

Family Ties

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The strongest source of cosmic x-ray and gamma radiation from the center of the Milky Way Galaxy is the environs of the constellation Sagittarius. Observations suggest that the galactic nucleus contains collapsed neutron stars, hydrogen gas and dark matter in the form of a medium sized black hole. It has a mass equivalent of about one million Suns. This anomaly has been designated Sagittarius-A.

Encyclopedia Britannica

Separation was traumatic. The progenitor clung with ferocity to its unruly offspring, but the centrifugal forces were too great. A troubled neighborhood watched their estrangement throes with trepidation. Many of the distressed observers sustained severe and sometimes terminal absorption as the vengeful brat terrorized the environs before moving on. The parent grieved for its contrary offspring . . .

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“This is very strange,” Jennifer Lynn Chen, Stanford University astrophysics graduate student remarked as she viewed a Hubble telescope transmission on one of JPL’s monitors. “The accretion disk around the galactic core has a bite out of it. Like it’s not a ring shape any more.” Her eyes squinted in disbelief. “Weird looking thing. Take a look, Greg.”

Astrophysicist Gregory James Metcalf slid rimless glasses in place from their perch on his forehead and viewed the screen with a dubious eyeball. “You’re sure this is not a glitch, Jen? Remember, JPL is having startup problems with their new tachyon image enhancement system for Hubble.”

She munched a bite of chocolate doughnut and slurped coffee from a Styrofoam cup. “No glitch. We’ve got real-time images since yesterday. JPL says their diagnostics are green board.”

She tapped another key. A second image popped to the screen. “This is from twenty hours ago.” A faint, hazy band circled the anomaly lurking at the center of the Milky Way galaxy. “A complete ring. See what I mean?”

“So what do you think Sagittarius-A is up to, Jen?”

“Beats me,” she said around a mouthful of doughnut. “This happened fast. Nothing like it in the textbooks.”

Metcalf scratched his newly hatched beard, then dug in his lab coat pocket for two Mylanta tablets, which he swallowed whole with a swig of tepid coffee. He clicked to a closeup of the current image. “Damn. Local star systems outside the gap are gone too. You show this to anyone else?”

Chen tugged at her dark ponytail. “Just you, Greg. Wanted to make sure I wasn’t imagining it.”

“I’m gonna ask Stan Orbovich from Cal Tech over to have a look. He’s a major pain in the ass, but brilliant. He’s been tracking down black holes for years, wrote a bunch of tech journal articles. In the meantime I’ll talk to the guys at MIT and Harvard, see what they have.”

Jennifer smiled. “Professor Orbovich. Yeah, I remember him. Eccentric as hell. I caught his lecture on neutron stars last year. He hit on me.”

Stanley James Orbovich, Ph.D, brushed frizzy uncombed hair from his forehead and tapped a tobacco-yellowed fingertip on the computer display. “Geez, boys and girls. Ol’ Sagittarius-A is busy as a beaver out there. That’s some diastasis.”

“Thought you might have some ideas, Stan,” Dr. Metcalf said.

“I do indeed, Greg. Any of the ivory-tower types picking up on this?”

“I spoke to the guys at Harvard and MIT yesterday,” Dr. Metcalf said. “They said I was full of it. In more precise scientific terms than that, though,” he huffed.

Dr. Orbovich lit up a Marlboro, bounced a smoke ring off the CRT screen. “Bunch of amateurs, think they’re state of the art. Dummies aren’t even on line with that Hubble tachyon gizmo yet. They wouldn’t know a black hole if one walked up and bit ‘em on the ass.”

“Let me show you guys something.” He handed Jennifer a hardcopy. “It ain’t much, but more than those pothead Ivy League geeks have.”

Chen read, a scowl of puzzlement pursing her lips. “Earth’s gravitational pull at 0.998 of standard. Which means what?”

“Well, we know that Sagittarius-A is flexing some muscle. How come? Something has gobbled up a chunk of accretion disk and a bunch more star systems in record time. A celestial mystery. Where’s Perry Mason when you need him?”

Chen stopped him with an upraised hand. Her voice dripped skepticism. “So? Tell us something we don’t know, Stan.”

“Sag-A could be affecting Earth’s gravitational pull, my love.”

“Bull, Stan. Two thousandths off standard,” Dr. Metcalf said. “That’s well inside established parameters for error. Some kind of electronic glitch, maybe your equipment . . .”

“Hmpf. My gravimeters were calibrated just yesterday,” Dr. Orbovich said. He inhaled, then blew a stream of tars and carcinogens toward the ceiling. “Want more? Check this out.” The Cal Tech astrophysicist rooted in his briefcase and produced a second hardcopy.

Graduate student Chen viewed the report with dawning interest. “0.996 of standard? Since when?”

“Zero eight twenty-five this morning. Less than four hours ago. Now it’s right at the margin of error limit. Wha’dya think now?”

“You got a point to make, Stan?” Dr. Metcalf asked, a hint of sarcasm breaking through.

Dr. Orbovich rubbed his enlarging bald spot, then grinned. “Damn right I have a point, Greg. You called me, remember? Are you some kind of left wing sixties wacko? Straighten up. Get some contacts and lose that excuse for a beard. I’m here to save your ass.”

Metcalf dipped his chin to hide the angry flush creeping up his neck. “I’ll remind you, Stan, we were talking Sagittarius-A,” he said.

Dr. Orbovich gave him a snaggletoothed grin. “No, Dick Tracy. Good thing you called, Greg old comrade. Wanna hear my theory?”

Metcalf rolled his eyes. “Do I have a choice?”

“Of course not. Listen up. I believe that some celestial bodies may achieve velocities exceeding the speed of light under certain circumstances. Keep that in mind and consider the possibility that the Sagittarius-A hiatus is the result of a cosmic family dispute.”

Jennifer found her voice after a few seconds of silence. “Family, Stan?” She chewed on the tip of her frayed ponytail. “Like maybe somebody split from the old homestead?”

“A runaway teenager?” Dr. Metcalf added with a derisive snort.

“That may be closer to the truth than you imagine, Greg,” Dr. Orbovich said between puffs on his cigarette.

Chen poked a finger at Orbovich's chest. "You think it's a living entity? That's crazy, Professor."

He nudged her hand aside. "I wouldn't discard that idea, love. The universe has been here a bunch of years longer than we have. There are folks right here in California who believe celestial phenomena like black holes are true lifeforms."

She stifled a snicker with the back of a hand. "California. Land of fruits and nuts. And quasi-religious cults."

Dr. Orbovich aimed an index finger, cocked a thumb trigger. "Ah, so. The Asian mentality. You Shinto folks worship the Sun Goddess, right?"

"Wrong religion, Stan. I'm a Buddhist. Punishment or reward through reincarnation. You must be my punishment."

Orbovich held up both hands in a mock defensive gesture. "No offense intended, my dear."

Jennifer giggled. "None taken. Lifeforms, my ass."

"And a lovely tight ass it is. Perhaps I'll see you in another life."

Chen laughed out loud. "Not if I see you first, Stan."

"I'm crushed, Jennifer." Dr. Orbovich reached to the bottom of his briefcase and surfaced with a dog-eared American Society of Astrophysics journal and handed it to her.

“Check this out.”

She flipped pages. “January 2005? This is a year old, Stan. What am I looking for?”

“Page one-oh-five, love. The reprint of a Nature article from 1998. On the possibility of millions of undetected black holes roaming the cosmos. Many of ‘em split from known ones. Outcasts?”

Jennifer read, her lips contorted in doubt. “Hmm. Spun off from known anomalies? And got lost?”

“Hell of a thing to splatter on the windshield of your spacecraft,” Dr. Orbovich observed with a wry grin. “I’ll bet we’ve got a renegade black hole that defected from Big Daddy and chewed a chunk out of the accretion disk on its way out. Now little Junior is cruising around our galaxy faster than light, undetected. Gobbling up planets, whole solar systems like they were M&M’s with peanut centers.”

Chen gnawed a fingernail, spat it on the tile deck. “Little Junior? How little?”

Dr. Orbovich scratched his chin. “Oh, maybe a couple thousand light-minutes across. It could fit inside Jupiter’s orbit.”

Her eyes widened in dismay. “Quit it, Stan. You’re starting to scare me. Those gravitometer readings . . .”

“I’m not worried, Jen. The current data are suggestive, not conclusive. We need more.”

“What Earth-type symptoms would we look for?”

Orbovich raised an eyebrow. “Oh, maybe fat ladies canceling their Jenny Craig programs ‘cause they’re losing weight while cheating on their diets. Nobody knows for sure, Jen, ‘cause it’s never been investigated.”

“Losing weight? Oh, wow.” Jennifer rummaged in a trash can and came up with the front page of the Orange County Register. “Look here.”

Orbovich grinned as he scanned the article. “Yeah. I saw this. USAir Boeing 737 overshot a runway in Las Vegas. United 727 in Minneapolis, Continental 747 in Hong Kong, same problem. All within the last twenty-four hours. I checked the local meteorological reports. No adverse weather conditions. Maybe their planes lost a couple of tons on a Jenny Craig diet. Could be coincidence, but maybe we should think a little more about Sag-A Junior and Earth’s gravitational pull.”

“You’re nuts, Stan. I’m gonna check Hubble again.” Metcalf tapped keystrokes. The accretion disk defect around the galactic core remained. Then his eyelids narrowed in concentration. “There’s something odd here. Must be a computer glitch.”

Jennifer peered over his shoulder. “What, Greg?”

“Gee whiz,” Dr. Orbovich marveled. His finger traced an irregular area of blackness on one corner of the screen. “Wha’dya s’pose this could be? Any wacko ideas, Greg?”

“I’ll get Hubble to zero in on it,” Dr. Metcalf said. He hit another series of keys. The centered image revealed a stygian black globular object with a starless halo around it and

similar dark trail behind.

“Unbelievable,” Chen muttered. “Let me run another diagnostic.”

Seconds later the computer beeped. INTERNAL DIAGNOSTICS CHECK COMPLETED, the screen read. ALL SYSTEMS GREEN. She tapped in a new request: IDENTIFY HUBBLE ANOMALY.

In an instant the reply appeared. CONFIGURATION CONSISTENT WITH SINGULARITY. X-RAY AND GAMMA RADIATION LEVELS CONFIRM.

“Singularity?” Jennifer mopped her brow on a sleeve of her lab coat. “Like the Big Bang?”

“Every black hole is a singularity, Jen,” Dr. Orbovich said. “A dying neutron star, its mass condensed to zero volume. Adjacent systems sucked through the event horizon by its intense gravitational forces. See if you can get us a distance readout.”

She tapped more keys, stared at the screen, eyes wide and staring. “Fourteen point sixty-seven light years. And decreasing rapidly.”

“This is real then,” Dr. Orbovich said. “When our little foundling spun itself off it attained speed faster than light. Confirms my theory. And he, she or it is visiting our spiral arm of the galaxy.”

Jennifer gave an audible gasp. Her dark eyes were wide and staring, her skin chalk white. “Oh, holy. . .”

Dr. Orbovich shrugged. “The Jenny Craig folks are gonna be pissed. No new customers.”

An alarm from the radiation monitor vibrated through the lab spaces. Dr. Metcalf stared at the blinking meters, stunned.

“What, Greg?” Jennifer asked.

His voice was tremulous, unbelieving. “Gamma and x-ray readings approaching max.”

“Sag-A’s kid is knocking at our door,” Dr. Orbovich said. “We’re gonna be stretched a little thin when we breach its event horizon . . . Oh-oh. Just wait a sec here . . .”

They turned to stare as the radiation alarms quit. Jennifer tapped the side of the instrument with an index finger, then a fist. The meters did not waver. “Readings show only background gamma and x-radiation now,” Jennifer said. “What’s happening, Stan?”

Dr. Orbovich tapped computer keys. A Hubble image appeared. His eyes widened with amazement. “Good golly Miss Molly. Junior’s gone. I sure missed that one.”

Greg peered over his shoulder. “Sonofabitch . . . It just whipped right on by. Jennifer, check the gravimeters if you would, please?”

“0.999 of normal, going to 1.00!” She clasped both hands over her head in a victory salute. “Good-bye, Junior. Go chew on somebody else’s solar system.”

“We were pretty lucky,” Dr. Orbovich said as he squinted at another Hubble image. He tapped a ballpoint pen on the screen. “Look here. Any guesses, guys?”

“We’re short a planet,” Chen said, her face pale, moist with perspiration.

Dr. Orbovich searched in vain for another cigarette, crumpled the empty pack and consigned it to a circular file. “You win the stuffed panda, Jen Chen. Pluto’s gone and Neptune’s orbit has been tilted a couple of degrees. It could follow Junior soon. Uranus is okay, so far. D’ya like my theory now, folks?”

Jennifer slumped in a chair, hands held to her face, dark eyes peering between the fingers. “Our solar system. I feel like somebody’s just walked on my grave.”

“Whad’ya think, Greg?” Orbovich said with a sly wink.

“Let’s get everything copied on disk. Nobody else knows about this yet,” Dr. Metcalf said. He sat at the computer and tapped keys. “I’ve encrypted it. It’s ours. We can publish tomorrow.”

“Publish or perish, Greg my man. We could be looking at a Nobel Prize,” Dr. Orbovich said. “Bud Lite for everybody. I’m buying.”



The duty astrophysics fellow eyeballing the Hubble displays recovered from her sudden shock and punched in a phone number.

Dr. Metcalf plugged a finger in the opposite ear to mute the background music of the faculty lounge. “Metcalf. This better be good.” He listened for several seconds. “Sagittarius-A, Ms. Exner? You’re absolutely sure?” He held the receiver at arms length as though it were a coiled rattlesnake, his face chalk-white, eyes wide and staring.

Dr. Orbovich drowned a cigarette butt in his beer glass and looked over at Greg. “Problem, ol’ buddy?”

“Phyllis Exner. Hubble watch. Uranus and Saturn are missing,” Dr. Metcalf stammered, “Gamma and x-ray readings off scale. The galactic core is . . .”

“Let me,” Dr. Orbovich said. Metcalf handed him the phone. “Phyllis? Dr. Orbovich. Please repeat. Slowly, dear.”

He listened for a minute, then turned to Greg and Jennifer. “Yeah. I was starting to feel a little lighter. And not from the beer.”

Chen grabbed tissues from her purse, blotted her eyes. “Don’t bull me, Stan.”

“Wouldn’t think of it Jen.” He turned back to the phone. “Course and speed please, love?”

Stan nodded to himself. “Okay, Phyllis. Thank you. Say a prayer for us all. Okay?” He pressed the POWER OFF key.

Dr. Metcalf held a hand to his mouth to repress a gag reflex. “I thought you said Junior was gone.”

Dr. Orbovich shrugged. “This ain’t Junior, Greg. The wackos were right. Cosmological lifeforms. Family ties were too great, I guess. Sagittarius-A’s come looking for his or her missing offspring. And it’s a whole lot bigger than a few light-minutes across. Better grab hold of something, people . . .”

The End