoint had run out of jingle by now, and were leaving. Starbuck poured himself another beer, and swaggered over to the jukebox while Jen the barmaid collected the customers' empty bottles and the dregs of methane juleps, to feed into the recycler. Venator's sun Beta Delphini had set nine hours ago, but high in the night sky the two stars of Gamma Delphini strained towards each other, yearning to touch. For the rest of that night, the man named Starbuck leaned against the memory-jukebox, sipping beer and playing B-17, the murder-memory, over and over...

While Jen the barmaid was tending bar in a Jumpjoint on Beta Delphini's fifth planet, another woman named Jen was on duty aboard the science-station on Biodome Nine, orbiting Gamma Delphini B. Or maybe the two Jens were both the same woman. Their synthetic bodies differed, of course: barmaid Jen was embodied in a barmaid-shaped hyde that was designed to look sexy, to please the customers, while the mind of Jen the scientist was encased in a prosthetic body that was custom-designed for her lab duties in the Biodome. Yet it was possible that both Jens were the same woman, or two overlapping women. Because the mind of Jen and the mind of Jen contained mutual memories. The half-remembered self-image of blue eyes and freckles, details of childhood, specific nightmares and joys: these were all encoded within the memory-tracks of one Jen's cybernetic brain. Likewise in the brain of Jen the other.

It's expensive to Jump a whole person—the caboodle of memories and choices that comprise an *individual*—across the gulf of interstellar space. Much easier and cheaper to transmit just *part* of a mind from one Jumpshack to the next. And then when the mind comes out the other end with Swiss-cheese holes, you plug the holes with bootleg memories or second-hand thoughts that were scavenged or scrounged from the skulls of unoccupied hydies. Every Jumpshack crew does this. Nobody likes to talk about it. The memories shared by Jen the barmaid and Jen the scientist didn't belong to either one of them. Those memories had originated in the brain of Jen some-other.

While barmaid Jen was working on Venator, Jen the scientist was doing *her* job on Biodome Nine, assisted by a smith.

The smith was named Smith, like all the smiths. His name had once been Brock, and he'd signed on as a grunt on a cargo ship, chugging through the galaxy at sub-light speed. He stayed sober at his first few ports of call, but at his fourth planet-port he jumped ship and got into a crap game with a psychokinetic Centaurian who made the dice dance just by wiggling his eyestalks. Brock gambled away all his possessions, except one: his physical body.

Bankrupt and desperate for jingle, Brock pawned his body at the nearest hockshop, knowing they'd have the legal right to sell his body to the Rent-a-Flesh traders if he didn't redeem the pledge in ten days. He left the hockshop in a badly dented hyde,

and went looking for work. When the hyde broke down, and Brock couldn't afford the repairs, he traded it in for an older hyde with fewer body-options. Then *that* one broke, and nobody would repair it on credit. Stuck in a malfunctioning hyde, and hard up for jingle, Brock sold his memories to the thought-leggers, one at a time, and of course the mindsuckers wiped each memory from his cybercortex as they bought them.

That's a drawback of hydies. If you live inside that meat-knob called a *brain*, you can make copies of your memories just by sticking a stim-spigot to your scalp and duping off what you want. The original memory stays in your brain. If you leave your birth-body and climb into a Rent-a-Flesh, with all your memories downloaded into somebody else's skull, it's still possible to lift copies of your memories from the second-hand brain, even though most memory-collectors won't pay top price for memory reprints. But once your mind steps out of flesh and enters a hyde, you can't make copies of your memories and still keep the originals. The only way to download an imprint from a hyde's cybercortex is to wipe that part of the memory-tracks.

That's what boltaxed Brock. With his body hooked—and his mind in a busted hyde—he needed jingle, but the only marketable assets that Brock still possessed were his memories. He sold them all, one by one, for whatever they fetched in the memory-markets, and each time he sold a fragment of his mind it was *gone*. Wiped. Forever. The Brain Police found a rusted hyde stumbling around, leaking hydraulic fluid, and when they did a skullscan on the mind inside the metal brain it registered only three points on a mindscale of 100. Practically mindless.

So they made him a smith. It's illegal for a body to walk around with nobody inside it, but the government isn't going to cough up the jingle to buy new memories for every skeeve who gambles away his own brain-pattern. Sector Control had a prefabricated brainwave template, that had been copied and recopied, and the worn-out personality in the template was named Smith. They took the rustbucket skull containing the last few crumbling remnants of the mind of Brock, and they topped it off with Smith. Afterwards, of course, he had no memory or knowledge of his own: he was just Smith. Interchangeable with several thousand other Skid Row cyberskells on a hundred-some planets. Each of them had once been a unique individual. Now they were all a bunch of smiths, with the same personality and memories.

This particular smith had wangled a few days' gruntage on Biodome Nine, where manual labor was still needed because Sector Supply hadn't shipped out the robots yet. The Biodomes orbiting Gamma Delphinus B have a twelve-day week, so the Biodome crew hired the smith to haul fusion rods from Thursday till Lackaday.

Come Scatterday morning, the accident came.

The rusted-out smith was hauling cargo up a ramp, when suddenly one of his legs snapped. Fifty kilos of hardware went clatterjangling down the ramp, and hit Jen the scientist. She got knocked across the deckplates, and she cracked her cyber-noggin.

Skull fractures don't mean diddle to anyone inside a hyde, because usually the hyde can be repaired or replaced. But when Jen the scientist hit the deck, her skull's inner casing split open and her cybercortex shattered. The magnetic bytes on her memory-tapes became exposed, and they started to scramble. Only a cybermetacist with steady hands and twenty years' experience could transfer the damaged cortex into a new hyde without erasing the tracks and *killing the person* encoded on them.

Doctor Johnny was on Venator when the SOS arrived. Sector Control had rigged his multitronic brain with a receiver tuned to the distress band, so he knew he was needed.

But Venator is 5.769 light-years away from Biodome Nine. In order to get there pronto, Doctor Johnny would have to Jump.

What's the fastest thing in the universe?

Light-waves? Phooey! Light-waves are slowpokes. Tachyons? Double phooey on tachyons! Give up?

The fastest thing in the universe is *thought*.

Thoughts exist as a stream of electrons in the brain, and electrons can travel at the speed of light . . . if there's nothing to stop them. But inside a skull, the brain and the bone are like electronic resistors, designed to *slow down* the currents of thought. Unlock the brain, jailbreak the skull, and the thoughts escape free.

Give a thought enough room, and it can travel *faster* than light. Maybe you've heard that tachyons can go beyond the speed of light and travel backwards against the flow of time. Well, thought-waves are even faster than tachyons, and thought-waves can travel backwards in time too. Now you know how memory works.

Ever heard of sympathetic vibrations? Take two banjos, perfectly in tune. (There's no such thing as a banjo that's *in tune*, but we'll ignore that part.) Put the two banjos ten meters apart. Twang the G-string on banjo the first, and the G-string of banjo the second will twang the same note. All by itself. That's how the Jump works.

The first Jump from Earth to the moon used identical twins. It's been proven empty-seven times that identical twins are in telepathic contact over long distances. Their brainwaves share the same frequency, just like those two banjos. The first Jump used Japanese twins. (The Jump technology was invented by Americans, but as usual the Japanese were the ones who figured out how to get rich from it.) They put one Japanese twin in Tokyo, and sent the other to the Luna colony in Aristarchus Crater. The twin on the moon was wired to the receiving unit: a catatonic mental patient, who'd been shipped to the moon with no functioning mind inside his brain. Wired up to the twin in Tokyo, they had a test subject: a Japanese axe-murderer named Sakata who'd been promised a pardon if this stunt worked.

They transferred Sakata's mind into the Tokyo twin, then they jumped him into the mind of the twin on the moon, and downloaded him into the catatonic brain of the mental patient. They quizzed the body to make sure the guy inside it was Sakata. Then they reversed the polarity, Jumped him home again, and granted him a pardon. Three days later he hopped a freight to Hokkaido, got an axe, and chopped twenty-seven people into teriyaki, but that's not part of this story.

Using the minds of identical twins as transceivers, the Jump engineers stepped up the wattage of the Jump hardware, and amplified the alpha-waves emanating from each twin's brain so they could do longer Jumps, from Earth to Venus. Then someone found something that worked better than twins: people with Multiple-Personality Disorder. It's been proven that people who developed multiple personalities in childhood, while their brain tissue was still forming, have abnormal neural pathways in their brains. The Jumpcorp found a woman in Montreal with nineteen different personalities living inside her head, and they teamed her with a teenage boy from Australia with fourteen people in his skull. The two Muiltrees practiced with the Jump interface until they could shunt their extra personalities into each other's brain. The Jumpcorp found a

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volunteer. They plugged him into the Jump interface and sent his mind through the circuit, from the woman (on Venus) to the boy (on Mars) and then back. Worked just fine.

The techno-geeks kept improving the Jump hardware, while the interplanetary glutcorp that owned the Jump patents started hiring people with Multiple-Personality Disorder. Pretty soon a pair of Mutees, wired up to transceivers on the same wavelength—one on Earth, one on Mars—were able to transmit fifty passengers a day. Another glutcorp, named Multiples Unlimited, decided to breed its own transceivers. They adopted children from Third World nations, then they locked the children in boxes and tortured them every night (plus matinees Wednesdays and Saturdays) until the children developed Multiple-Personality Disorder. Then they gave the home-grown Mutees big paychecks to work as Jump transceivers. A third glutcorp started building artificial bodies—the first prototype hydes—and shipping them to Mars, so that when the minds came out the other end of the Jump they'd have bodies to Jump into.

Speaking of bodies, what happened to Starbuck? He was the only Terran on Venator wearing his own body, because he'd paid top jingle to travel the way from Earth on a hyperlight starship.

Well, Starbuck was wearing his body and he intended to use it. On the night before his trip to Gamma Delphini, Br'er Starbuck went prowling in one of the skeezy parts of Venator's red-diode district. The cyberslums. The Beeperbahn. He met a three-breasted cyberslut named Triple-Nipple, who had electromagnetic ferro-moans, and he paid her to give him a ... well, he never got that far. She stuck a shiv in his sweetbreads and tried to download his credits into her own moolah-modem, but she couldn't crack his access code.

Next morning the Sector Police found Starbuck belly-over, with a cut in his guts from his butt to his nuts. He could walk, but he hurt like bejeezus, and that made Starbuck hopping mad. Today was Scatterday; he had to be on Biodome Seven by 1530 hours, with a set of stim-spigots wired up to his brain ... so that he could witness the spectacular interphase of the binary star, and record his brain's sensory input and his emotional reactions. If Starbuck felt *pain* during the sensory recording, his pain would be recorded as part of the rememory, which would decrease its value to the memory-merchants. Nobody buys pain-memories, except masochists. And if Starbuck took pain-killers, the drugs in his body would dull the sensory recording. Starbuck needed a functioning body *fast*, before the binary star erupted, or his trip to Gamma Dee B would be a waste of his jingle.

He made some calls. There was a Rent-a-Flesh for hire in the Gamma Delphini system, in a corpse-cooler on Biodome Four. A good body; only three previous owners. Starbuck sent a subspace message to have the empty body shipped to the Jump terminal aboard Biodome One, and he beamed them the credits to pay for it. Then he had his luggage and his memory-recording gear shipped by hyperlight cargo ship to Biodome Seven, with a security prefix keyed in so nobody else could use his rig. Starbuck was about to pay for his own passage on the same cargo ship, when he remembered Quarrel. The manager of the local Jumpoint had offered to finance Starbuck's next Jump. Why pay starfare if you can Jump for free?

Starbuck took a robo-rickshaw to the main Jumpshack on Venator, and he arranged to have his mind Jumped from Venator to the empty body on Biodome One.

Starbuck's plan was to leave his own body on Venator, come out on Biodome One wearing the Rent-a-Flesh, hop a fast cargo ship to Biodome Seven and have his rented body's borrowed brain wired up to the memory-recorder in time for 1530 hours. He paid the mazzooma to have his own body kept in cold-storage on Venator until he got back, plus he bribed some Venatorian bigwigs to make sure that nothing strange would happen to his body while he wasn't wearing it.

All of this was around the same time that the SOS transmission inside Doctor Johnny's metal skull told him to hustle his hydraulic butt to the Gamma Delphini system, so he could save the life of Jen the scientist. While Doctor Johnny ran to the Jumpshack on Venator, the Jump crew on Biodome One had a body ready to receive him: a custom-built hyde with four sets of hands, and micro-welders built into the fingers. *Any* mind could have occupied that hyde, but Doctor Johnny had the only mind in the Delphinus sector with the experience and know-how to transfer a mental pattern from a damaged cybercortex without wiping it. It was all up to him.

And now this joint is Jumpin'.

Doctor Johnny had Jumped before, so he easily coaxed his brainwaves out of the beta phase (14 to 30 cycles per second) and into the more restful alpha state below 14 cycles. When he mellowed into deep alpha—brainwaves under 9 c.p.s.—the Jumpcrew shunted his mind into the brain of the transmitter, a teenage girl with multiple personalities who could juggle seventeen different ids without glitching. The Mutee went into mind-synch with the receiver—another Mutee on duty at Biodome One—using a prearranged cycle. When their brainwaves' sine curves matched, peak for peak, the transfer would be made.

Unfortunately, because of the distances involved, it would take nineteen minutes to complete the Jump. Not even a Jump can travel 5.769 light-years instantaneously.

Doctor Johnny cast off his steel body and jaunted. Mind-naked. He was a series of thoughts, a mosaic of memories and experiences. He was the part of a man that remains after all else is removed except the "I". He flew. He galaxied. He Jumped.

And suddenly there was someone in front of him who wasn't supposed to be there, someone blocking his way and slowing him down. And because Doctor Johnny in his Jump-phase had no mouth to speak the words, he had to *think* to touch the other. One mind tapped another mind on the shoulder, while they cannonballed through interstellar space at fifteen thousand times the speed of light.

"get Out of the wAY, thEre," Doctor Johnny told the other.

"I'm on official SeCtor BuSinEss. eMeRGenCy."

"yoU cAn sTlEk yoUr EmerGEncY," guffawed the mind of Starbuck, because he was in the Jump-transmission directly ahead of Doctor Johnny. "I'M on STArBUck's BuSINESS, bROTher."

Doctor Johnny's mind was in the delta phase now, below five brainwave cycles per second, which is where REM sleep and other strange things live. He had an emergency override signal hypnoed into his mental pattern by Sector Control, for occasions like this. He *thought* the signal. This was supposed to cause frequency gain all the length of the transmission, and enable his mindwaves to bypass any other mental patterns in the Jumpline.

But Starbuck just laughed, and flipped the same signal back extra-jangled. "dOn'T sKEEve Me, rRIeNd. I'M in a hURry, I'm aHEAd of yoU, And I pLaN to sTAy thAt wAY. I gAVE a

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gUy at the JuMpSHaCk nETy rEDiis to bOOst tHAT Same
qVErRiDe siGnal iNto My oWN tRAnsMiSSion pATteRn."

Doctor Johnny choked with outrage, if a man without a body can choke with anything. "uNauTHorized uSe of SeCTor seCUrITy frEQueNCies is a FeLoNY."

"blOW iT oUt yOUR BaZoo, bUDdy. i'VE gOt a dAtE WiTh a hOt sTeLLar FlARe oUt by Gamma Dee B, and nO sPacE-CoP cAn sTOP Me." Even without a body or a brain, Starbuck still retained his nasty chuckle. "heLL, I'Ve BriBEd JuDGes wHohAveN't EvEn bEEEn bOrn Yet."

Well, Doctor Johnny tried everything. He *thought* himself this way and that, trying to get past Starbuck. The only weapons Doctor Johnny's Jump-self had were his memories and the facets of his mind, so he hurled those at Starbuck's mind and tried to knock it aside. Starbuck just laughed and kept Jumping. And he notched up the gain on his mental override, so that he could jam Doctor Johnny's brainwave pattern and fuzz it into the background noise of interstellar space.

And at the end of the Jump, Starbuck arrived inside the brain of a multiple-personality case aboard Biodome One. He identified himself to the Multee, and was duly shunted into the Rent-a-Flesh body that they'd thawed out for him. And when Starbuck opened the defrosted eyelids of his bartered face, and turned to see the Biodome's crystal wall and the starscape beyond, the first thing he saw was the binary star Gamma Delphini entering its matter-energy interchange. A tongue of flame from the yellow-white star licked the golden sun, and both stars embraced. The cosmic orgasm was the most spectacular sight ever witnessed by Earthborn eyes, and Starbuck had arrived just in time to see it . . . but too late to record it, too late to stick a price tag on it. And as the cosmos reached its climax, Starbuck reacted in the way he felt was most appropriate:

"Goddamn it to Hell," he said. "I could have made *money* off that!"

And on Biodome Nine, a woman in a broken metal body was dying. Doctor Johnny didn't arrive in time to save the mind of Jen the scientist. Doctor Johnny didn't arrive at all. The Jumpcorp checked the pattern logs for any trace of Doctor Johnny's thoughts or memory-patterns. There was zilchness. Doctor Johnny was dead.

On Pluterday morning, Jen the barmaid on Venator was visited by two hydes bearing a teleportfolio from Sector Council's legal division. Space-lawyers. Cybershysters. They harrumphed their titanium tonsils and explained. Doctor Johnny had saved up his pay, and he'd bought some insurance. The policy was in Jen's name, and he'd never told her. The loophole-merchants downloaded several kilocredits into Jen's mazooma-module, and then they limboed back to whatever asteroid they'd crawled out from under. Jen was suddenly rich, but she didn't think about that. She'd always wondered if Doctor Johnny had been sweet on her. Now she *knew*, and it was too late forever.

She ditched her job, and then she elsewhere. She asked questions, and learned that Johnny's signal had been lost because someone had jammed him, using an illegal override frequency. She bribed a smith to give her access to the Jump logs, and she saw Starbuck's name. She quizzed a few memory-merchants on Prox' Centauri. Sure, they knew Starbuck. He'd shown up at the memory-auctions with a boodle of brain-bytes for sale, shortly after Doctor Johnny vanished. No, Starbuck had not sold anyone a rememory of the Gamma Delphini stellar interphase. Would have sold one if he'd had

one, of course. Starbuck would sell his own grandmother to the bait shop if he'd had a grandmother handy.

So Jen knew who had killed Doctor Johnny. She thought of revenge, and then she thought of forgiveness. Then she thought of revenge again, and then she thought of a plan.

Jen checked a chart. The white star Beta Delphini is the only star system within twenty light-years of Gamma Delphini. So anybody who heads out to Gamma Delf from Earth or Centaur is sure to stop at Beta Delf first. That's the safest and cheapest way to cross the galaxy: use the stars like stepping-stones.

Now Jen the barmaid disappeared. She invested her money, and she vanished. For nearly 7.3 years. Now it was almost time for the binary star Gamma Delphini to have another interphase. And a man with a spreadchuckle grin and a neon-colored suit showed up on Venator, clutching a Mandelbrot satchel. He was a gimpy with a limp and a hopscootch crotch, as if somebody had once tried to subdivide his gonads with a shiv. His name was Starbuck, and he yawned about the awesome stellar flare that would enrapture all humanity if one smart guy could seal it in plastic and make copies of it. He unlatched his satchel, and showed off all the memory-recorders and sensory spigots he was carrying. Because these were the gizmos he planned to employ to capture the rapture and shackle the joy.

And in a bar on Venator, he met a woman wearing flesh. She had the only flesh-born female body in the Delphinus sector, and it had cost her plenty of jingle to bring it here by hyperlight starship. She was a class act, far too classy to blink an eyelash at a cybersleaze like Starbuck. Naturally he made a pass at her.

No, she wasn't Jen in disguise. Well, yes she was but no she wasn't. Jen had bought herself a fleshware body, top of the line with designer genes. She'd had a brainwipe, to remove all her least favorite memories, and she plugged the gap in her mind with a custom-designed happy childhood. She had her personality rebooted, and they lipostioned her soul. Jen had bought herself a new self. She had no memory of Jen the barmaid; it was almost as if her former Jen-self had never existed. In fact, now her name was Neverjen. But there was one part of her soul that she had never let the cybersurgeons touch. Deep down, she was still sweet on Doctor Johnny.

The lady Neverjen went for Starbuck really big . . . or at least she pretended to. She invited him up to a hotel suite that had a zero-gravity waterbed and a holographic mirror on the ceiling. Starbuck was amazed that a classy lassie with a sassy chassis would go for him. So he put the moves on her: "Baby, you and me have got the only flesh-bodies on Venator. What say we study biology?"

This was not exactly subtle, but the lady Neverjen seemed to like it. "I have a better idea," she whispered. "Ever make it with somebody during a Jump?"

"Baby, you're scamming me."

"Don't be so sure." The robotler arrived with a Klein bottle containing an infinite amount of champagne, and Neverjen filled two glasses: "There's a new technology now," she told Starbuck. "They can transmit organic tissue—living flesh—along the Jump frequencies. It's *extremely* arousing, especially when two people Jump together. Only the wealthiest can afford it. Fortunately I can afford two round-trip starfares to Gamma Delphini. How about it? We can Jump . . . *together*."

She plied him with champagne and coaxed him down to the Jumpshack. The Jumpcrew were all friends of Neverjen, and they assured Starbuck that she had told him the truth. A droid named Floyd told Starbuck that physical mass could now be retained during the Jump transmission, so that two people could Jump simultaneously, and all *physical stimuli* (nudge, nudge,

The Minds Who Jumped

wink, wink) would be heightened to nearly infinity during the Jump. Neverjen disbursed the moolah to pay for two Jumps, plus the cost to transmit Starbuck's memory-recording gear to the Blodome ring orbiting Gamma Delphini B. She promised him they would get there in plenty of time to record the binary star's matter-energy transfer.

Starbuck's brain was in his wallet. He was thinking about how much money he would make at the memory-auctions if he could talk Neverjen into wiring herself up to his sensory-recorders and then having sex with him while they both witnessed the binary star's contact phase. A stereophonic sex-memory with astrophysical foreplay was worth top jingle to any rememory-collector.

So Starbuck was busy thinking about the two bulges in his pants (one of which was his wallet) when the Jumptechns slipped his head into the brain-bucket. And then all at once he

"wHaT tHe Hell iS gOIng on HEre?"

The mind of Starbuck was hurtling towards Gamma Delphini at fifteen thousand times the speed of light, without physical mass. It was a perfectly normal Jump. But Starbuck had expected to Jump while wearing his body and embracing a blonde named Neverjen. Instead: no body, no blonde, no embrace.

Then a mind came up in front of him and slapped his own mind's face. It was the mind of Jen-and-Neverjen. She'd entered the Jumpline ten seconds before Starbuck, so that she was ahead of him while they Jumped through stellar gulf. "dJeS thIs PlAcE sEEm faMIliAr?" she asked him.

"YoU liEd to mE, lAdY."

"I mAY bE a LjAr, bUt At LeASt i'M nOt a muRdereR. YeT," hissed the she-mind of Jen. She had no body in the Jump; all she had now were her mind, her thoughts, her memories. So she showed Starbuck the parts of her memories that contained Doctor Johnny, and then Starbuck knew who she was.

"I've BEEn tRiKed bY a bARMAd!" he howled.

But Jen the she-mind just laughed. "tHe TriCK hASn'T EVen sTARted yET, mISteR."

Then she told him. She'd bribed the Jumpcrew on Venator to wait until she and Starbuck were halfway to Gamma Delphini, and then to beam a high-frequency shockwave across every wavelength in the Jump range. In the Jump between the stars, Starbuck had Neverjen in front of him and a powerful shockwave barreling up behind him, getting closer every second. It would ripple through space from Venator to Gamma Delphini until it caught up with the sine curves of modulated energy that comprised the mid-Jump mind of Starbuck. The two patterns would mesh amplitudes, and cancel each other out.

"bUt I'LL DiE!" Starbuck moaned. And just ahead of him, in interstellar void, the voice of Jen-and-Neverjen just whispered: "Yes."

Then she told him the rest. "I wENt In to the Jump aHEAd of YoU, StARBUcK, sO tHaT i cOULD seE the LoOk on yoUr mind wHEN it dIes. I wAnt to SEe yoU DiE tRYInG to GeT pASt mE in the JumPlIne, the wAY DoCtOr JoHnNy dIEd tRYInG to GeT PasT YoU, bUt I wON't lET yoU GeT pASt Me. tHe ShOcKWaVe wIlL kIlL YoU wHen it rEAcHeS uS, sTARBUcK. tHeRE's a cHAnCe iT MiGht kIlL mE ToO. BuT iF my mInD gEtS nUlled oUt HEre, aMoNg tHe stARs, at lEASt I'll bE wHeReVeR JoHnNy iS."

Starbuck didn't want to get nulled. If he could speed up his thoughts, intensify his brainwaves, his mind could shoulder its way past Jen's mind in the Jumpline, and get in front of her.

Then, when the shockwave arrived, the first thing it struck would be Jen. With any luck, her brainwaves and the oncoming shockwave would fuzz each other out. The barnmaid would die, of course, but Starbuck's mind would arrive in the transceiver orbiting Gamma Delphini. He'd take whatever body they downloaded him into, and find his own body later.

So Starbuck tried to shove past Jen. One of them had to die out here, and he sure as hell didn't want it to be *him*. His mind did everything it could to outrace Jen's. Starbuck magnified his thoughts, he enhanced his memories. He ensubstanced himself, or tried to, by recalling the shape and shadow of his flesh.

But Jen kept Jumping right ahead of him. She'd been planning this for more than seven years, and she was ready. She had gathered her nightmares and hoarded her dreads. She flung an arsenal of nasty thoughts at Starbuck, trying to repel his mind.

Starbuck was fading fast. His brainwave pattern was beginning to deteriorate. The borders of his "I" were changing rapidly, dwindling zeroes. He unlocked his thoughts, and took out all his darkest memories. He flung a fusillade of phobias and fears at Jen's mind, and she cried out in pain. He sucked the pain-thoughts from her psyche, adding them to his own stockpile so that his mind became stronger. Then he unleashed his id. All the unremembered darlings of his mind came leaping out, flapping their bat-wings, and they clawed and scabbled at the most vulnerable part of Jen's mind: her innocence.

Then Starbuck snatched her, and the two minds fought in void, each one trying to claw its way past the other before the shockwave killed them both. By now Starbuck had peeled away the crusts of his mind, and he exposed the soft pink underself beneath. Down below here, in the dungeon of his soul, he kept suppressed the fragments of his weaker selves. The tortured child he'd been once, years ago. The young man with honesty and hope who'd had his teeth kicked in by greeder men until at last he outgrewed them all. The man he'd been once, and the man he could have been, and the man he'd wanted to be. All the others of self, who still lurked in his mind. He unbuckled the floodgates, and attacked.

And all the Starbucks of his mind overpowered Jen, and engulfed her. Starbuck knew that in order to get in front of Jen in the Jumpline he would have to pass *through* her, have his brainwaves overtake hers and exceed hers without jamming the frequencies. So their minds overlapped, and in that instant every fragment of himself was interlaced with Jen. Soul-naked, they touched.

And Starbuck saw. He saw all the infinite Jents that might have been and were and never would be, and his mind shoved itself across the thresholds of all their infinite doorsteps. And in the corridors of Jen, he saw a million Jents who still loved Doctor Johnny, and a thousand Jents who cried revenge for Johnny's death, and a hundred Jents who wanted revenge so badly that they would go to desperate lengths to scare the hell out of Starbuck. But in all the Jen-minds, Starbuck couldn't find a single Jen who wanted revenge badly enough to actually *kill* him. That's when he knew she was bluffing. There was no shockwave coming to annihilate him. It was all a trick, just to scare him.

Starbuck guffawed, and his mind reached out to strangle the mind of Jen. "YoU lItLe bArMaId bItch! YoU hAd mE gOInG foR a WhIlE tHeRE! BuT nOW iT's My tUrN to . . ."

The galaxy exploded.

In the eyes of his mind, Starbuck saw. He'd calculated the precise moment in its 7.3-year cycle when the binary star

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Gamma Delphini would attain periastron. But he must have stubbed his toe on a decimal point, because his calculations were off. At that instant—nine hours ahead of schedule—the yellow-white star Gamma Dee A touched the golden sun Gamma Dee B, and the interphase began. And a tidal wave of cosmic energy—X-rays and gravitons and quarks—came flooding into a head-on collision with the two beams of modulated energy that were the minds of Jen and Starbuck.

Jen was in front of Starbuck, so the blast hit her first. And her mind screamed. And in the scream, Starbuck heard another voice:

"Jen! JeN. mY daRLiNg! iS HaT YoU?"

It was the voice of a mind. Starbuck had heard it once before, in a Jump through this same region of space 7.3 years ago. It was the mind of Doctor Johnny, touching Jen. And Starbuck wondered if...

Then the blast of energy from the binary star's interphase hit him dead-on, and that was all Starbuck knew.

Aboard the Jump station on Biodome One, they caught an incoming transmission. The receiving unit was a multiple-personality case with twenty-nine different minds inside his head. He felt a stowaway mind coming into his brain, through the Jumpware headset, and immediately he tried to download the pattern into the skull of an empty hyde.

But something was wrong. Cosmic waves were flooding outward from the binary star, so the transmission was garbled. The Jumpcrew had to boost the gain to tune out all the static. Finally the synthetic body of the hyde blinked its metal eyelids, and shook its head, and it spoke:

"Where the hell am I?"

The mind that made it through the Jump alive was Starbuck.

Well, not exactly. It was Starbuck, but parts of him had been lost in transmission. Some of his traits and memories were lost, and something else had taken their place: the bravery and

compassion of a man named Doctor Johnny, and the generosity and innocence of a former barnmaid named Jen. The man inside the mind was still named Starbuck, but he'd lost a part of himself... the greedy part. And then again, maybe he'd found a part of himself that had been lost.

Starbuck's credit was good, so he booked a Jump back to Venator and scurried into his own body again. Then he went home to Prox' Centauri, and inspected his merchandise. He had ten thousand memories in separate bottles, with little neat labels, that he'd collected all across the galaxy. He had nine thousand different dreams, stuffed and mounted and spread-eagled to show off their wingspans. He thought of setting the memories free, but that was no good because most of them wouldn't survive in the wild without someone to feed them.

So Starbuck built a dream-museum, and a memory-zoo. Admission was strictly by barter: bring one of your own dreams or memories that you don't want anymore, and trade it in at the braingate. Schoolchildren from ninety-three planets came on field trips to pet the memories (well, only the tamer ones), and scientists came to study and catalogue the contents of Starbuck's dream-archive. And twice a year, for members only, the Nightmare Club had a wine and cheese party in Starbuck's soundproofed Nightmare Gallery and Scream Atrium. Stop off at the souvenir stand and buy some thrill-pills, or get your personality massaged at the Brainwave Boutique.

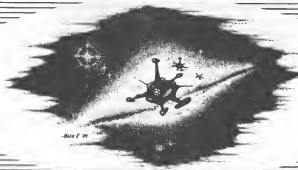
What happened to Jen and Doctor Johnny? No one knows. Maybe they died out there in space. Maybe they found a universe next door, and they live there together. But you can bet your bottom quark that sooner or later Old Man Entropy will come and snatch us all, in the heat-death of the universe. Live and enjoy and try to love somebody while you have the chance, because infinity isn't what it used to be. Only death is forever. The rest is just illusions and dreams.

The half-life of a dream is sixteen seconds.



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