

Circle of Confusion

By WESLEY LONG

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Pluto is a strange planet in many ways. Perhaps it may even be classed as a "man-made" planet, since if it were not for man and his works, Pluto might as well have never been. But Pluto was found abundant in uranium, and then came man to change the ultra-frigidity of Pluto's surface, and to endow Pluto with a breathable atmosphere by transporting great shiploads of the frozen gases found on Umbriel. Then man set up cities, and since the face of Pluto had never been scarred by any kind of intelligent life, the planners had a free and open hand.

So uranium was mined near the region known on the Plutonian maps as *The Styx Valley*, but which, with characteristic lack of foresight, was across the Devil's Mountains from the River Styx. Across the Devil's Range went the uranium to Mephisto, where it was smelted down into pigs. It was then put on barges and floated down the River Styx to Hell, which lies across the River Styx from Sharon; both cities quartering on the Sulphur Sea.

It was loaded onto the ships of space at Hell, and then raced across the void, sunward to the Inner System where it was used.

But the names are but locationally appropriate. Hell is no fuming, torrid city. It is temperate with a perfect climate. Mephisto's only claim to the nether regions was the dancing flames of her smelting mills that danced on the night sky. The Devil's Range was a small ridge of less than fifteen thousand feet and it was more than amply supplied with passes and near-sea-level breaches.

And the cities at the mouth of the River Styx lived in cheerful rivalry, their main source of jealousy being the lush produce that came from the hinterland behind each. And the River Styx itself was a garden-spot for yachting clubs; bathing beaches lined the mouth for fifteen miles inward and they were clear-watered and pearly sanded.

Pluto had been a man-made paradise for a number of years, only because Man, the Adaptable, found it economically expedient to make it so.

No, it was not done with mirrors.

It was done with a lens!

The sun should have been a piddling little disk of ineffective yellow. Its warmth should have been negligible, just as it had been for a million years before the coming of man. Pluto had been ordained to be cold and forbidding, but it was not.

The sun was a huge, irregular disk of flaming yellow that had peculiar, symmetrical streamers flowing off; twelve of the main ones and a constantly opening and closing twenty-four minor streamers that flowed outward from the duodecagonal pattern of Sol. These streamers rotated, and looked for all the world like the pattern made by rotating two gratings above one another.

Sol, from Pluto, was as big as a washtub, because of a series of man-made stations in space halfway between Sol and Pluto. These stations warped space by the maintenance of subelectronic charges that produced a subetheric gradient which bent the usable radiations of Sol into a focus. The fact that they were points in space instead of mighty, million mile rings of metal to carry the

space-warping charge made the focus of Sol irregular instead of circular, but it served its purpose and men grew used to the scintillating sun.

Certainly, it cost like the very devil, but uranium is not plentiful anywhere else, and men found it economically sound—

John McBride cocked his feet on his desk at Station 1, and began to read his mail. At the fifth memo, he jumped, startled by what was on the page before him, and his feet hit the floor with a resounding crash. Angrily, he punched a buzzer, and a younger man entered.

"Yes sir?" he asked. "What's wrong, Mr. McBride?" he finished noting McBride's startled expression.

"Tommy, take a 'gram and slam it out of here on the rush. Some fool dame is going to try to fly through the lens!"

"Oh, no!"

"Yes! Can't get Terra on the phone, confound it, so fire a 'gram, but quick! Tell her that the restrictions are still in force, and that we aren't fooling! Also that it is illegal, dangerous, and foolhardy and that we absolutely forbid her to try!"

"Yes sir!" answered Tommy and left immediately. The ticking of the teletype machine in the outer office came faintly to John's ears, but the knowledge of the message's departure did not ease the tension.

Ten minutes later an answer came back:

HAVE RECEIVED PERMISSION FROM TRIPLANET
COUNCIL TO FLY FROM TERRA TO PLUTO THROUGH

AXIS OF LENS. PERMISSION GRANTED BECAUSE OF STATEMENT OF NO DANGER EXPRESSED BY DOCTOR HOLMANN OF THE DEPARTMENT OF ELECTRO-GRAVITIC PHENOMENA. SAVE YOUR ELECTRICITY, I LEFT TERRA ON TUESDAY MORNING!

SANDRA DRAKE

"Holy St. Peter!" exploded McBride. Tommy winced in sympathy, because he knew what was coming. "Doc Holmann! My father studied electro-gravitics under him. He was an old fuddy-duddy then. The old drip owns that university, that's why he's still in the E. G. chair. I'll bet you a hunk of the lens itself that the old goat doesn't even know that we are now using magneto-gravitics in the front lens element. That's the stinker!"

"Is it so dangerous?" asked Tommy. "If she uses the usual methods of coming to Pluto, she'll be going well towards ten thousand miles per second by the time she passes the front surface."

"That's the trouble," groaned McBride. "Like all other space crates, her hull will be made of cupralum alloy, which is as paramagnetic as alnico is diamagnetic. She'll hit that magneto-gravitic warp that makes up the fore element, with that antimagnetic hull and it will be like a pane of glass being struck by a minute pellet of steel. She'll cause the collapse of the front element, and with the load-loss, the electro-gravitic elements of the aft element will fall out of alignment. Heaven only knows what'll happen. Well, we'll all know soon enough!"

"How long?" asked Tommy.

"Well, she left Terra Tuesday morning. She didn't say what time, but there's little sense in finding out right now. That hop would take sixty-eight hours at a standard 5-G from Sol. Say sixty-something, and let's see, this is about Thursday evening—Greenwich Time, but that screwball might give zonal time and have taken off from Hawaii or Sevastopol as the fancy hit her. I'd say sit tight and expect anything from attar of roses to total extinction within the next couple of hours. Also get on the lens network and tell the gang to oil up their trouble-wagons. Everything from spacesuits to hand generators. Oh Peter! I'm going to quit this ding-busted job and take up truck farming!"

"Ever hear of Sandra Drake before?" asked Tommy.

"Yeah, she's one of those fool females that isn't content with being equal to any man—she's got to prove she's better! And she doesn't care how many people she hurts doing it. If Sandra Drake gets through the lens to Pluto, she'll get her ears toasted right."

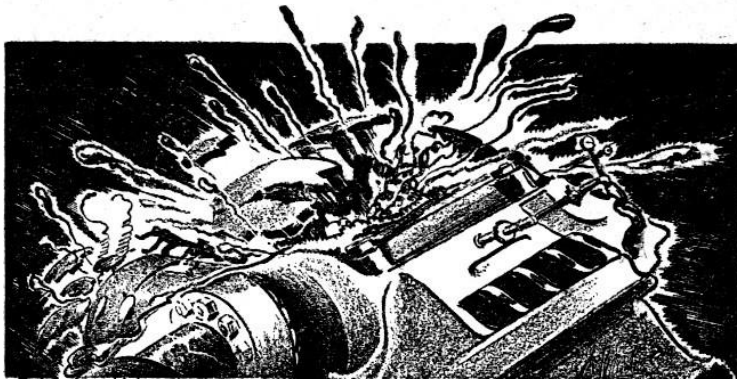
"O.K., John. I'll get on the lens network and warn the boys to prepare for trouble."

Messages began to fly around the periphery of the great lens, and the station attendants swore and began to collect tools that would be necessary to make any conceivable repairs. Small flitters were powered and made ready, and everything that carried manual controls was inspected and cleaned for action.

But Sandra Drake did not wait for the completion of the preparatory work. It was three hours after the first message flew around the lens that Sandra's ship, the *Lady Luck*, came roaring out of space and slid its nose into the magneto-gravitic warp of the front surface.

The *Lady Luck* came to a stop within five thousand miles, which was remarkable, since she was hitting almost eight thousand miles per second. If it were not for the fact that space itself was warped behind the front surface, the *Lady Luck* and Sandra Drake might both have been reduced to a flaming mass; but no one really knows what goes on behind the surface of a magneto-gravitic warp, and the laws that rule mass, velocity, and inertia must operate under a new principle. Sandra Drake, the ship no longer capable of any but minor operation, limped aimlessly, and Sandra, semiconscious did not direct the *Lady Luck*.

In the twelve stations that made up the periphery of the fore element, the electrical equipment went crazy. Fuses blew, and circuit breakers crashed open. The magneto-gravitic warp collapsed, and the power regulation of the generating equipment could not hold the power to a safe level. Excesses went into the operating equipment and raised the operating levels to overload values. Relays welded shut; relay coils blew. Switches arced across their open contacts, and closed switches took the overload until their contact points melted: the melting stub ends made sputtering arcs of copper-green hue until the gap was too wide. The pungent smell of burning insulation filled the stations, and the personnel covered themselves with the space-suit helmets and breathed canned air.



The careful positioning of the stations that held the warp of the collapsed fore element was lost as the tractor-pressor beam system took the unleashed overload current. The regular duodecagon pattern warped into a space pattern as the alignment lost not only its regularity of distance-between-stations, but its perfection of flatness.

Then as the raging current was stopped by open circuits, burned or broken, the internal damage stopped also. The stations that held the magneto-gravitic warp began to drift aimlessly, pulled at cross-purposes by the undirected tractor-pressor system.

The electro-gravitic warp of the second element thickened as the fore surface moved into the space formerly occupied by the fractured lens. The effect was similar to that of restraining a spring and then releasing it. The rear element went into a damped cycle of expansion and contraction, alternately shortening and lengthening the focal length. The series of stations that held the rear element were shaken in long, sickening swells as the electro-gravitic warp oscillated back and forth along the axis of the lens.

Here, in the stations that held this warp, there was no danger from electrical failure. But the long swells of back and forth movement shook the mechanical equipment until the bearings of rotating machinery began to rattle. An occasional relay would snap shut for the briefest of instants and make instantaneous circuits that caused minor imperfections of the lens.

The cycle damped to zero in ten minutes, and then the men in the second element stations surveyed their bruises and began to pick up the mess; from every cabinet, from every bench, from every shelf, tools, supplies, and instruments had been thrown. They lay in profusion throughout the stations and must be replaced before the men could make a move toward repair.

On Pluto, all was serene. Light that had passed through the distorted lens had not reached the far planet yet, and so they did not know.

Men toiled in the uranium mines in the Styx Valley and men fought the low passes of the Devil's Range to bring the ore to Mephisto, and in Mephisto, children were just getting out of school. Women were shopping, and chatting with their friends and haggling with the shopkeepers over the prices and quality of their proposed dinners. Two hundred miles down the River Styx, at the twin cities of Hell and Sharon, men and women lolled in the warm river and played on the perfect miles of beach. The Sulphur Sea, which was as misnamed as any of the other places on Pluto, was dotted with the white sails of pleasure craft, and the occasional white wake of a power speedboat.

A foursome on the fifth green at the Tantalus Country Club was arguing about a handicap, since one of their number was ten

strokes better than the rest. A big league baseball game was in progress at Imps Park in Hell, and the home team was beating the Red Devils by a score of 9 to 8. It cannot be recorded that Satan was pitching, though that would have been a nice touch. The pitcher's name was a staid and simple Jones.

And there were the sordid sides, too. Three men and a woman had been hit by automobiles during the course of the afternoon between the twin cities. A burglar had plied his trade to the tune of thirty-three hundred dollars from Faust's Playhouse, and was later apprehended trying to make a getaway along the Road to Hell, which connected the twin cities and was always spoken of as being named "The Road To Hell" because it permitted the citizens of either city to go across the bridge to the opposite side. The planned name of Bifrost Bridge now appeared only on maps and formal writings since the informal name was by far the more popular.

Then without warning, the scintillating sun went out, and left Pluto once more the God of Darkness. It came on again, as the rear element extended and shortened the focal length once more to a degree slightly less than the length of the complex lens. It oscillated, and it wavered, and it danced from spot to spot on Pluto. Where it touched with perfect focus, it seared the ground and sent up huge gouts of flame and tortured earth as the whole output of the sun bore down upon a small circle. It hit the Sulphur Sea, and sent great steaming clouds of vapor floating across the twin cities. It cut a sear across the center of Bifrost Bridge, and cut the famed bridge in the middle of the span. Bifrost broke and fell into the River Styx—and like the famed tale of Ragnarok, the falling of Bifrost Bridge preceded a period of terror.

The dancing spot of pure solar hell settled down, and with the characteristic perversity of uncontrolled things, it came to a perfect focal point of some six hundred feet in diameter, under which spot everything went molten.



Without waiting for any further information, the astronomers at the Pluto Observatory made rapid and precise calculations, and issued orders to the effect that all people must evacuate along the expected trail of destruction.

It was their quick work that stopped the casualty list short.

And Pluto, writhing in one tiny spot from terrific heat, began to cool everywhere else. Men looked at one another in fear as the cooling breezes began to sweep across the face of Pluto.

The production of uranium stopped, as did everything but the overworked communications system.

John McBride glared at the telephone. "They should know by now," he snapped, "that we can't take time to use the phone with all of this devilment going on."

Tommy handed him a spacegram. "Someone knows," he said cryptically.

McBride tore the 'gram open. "Oh, great ache! Tommy, pass the word on the lens network. Tell 'em to cut the electro-gravitic warp, too. The thing is focused right on the middle of Pluto and is cutting a six-hundred-foot swath across the face of Pluto like an oxy-atomic torch cuts butter."

"Can't we refocus it?" asked Tommy anxiously.

"Not without moving the stations. Or playing hob with the warp-generators. Either way would take a week to adjust. Tell Adkins to pull the big switch and hope for the best. Oh yes! Tell every mother's son not to tinker with the P-T network. When we get this mess cleaned up, we're going to need the placement again and there's little sense in letting the stations run free. Thank the Lord the warp will tend to align them again, once it goes on, or we'd have a six-month's space surveying job to do."

The lens-network phone rang, and McBride answered.

"John? This is Fuller on 9. We just found Carlson under the alphas. He's knocked colder than last week's wash and he's got a bad alpha burn."

"Better get him into an interstation flitter and bring him over. Or is Doc Caldwell there?"

"No, he isn't!"

"Bring him over anyway. I'll broadcast a call for the doc."

"What'll we do without him?" asked Fuller in a helpless tone.

"What'll you do with him in an unconscious condition?" asked McBride unsympathetically. "Before Carlson can do anything, we've got to bring him into the open. Besides, we won't be ready for Carlson until we get the mess cleared up."

"O.K.," said Fuller in an abashed tone. He hung up, and McBride snapped the button that sent a loud-speaker call through the entire system.

"Is Doc Caldwell within hearing? Call McBride."

Automatic tapes took up the call and repeated it at intervals until the doctor heard and put in a call to McBride.

"Yes, John?"

"Doc, where are you?"

"Station 27."

"What's doing?"

"Few minor cuts and a fractured skull."

"What does that mean in time?"

"Half hour."

"Then take it, and then get to 1 as soon as you can. Carlson needs attention."

"Right-o!"

McBride called Station 9 again. "Fuller? Look, Bob, how's 9?"

"Not good," said Fuller glumly. "Only one thing outbalances the rest. The alphanatron went up with the rest of the stuff or Carlson would have been burned to a crisp by now. That means we'll have to run over to 1 and get a new alphanatron."

"Can you repair it?"

"Nope. The field coils are melted right down into a copper ring and the insulation, which was vaporized, is now deposited all over the walls of the station in about two hundred atomic thicknesses. The latter is the worst, I think. That means that every single relay contact in the place has got to be gone over with trichloroethylene and a five-hundred-point file."

"O.K., Bob. Send Tiny Hanson over with Carlson and we'll send him back with the alphanatron. Need anything else?"

"Might send something that'll either precipitate or absorb the smell of insulation. The whole joint stinks."

"Cheer up," said McBride. "Think of how it would stink if we were using rubber like the old boys did. That, Bob, would really make your eyes water! No, I haven't anything here that you haven't there. It'll go away as the atmosphere clarifier takes up the impurities. Better keep a close watch on the filter screens, though, or you'll get the system fouled and the atmosphere will not be cleared."

"O.K. We're about to start right now. Tiny will be over in just as long as it takes to go around the lens."

"Wait a minute! Cut across, Bob. After all, the lens is down, and we needn't worry about crossing direct."

The phone rang again. McBride picked it up and bellowed: "Hello!"

"Dr. McBride? This is Charles Holloway."

McBride swallowed. Holloway was the planet governor at Pluto. "Yes?" he said in a quieter tone.

"You are aware that Pluto is without his artificial sun?"

"We are also aware that the lens system is without power for some stations, without space-warping equipment for others, and without personnel for still others. There may even be a few in which any combination of the three vital factors in mathematical permutation may be applied. If you're looking for encouragement, grasp this straw: We're working like a pack of fools to re-instate the lens. And if you care for my advice, I'd suggest that you issue orders that the lens-to-planet telephone be restricted to calls made from Station 1. We might need something in a tearing hurry."

"I shall issue such orders," promised Holloway. "I have also been informed by the astrophysicists that Pluto will lose about two degrees per hour until the lens is re-instated. There is still a lot of very cold material down in the interior of the planet, they say, and it will tend to draw heat from the surface. You know how the heat gradient is from midnight to noon."

"I understand," said McBride. "But we're not sitting around contemplating the temperature on Pluto, or calculating how soon it will be before you can go ice skating on the River Styx. Good-by!"

John's sense of humor asserted itself, and he picked up a cryptic little card that said: "Do Not Disturb" and hung it over the telephone. He picked up the other phone, and called Station 6.

The telephone rang endlessly at the other end, and McBride cursed. After ten minutes of solid ringing, McBride hung up in futility. "Tommy," he yelled, and a young man came running. "Tommy," he said, "get the number two flitter hot. You and I are going to go over to 6!"

Tommy left, and McBride called Station 8. The answer was prompt. "Look, Jimmy, 6 doesn't answer. You send a couple of your men over—not your best, but a couple that you can spare. I'm going to call 4 and get Jud to send a couple of his assistant specialists over, too. I'll be over myself as soon as I can get there; but it will be a long haul for me. It's near the full diameter of the lens, and twenty-two million miles is no stone's throw."

"O.K.," said Jimmy Allen. "Too bad about this charge business or you could call 5 and 7."

"I know. It's bad enough that I have to change charge to get from 1 to 6, but I'll have enough time to do it, coming from here. Are you on?"

"Sure. We're not in too bad a shape. Mostly ruined wiring and welded relays. The alphas are still in fine shape, and the space-warp generator can still do a job. As soon as we get cooking again,

I'd suggest a replacement, but the darned thing will hold up fine for a few weeks until we have time and a breathing spell."

"O.K., on the way!"

"Right, boss!"

McBride's next call was to 4. "Jud," he said.

"Jud's nursing a set of busted arms," came the disconsolate answer. "This is Pete Jackson."

"How bad is Jud?"

"Conscious, and madder than the devil. He can't even hold the phone, you know, and so I'm acting as his mouthpiece."

"How's the station?"

"Mostly a mess of secondary damage, but it is pretty widespread. Everything in the place caught hell, including the typewriter in the office, which fell off the desk. Got a space-warp generator?"

"Yup, but can you repair yours?"

"I think so."

"Then take a stab at it. I've only got three replacements, and there may be more than that blown out completely. All the results aren't in yet."

"O.K., and we'll make repair right up to the point where we need the generator anyway, whether we can repair ours or not. Then if we need it, all we have to do is to hand it in and hook it up."

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