

Starting Next Issue: THIRTY-TWO ADDITIONAL PAGES!

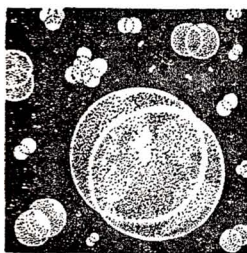
# STARTLING STORIES

Vol. 18, No. 1

A THRILLING PUBLICATION

September, 1948

## A Complete Novel



## What Mad Universe

By FREDRIC BROWN

*When the first moon rocket fell back to earth with a flash, Keith Winton found himself catapulted into a world that couldn't be—a fabulous globe where men in jalopies were space masters!* 11

## A Hall of Fame Novelist

TETRAHEDRA OF SPACE..... P. Schuyler Miller 82  
*Only a quartet of Earthmen stood between the Mercurian invaders and planetary conquest! A classic reprinted by popular demand*

## Short Stories

RAT RACE..... Dorothy and John de Courcy 72  
*The Rat-men's empire spread ever outward until it engulfed the world*

SHENADUN..... John D. MacDonald 102  
*Explorer Mitchell battles to conquer the challenge of the mountain*

SANATORIS SHORT-CUT..... Jack Vance 113  
*Mathematics is Magnus Ridolph's weapon against a pirate of space*

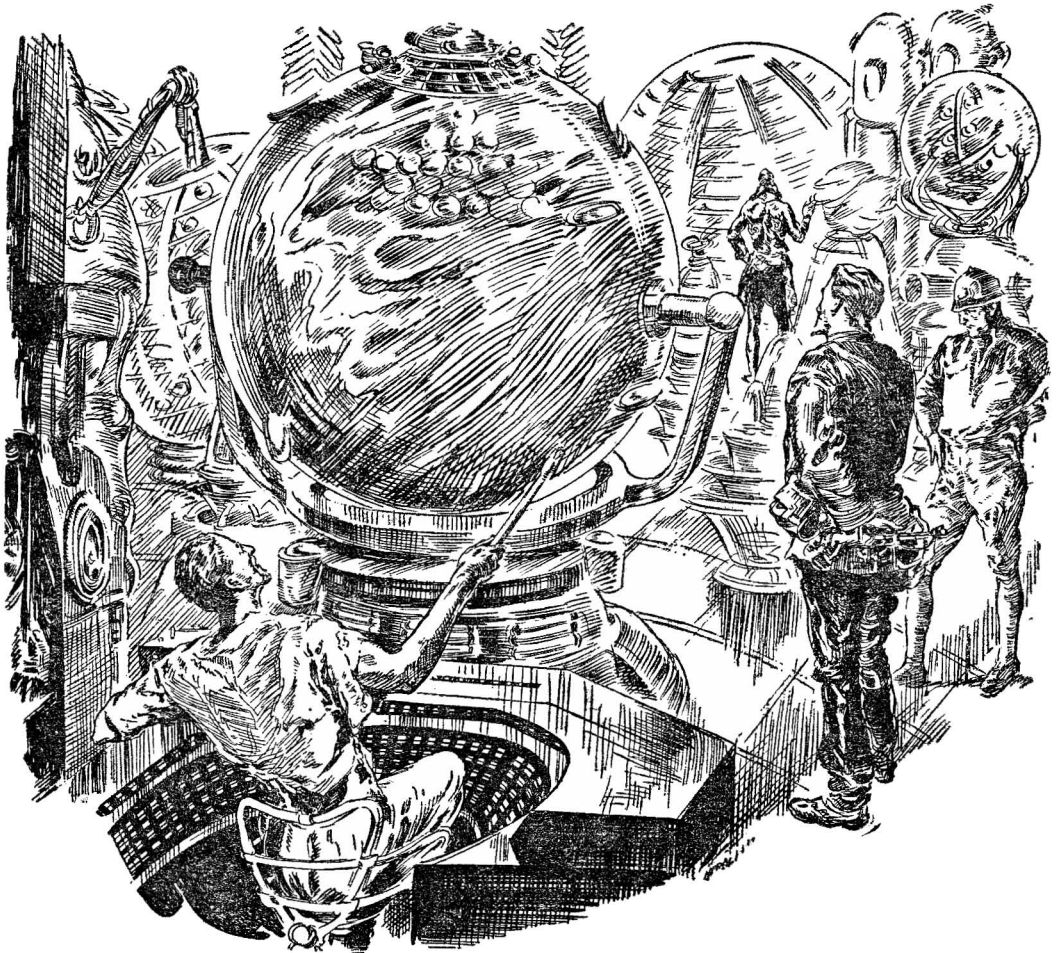
## Special Features

THE ETHER VIBRATES..... The Editor 6  
*A department for readers, including announcements and letters*

FIRST TARGET IN SPACE..... R. L. Farnsworth 98  
*The president of the United States Rocket Society discusses the Moon*

SCIENCE FICTION FAN PUBLICATIONS..... A Review 138  
*Cover Painting by Earle Bergey—Illustrating "What Mad Universe"*

STARTLING STORIES. Published every other month by Better Publications, Inc., N. L. Pines, President, at 4600 Diversey Ave., Chicago 39, Ill. Editorial and executive offices, 10 East 40th St., New York 16, N. Y. Entered as second-class matter November 22, 1946, at the post office at Chicago, Illinois, under the act of March 3, 1879. Copyright, 1948, by Better Publications, Inc. Subscription (12 issues), \$2.40; single copies, \$.20; foreign and Canadian postage extra. In correspondence with this magazine please include your postal zone number, if any. Manuscripts will not be returned unless accompanied by self-addressed, stamped envelopes and are submitted at the author's risk. Names of all characters used in stories and semi-fiction articles are fictitious. If the name of any living person or existing institution is used, it is a coincidence. PRINTED IN THE U. S. A.



As the balls settled in their places, the operator called out the winning numbers

# SANATORIS SHORT-CUT

By JACK VANCE

*Mathematics is the weapon  
of Magnus Ridolph when he  
combats a pirate of space!*

Gambling, in the ultimate study, stems from the passive, the submissive, the irresponsible in human nature; the gambler is one of an inferior lickspittle breed who turns himself belly-upward to the capricious deeds of Luck. Examine now the man of strength and action: he is never led by destiny. He drives on a decided course, manipulates the vari-

ables, and instead of submitting to the ordained shape of his life, creates a pattern to his own design.

—Magnus Ridolph.

**M**AGNUS RIDOLPH often found himself in want for money, for his expenditures were large and he had no regular income. With neither natural diligence nor any liking for routine, he was forced to cope with each ebb of his credit balance as it occurred, a fact which suited

him perfectly. In his brain an exact logical mechanism worked side by side with a projective faculty ranging the infinities of time and space, and this natural endowment he used not only to translate fact from and into mathematics, but also to maintain his financial solvency.

In the course of the years he had devised a number of money-making techniques. The first of these was profoundly simple. Surveying the world about him, he would presently observe a lack or an imperfection. A moment's thought would suggest an improvement, and in repairing the universe, Magnus Ridolph usually repaired his credit balance.

At other times he accepted private commissions, occasionally acting as an unofficial agent of the T.C.I., where his white hair, his trimmed white beard, his calm impersonal gaze and mild aspect were valuable assets.

He often visited one of the gambling resorts scattered here and there among the worlds of the Commonwealth, mingling unobtrusively with the crowds who came rich and left poor. His purpose was by no means to test his luck; his visits indeed were as unemotional as the calls of the tax-collector. Still it cannot be denied he found a certain saturnine satisfaction mulcting the latter-day gangsters in a fashion to which they could take no possible exception.

Fan, the Pleasure-Planet, was a world slightly outside the established edge of the Commonwealth, but not so far that the Terrestrial Corps of Intelligence lacked authority; and it was to Fan that Magnus Ridolph came after a program of research in connection with telepathy had exhausted his funds. Mylitta, chief city and space-port, occupied the tip of a fertile peninsula in the warm region of the planet, and here was the Hall of Doubtful Destiny, operated by Acco May, together with the lesser casinos, bordellos, taverns, restaurants, theaters, arcades, and hotels.

**T**HE third day after his arrival Magnus Ridolph strolled into the Hall of Doubtful Destiny carrying a small case. Through tremendous glass doors he entered the lobby, a large quiet room with walls decorated *wau kema* style, in the typical brown and blue leaf-patterns of the aboriginal tribes. Directly ahead, through a colonnade of green jasper pillars he glimpsed the hundred-foot

track where midget ponies raced. To right and left were the various other games of skill, chance and direction.

Magnus Ridolph ignored the race-track, turned into the hall where card-games were in progress—poker, planetta, black-jack, botch, rhumbo. He watched a poker game a moment, but passed on. Winning money at poker was a long-range affair, requiring patience and careful attention to statistics.

Chuck-a-luck he passed with a sardonic glance, and also the crap tables, and entered a wing where a dozen roulette wheels clicked and glittered. Red and black, mused Magnus Ridolph, red and black on green felt, traditional effects of gambling since the eighteenth century.

He turned his eyes around the room, enjoying the thousand various hues and tones. He looked up to the ceiling, ground-glass glowing in the patterns projected by a monster kaleidoscope, wonderfully intricate, ever-changing—plasma-yellow, blues, bottle-greens, ardent red; blazing orange rosettes, shimmering waves of violet-blue, dart-pointed stars, bursting and fading, merging into expanding circles, bars and bands.

In contrast, the carpet was a dull dark gray, without shadow, and across walked richly-clad men and women in gorgeous tunics, jackets of pigeon-blood, the blue-green of moderate ocean depth, black. Along the far wall ran three tiers of balconies, and here small parties ate, drank, watched the play below.

Magnus Ridolph surveyed the vast hall from end to end, speculated on the profits yielded by the multifarious tables. They must be enormous, he mused, looking down the ranks of flushed, nervous faces, alternately elated and dejected. And all funneled into the pocket of Acco May. Acco May was a man feared everywhere in the Commonwealth, a man linked in the public imagination to a thousand crimes. And yet, whatever form Acco May's raids took, he was never within reach when the accounting came, and no positive proof existed to incriminate him.

Magnus Ridolph brought himself back to the matter at hand. He carefully inspected one of the roulette wheels, timed the spin of the wheel, estimated the mass and radial throw of the ball, undertook a few mental calculations, turned away. The margin of error was such that he might as well gamble outright.

He retraced his steps past the race-track, catching as he passed, the flash of tiny dark-brown forms, and entered the other wing. He passed more roulette tables, a device of meshing whirling disks, and paused beside a large globe full of liquid and swimming balls of various colors—a game known in the hall as Lorango.

As he watched, the balls slowed, floated jostling up to the top of the globe, where they formed a pyramid, one ball at the apex, three immediately below, then seven, and finally a layer of thirteen, all glowing like jewels in a shaft of light from beneath.

The device was operated by a young man with seal-smooth blond hair and narrow brown eyes, dressed in the green and white uniform of the hall. The balls having settled into their places, he called the winning colors.

"Silver wins; vermilion, sapphire and flame, under; gold, royal, topaz, zebra, opal, emerald and jet, third."

**M**MAGNUS RIDOLPH stepped closer. A ball selected correctly for top place, he noted, paid 24 to one; in the second layer, eight to one; in the third layer, three to one. Even money, he thought, except for the odds in the third layer, which slightly favored the house. Then he noticed a small sign:

When white ball wins, house collects all bets, except those bets placed on white.

"Make your bets," called the blond operator. He pressed a button, the globe spun. "No more bets." The globe stopped short, the balls spun on, finally sought their places. The operator called the results.

"Indigo wins; jet, fawn, ruby, under; harlequin, diorite, aqua, ivory, amethyst, teal and olivine, third."

Chips changed hands.

"Make your bets," called the operator. Magnus Ridolph unobtrusively pulled a stop-watch from his pocket.

"No more bets." The globe spun, reached its maximum speed, halted. The balls whirled on. Magnus Ridolph looked at the stop-watch. 10:23 seconds. The balls settled into place. He checked his watch again. 32.01 seconds.

"White at top," called the operator. "House takes all bets."

Magnus Ridolph timed the globe several times more, noted the results in a small black book.

Next he turned his attention to the globe.

From his case to took a camera, and filmed the entire sequence three times.

He replaced the camera, considering what other information he needed. The liquid evidently was water. From the photographs he could calculate the speed of rise of the balls and consequently their specific gravity. The photographs would likewise disclose the dimensions of the balls and the globe, and the equation of curvature of the globe.

Several quantities yet remained unknown—the coefficient of skin friction of the balls and the globe in water, their mutual elasticity, the rate of revolution of the globe, the equation of its acceleration. He must also correct for the centrifugal force of the planet's rotation, the variations caused by the motion of the sun across the sky, the change in temperature of the water due to agitation. He must also investigate the possibility of any strong or unusual electrical, gravitational or magnetic fields. He opened his case, glanced at the dials of an instrument within, moved around the globe, watching the action of the needles. He snapped the case shut, approached the attendant.

"What is the composition of the balls?" he asked.

The operator looked down at the old man under arched eyebrows. "Vitrine, sir."

"And the globe?"

"Also vitrine, sir." The operator looked away. "Place your bets, please."

It was unlikely, reflected Magnus Ridolph, that the operator would know the precise rate of revolution of the globe. He looked for power leads, then turned away, realizing that he had no means to determine the efficiency of the motor. Direct measurement would be necessary.

He strolled from the hall, entered a drug store.

"A gram of fluorescin, please," he told the clerk. "Also fifty meters of Pan-Ang film, two millimeters."

He returned to the hall with his purchases, touched a pinch of the powder to the globe, and with his camera he filmed three more cycles. Then he checked once more the period that the globe was in rotation. No change—10.23 seconds till the globe stopped, and 32.01 seconds until the balls settled into their places.

Magnus Ridolph left the Hall of Doubtful Destiny, wandered down tree-shaded Moka-lemmaaka Way to his hotel.

The next day his calculations, facilitated

by a small integrating machine and differential analyzer, were complete, with a margin of error that was sufficiently narrow to please him.

He returned to the Hall of Doubtful Destiny, and now bought ten hundred-munit chips at the cashier's wicket. He turned to the left, toward the twenty-four Lorango balls dancing and bouncing, swirling and wheeling apparently at haphazard, but actually in courses ruled by laws as exact as those determining their surface area.

**T**HOSE laws Rudolph Ridolph had reduced to concrete terms, computing the probability of the ball in each of the twenty-four positions winning on the succeeding play.

The percentage total of the four highest probabilities was 62. In other words, Magnus Ridolph, inspecting the pyramid and playing the balls he found in the four positions of highest probability had a 62 percent chance of winning 24 to one or, in the long run, of multiplying his money 26 to one at every play.

Before he bet he checked once more the period of the cycle; then, satisfied, he put a chip apiece on the colors ivory, teal, diamond and indigo to win. The globe whirled, the balls surged, plunged through the limpid flux.

"Ivory wins," called the blond operator. "Indigo, vermilion, jet, under; silver, lime, fawn, diorite, topaz, zebra and opal third."

Magnus Ridolph took possession of his winnings and the chip he had bet on ivory—a net gain of 2,100 munits. Glancing at the globe, he bet three chips apiece on ruby, white, amethyst, and olivine to win.

The globe whirled.

"White wins—all bets to the house, except those on white."

With 94 chips stacked in front of him, Magnus Ridolph bet ten chips each on jet, aqua, diorite, emerald and gold, adding the fifth most favored position which slightly increased the odds in his favor and would confuse any attempted analysis of his play.

He lost, and immediately bet ten chips apiece on fawn, jet, royal and ruby.

"Jet wins," called the operator.

Magnus Ridolph calmly stacked his chips, 254 in all. Ignoring the onlookers gathering at his shoulder, the old man bet fifty chips each on sapphire, lime, topaz, and vermilion. The globe whirled. The operator watched

the results, silently grimaced, glanced at Magnus Ridolph.

"Sapphire wins."

The house paid off with thousand-munit chips. Magnus Ridolph signaled for the cashier's cart, changed his winnings for ten thousand-munit tokens. His stack now included 13 tokens and four hundred-munit chips. For a change of pace he played his four hundred-munit chips on balls of low probability and lost. Then he bet a ten thousand-munit token on each of the colors emerald, olivine, fawn and silver. The operator hesitated, set the globe in motion.

He smiled faintly. "Ruby wins."

Magnus Ridolph played ten-thousand-munit tokens on vermilion, opal, harlequin and gold.

The globe whirled, the balls wheeled, jeweled motes through the lambent fluid.

"Opal wins!"

The crowd behind sighed.

There were now an even 300,000 munits in front of Magnus Ridolph, and the operator was watching him through eyes slitted like a cat's.

Magnus Ridolph bet five tokens apiece on lime, diorite, flame and silver.

The operator shook his head. "I'm afraid I'll have to limit your bet, sir."

Magnus Ridolph eyed him coolly. "I understood that there were no limits to the play in the hall."

The blond operator licked his lips. "Well, sir, that's true in most cases, but—"

"Please call the manager."

The operator turned away from Magnus Ridolph's stare. "He's not available at the moment, sir. In fact he's not on the planet, he's been away on a business trip."

"Who is in charge then?"

The operator, glancing over Magnus Ridolph's head, caught sight of a man striding purposefully toward a door in the wall.

"There's Mr. May! He must have just returned! Mr. May!"

Acco May paused and turned his pale triangular face to the operator. May was a slender man of medium height, handsome in a tense metallic manner, though his mouth had a peculiar droop. His eyebrows rose in saturnine loops and his ears were very small, very close to his dark head.

"Yes, Jorge? What's the trouble?"

"This gentleman has been winning regularly. I'm afraid he's thrown a gimmick into the system."

**A**CCO MAY turned to Magnus Ridolph, looked him up and down. The quietly-garbed elderly man with white hair and short beard seemed eminently respectable.

"Nonsense," said Acco May. "Lorango is gimmick-proof. Non-magnetic, non-everything. No limit. Let him play." But he paused, watched as Magnus Ridolph replaced his chips on lime, diorite, flame and silver, and he raised his eyebrows at the stakes, 50,000 munits per ball.

The globe whirled, the balls swung, slowed, shouldered, stopped.

"Lime wins!"

There was a pause while the house counted out the winnings, a great sigh as the tokens changed hands, 1,200,000 munits.

Acco May mounted the operator's pedestal, scrutinized the globe, narrowly eyed Magnus Ridolph.

"Make your bets," he said in a sharp voice.

Magnus Ridolph glanced at the globe, bet twenty tokens apiece on amethyst, zebra, white and fawn.

The globe whirled, the balls stopped.

"Ruby wins!"

Acco May's drooping mouth twisted into a derisive smile.

"Make your bets."

Magnus Ridolph bet ten tokens apiece on emerald, vermilion, harlequin, and aqua.

"Vermilion wins!"

Acco May bit his lip. The operator whispered in his ear.

"Call the cashier's desk," said May.

After a moment a messenger returned breathless, handed May a small black leather bag. May counted out 24 packets of Commonwealth notes.

"There you are, my friend. Quite a killing." Head slightly lowered, he turned a dark gaze on Magnus Ridolph.

Magnus Ridolph appeared to hesitate, fumbled with the chips in front of him.

"Are you going to play?"

Magnus Ridolph bet four ten-thousand-munit tokens on balls of little probability and lost. He did so again, and lost again. Acco May's shoulders relaxed slightly.

Magnus Ridolph, glancing at the globe, blandly counted out 500,000 munits each on diamond, jet, teal and zebra. Acco May leaned forward, looked, turned, inspected the globe, turned back to Magnus Ridolph, straightened, suddenly turned, pushed the button.

A hundred people watched the balls in utter absorption. The globe slowed, stopped. The balls circled, slowed. Jet rode on top.

"Twelve million munits," said Acco May between clenched teeth. He turned to the blond operator. "Close the machine. Get McNutt, tell him to look it over." He turned slowly to Magnus Ridolph. "Will you come to my office? I haven't that much cash on hand."

Magnus Ridolph stared calmly into the set triangle-face.

"Just write me a check, if you please. I'll wait here."

Acco May turned on his heel. Ten minutes passed, and the crowd around the Lorango layout dissipated. Acco May returned. He handed a check to Magnus Ridolph.

"I'll have to ask you not to cash this for three days. My balance is two or three million short."

Magnus Ridolph nodded graciously. "Certainly, I'll be glad to oblige."

Acco May burnt him with a glance. Then bending his head closer he muttered: "What's the pitch, brother? How'd you beat that game?"

Magnus Ridolph's lips twitched. "Mathematics," he said.

"Nonsense," spat Acco May, suddenly, like a black cat.

Magnus Ridolph shrugged. "Every incident in the universe can be expressed in mathematical terms. Why do you imagine that so simple a device as your globe has escaped the contagion?"

Acco May's mouth drooped lower than ever. "I'm no mathematician, brother—I run a gambling house. After this you stick to your game, I'll stick to mine. In other words—don't come back."

**M**AGNUS RIDOLPH'S old lips curved thoughtfully. "Legally, you possess the right to bar me from your property."

Acco May nodded. "You're tooting right I do. Except I'm not referring to my legal rights."

"Legality is the mathematics of social conduct," said Magnus Ridolph. "It is equally as cogent as the mathematics of probability."

Acco May turned away with a scornful sneer. "Keep it for the birds, professor. And don't forget what I told you."

Magnus Ridolph cashed in the chips he still held, 480,000 munits' worth, and left the Hall.

At the Asia-Africa-Commonwealth Bank he deposited his cash winnings, though he retained the check. Then outside in the afternoon sunlight, he turned to the right, sauntered along hibiscus-bordered Kealihanu Avenue, past the Founder's Grove to the esplanade overlooking the ocean. At a news-vendor he dialed for Commonwealth Current Progress and Sociological Events, found a seat on one of the benches and skimmed through the news to the thunder of the towering white surf.

But he arose after a moment, conscious of the fact that he had missed his lunch. Strolling down the esplanade to the Coral Garden Hotel, took the elevator to the twentieth floor and the restaurant that occupied the balcony. Here he dined overlooking the vast panorama below, white-walled, blue-and-red-roofed Mylitta, with the wooded dales behind and the blue sunny sea ahead.

Over his coffee he returned to his news-sheet, and encountered an item in the Criminal Activities section.

AUTHORITIES ADMIT BAFPLEMENT  
IN CALHOUN PIRACY CASE

Magnus Ridolph bent his old head, read the article. He vaguely recalled the facts of the case: the freighter *John Calhoun*, laden with 1200 tons of bonded cargo, had been waylaid in space and boarded, with death resulting to four members of the crew. The remainder had been sealed into their quarters.

When at last they freed themselves, they found the cargo hold empty, the radio smashed, the engines disabled. They finally limped to a Space Survey station and there notified the T.C.I.

Magnus Ridolph finished his coffee, sat back in his chair with a cigar. Now as he glanced to the side he met eyes which furtively shifted, at a table where three men sat quietly over thimblefuls of *sang de Dieu*.

**L**ETTING his guileless blue gaze wander past the three, Magnus Ridolph settled more comfortably in his chair. Calmly he sat while the orange sun drifted, feather-silent, below the horizon. Dusk came quickly, and the balcony became a place of warm shadow, lighted here and there by the plant-gorges of candles.

Magnus Ridolph speculatively eyed the balcony rail. It was waist-high, smooth native hardwood. Two hundred feet below spread concrete pavement. Three men sat

behind him, watching his movements. One of these wore a cloth hood under which Magnus Ridolph had glimpsed seal-smooth blond hair, long animal eyes.

Magnus Ridolph meditated. They would wait till he approached the rail; then would come a quick shove, and a fast departure. In the excitement no one would remember exactly what had occurred. Witnesses' stories would conflict on every important point. Such a murder could be done with safety.

If he departed quietly, he still must walk a hundred yards of esplanade to Kealihanu Avenue.

The head-waiter appeared, conducting a young couple to a table by the rail where they could look out into the vast dreaming twilight.

Magnus Ridolph arose. From the corner of his eye he noted the tensing of the three men. Taking his half-full cup in one hand, a glass of water in the other, he stepped forward, flicked his wrists, doused the three thugs with coffee and water. He seized an edge to the table, pulled up, turned it over on the roaring men.

**Q**UICKLY the anguished head-waiter, was running forward, waving his arms.

"What's all this? Are you insane?" He seized Magnus Ridolph by the shoulder, but not before the white-bearded old man tossed a flaming candle upon a sprawled blond figure.

"Antone—Arthur—Paul!" bellowed the head-waiter, and three waiters hurried forward. "Lay hold of this mad-man, take him to the corridor while I call the police. Great heavens, what is to be next?" He righted the table, assisted the three gangsters to their seats.

"My apologies, sirs, I assure you that things like this are infrequent at the Cafe Ventique. Permit me to order you more liqueur."

Magnus Ridolph was hustled away, and presently a brace of police officers took him into custody. The head-waiter volubly explained the offense, and demanded the severest of penalties. Magnus Ridolph leaned in unruffled dignity against the cashier's desk, watched the three men march past with set faces.

At police headquarters Magnus Ridolph called the T.C.I. station, asked for Commander Efrem.

"Magnus Ridolph!" barked the com-

mander, peering at the bland features on his telescreen. "What are you doing in jail?"

"I have been arrested for hooliganism," said Magnus Ridolph.

"What's that?" The commander's jaw tightened. "Who's responsible? Let me talk to the lieutenant, I'll straighten him out."

An hour later Magnus Ridolph, sitting at his ease, had told his story to Commander Efirem, a small thin man with a very lean dark face, a jaw jutting forward like a plow.

"We've finally got a lead on Acco May, ourselves," said the commander. "We're trying to link him to the Calhoun piracy. There's positive identification of a photograph from several of the crew, but his alibi is good. Sanatoris Beta is three-hundred-eighty light years away. The hold-up took place exactly—let's see, twelve and a half days ago."

He then pointed out that the fastest a ship can go in free space,  $c^2 \div e^3$ , is  $42\frac{1}{2}$  light-years a day, which totaled almost nine days, with a rock-bottom minimum of two-days acceleration and two days deceleration.

"That makes it thirteen days from here to there at the absolute minimum," the commander went on. "But Acco May came in out of space today, which is a day early. If he was in on the Calhoun piracy, he couldn't have made the journey until tonight, at the very earliest."

Magnus Ridolph rubbed his white beard slowly. "A crime was committed at a distance of thirteen days," Ridolph said. "You suspect a man who arrives twelve days after the crime is committed. Four possibilities present themselves. First, you have mistaken the time of the crime."

"No, that's been definitely established."

"Second, May's ship travels faster than light-speed squared divided by  $e$  cubed. Very unlikely. Third, Acco May is innocent of the crime."

Commander Efirem sat suddenly straight in his chair, hands clenched on his desk. He sighed, slowly relaxed. He lighted a cigarette.

"I'm afraid that's about the size of it. Acco May is innocent of this crime. But he's done plenty of other things—the massacre of the Port Miranda natives, a dozen murders, traffic in women, narcotics, smuggling, practically every felony on the books."

"Including conspiracy to commit murder," said Magnus Ridolph. "I was to be the

victim." He opened his eyes wide, touched his chest gravely. "Me!"

Commander Efirem grinned. "And now you want his hide too?"

Magnus Ridolph tapped his fingers gently on the arm of his chair. "'The wine of revenge tastes richest to the vain.' Revenge is essentially a selfish gratification for which I have little taste. However, I agree with you that the criminal career of Acco May has proceeded to an intolerable length."

Commander Efirem nodded soberly, a hint of a smile on his thin mouth. "In other words, you want his hide."

**W**HEN he left the police station, Magnus Ridolph resisted the temptation to visit the Lorango globe. Instead he passed under the arch into the ante-room to Acco May's office.

An exquisite red-haired girl receptionist was stroking a yellow kitten which walked back and forth on her desk with a tautly raised tail. She looked up at the old man with little interest.

"Magnus Ridolph to see Acco May," the scientist said. He scratched the kitten under the chin while the girl spoke into the microphone. She motioned him to a white panel in the dark hardwood wall. As he stepped forward it opened, revealing Acco May sitting cross-legged on a leather-upholstered couch. He looked up, nodded as Magnus Ridolph stepped forward.

"Sit down." Magnus Ridolph did so. "To what do I owe this honor?"

Magnus Ridolph looked at him without expression.

"I'm trying to prove you guilty of the *John Calhoun* piracy."

Acco May snorted, then laughed in real amusement.

"Not a chance. I've been nowhere near Sanatoris for years."

"Can you prove it? Survivors of the Calhoun identify your picture absolutely."

May shrugged. "They're wrong. I wasn't there."

"You were away from here while the piracy occurred. Where were you?"

Acco May's mouth hardened. "What's it to you?"

"At the moment I represent the Terrestrial Corps of Investigation." He reached forward, handed Acco May a card. May read it, contemptuously handed it back.

"You guys never give up on me, do you?"



Once and for all, get it through your collective noggin, I'm a poor ordinary business man, running my business here in Mylitta, I get taken by sharpshooters just like anybody else—yesterday for about twelve million munits."

Magnus Ridolph slowly fixed his gaze on the ancient Martian scarab which May wore as a ring.

"That ring you wear—I recognize it. It resembles a ring worn by my old friend, Rimmer Vogel, killed in his space yacht by a pirate."

"Picked it up at Frog Junction," said Acco May. "The froggo said he'd just dug it out of the ruins."

Magnus Ridolph nodded.

"I see. Well. A man's soul is pictured in his possessions."

Acco May languidly poured himself a glass of water from the spout at the side of his desk. "Is that all you came for? To pin the Calhoun job on me? It couldn't have been me. Sanatoris is two weeks or more away from here. I got home yesterday."

"Which proves nothing. The distance can be traveled in twelve days."

Acco May narrowed his eyes, reached for the Astrogation Almanac, opened it to the index, leafed back through the book, read, scribbled a few figures. He shook his head, grinned crookedly.

"You're out of your head, pop. If you made it in thirteen days you'd be killing yourself—unless you rode a *c*-three ulrad beam."

"No," said Magnus Ridolph. "In an ordinary space-boat."

Acco May's smile became wider. He sat up on the couch.

"Like to make a little bet? If I remember right, you hold my check for twelve million munits."

Magnus Ridolph deliberated. "Yes, I'll make you a wager—of a sort. I'll dictate, and you write."

"What?"

"I admit participation in the boarding and looting of the *John Calhoun*—"

Acco May looked up sharply. "What do you think you're doing?"

"—the murder of several crew-members, if it can be proved that a space-boat is able to make the journey from Mylitta on Fan to the Space Survey station at Sanatoris Beta in or under twelve days. I make this conditional confession of guilt in consideration of

the sum of twelve million munits, receipt of which from Magnus Ridolph is hereby acknowledged."

ACCO MAY stared at Magnus Ridolph a long minute, suddenly turned once more to the Astrogation Almanac. His mouth twitched.

"You give me back the check if I write that confession, is that it?" he asked.

"Exactly," Ridolph said with a nod.

"Who's going to make the trip to Sanatoris?"

"I am."

"In what?"

"In a regulation T.C.I. patrol boat."

Acco May glanced once again at the Almanac. "You can't make it in twelve days."

"I'm willing to pay twelve million munits for the privilege of trying."

Acco May smiled wryly. "You can't make it."

"Then you'll write the conditional confession?"

Acco May hesitated an instant. "Yes, I'll write it."

Magnus Ridolph said, "May I use your screen? I want this done within the view of witnesses."

"Go ahead," said Acco May.

\* \* \* \* \*

A large man with loose ruddy cheeks, tangled dank black hair, wearing space clothes, sat in the chair Magnus Ridolph had vacated several hours ago. Acco May paced up and down the room, kneading his fist into his palm.

"I don't trust the old goat," mused May. "He's got something up his sleeve."

"He gave you his check, didn't he?"

"Yes," said Acco May sardonically, "and he got my confession. Of course, he can't make no three-eighty-year-trip in twelve days."

"But you made the trip in twelve days," said the big man.

"No, I didn't!" cried Acco May in exasperation. "We used faked radio-vision shots and one of my men, who's the living image of me, entered port on a forged passport, a day ahead of time. Later we also bribed two space inspectors at the port of entry, to give perjured testimony supporting my allegations. Even Ridolph hasn't found

out how it was worked. The whole thing was fool-proof."

The big man nodded. "That was clever. Doesn't Ridolph suspect your alibi is a phony?"

"Sure, he suspects—that's why he's out to get me," snarled Acco May. "But he can't prove anything. Therefore I can't risk having Ridolph return here alive. And that's where you come in. Get hold of Herb and Corvie and Steuben. Post their ships out along the course to Sanatoris. You take your ship out there too, and place yourselves so that, if one misses him, the others will be sure to get Ridolph. And don't fail! Understand?"

The large man got to his feet. "Sure do."

"You've got to hurry, he's leaving at midnight."

"We'll be waiting for him to come past."

"Tell the boys, a million munits to the ship that downs him."

At three o'clock the next day the large man again entered Acco May's office. His eyes were blood-shot, his jowls sagged, and he walked with an air of extreme fatigue.

"Well," snapped Acco May, "what's the story?"

The large man slumped into the chair. "He got past us."

Acco May sprang to his feet. "How in thunder did that happen? . . . Four boats!"

The space-man shook his head. "I thought you said he was heading for Sanatoris Beta."

"He is, you dumb shepherder!"

The large man glared sullenly at the passionate May.

"We was strung out along course, straight as the Galactic Liners. He came out, we saw that, but nowhere near us. Looked like he was going off more toward Alcyone."

Acco May chewed his lip. "Well, it's a cinch once he gets off course he's out of the running entirely. . . Okay then, Rock. I guess you're not to be blamed. He's off course, you say?"

"Way off course," said Rock the space-man.

Acco May smiled grimly. "Well, it's a quick way to make twelve million munits. Almost as quick as he made it off of me."

**S**EVERAL months later, the judge read sentence: "By your own admission guilty of piracy, grand larceny, assault and murder, I sentence you to comprehensive cerebral correction and five years close ob-

servation. Have you anything to say?"

Acco May stared at the judge, eyes like tiger-slits. "No."

The guards stepped forward. Acco May turned his head toward where Magnus Ridolph sat in dignity. He thrust aside the guards.

"Just a minute," he said. "I want to talk to that old hellion sitting yonder."

The guards hesitated, glanced for permission to the judge. But the judge was sweeping for his chambers.

Magnus Ridolph decided the matter by stepping forward.

"You wish to speak to me?"

"Yeah. I know there's about two hours of Acco May left, and after that a man looking like me goes around wearing my clothes. First I want to know how the devil did you make Sanatoris in twelve days?"

Magnus Ridolph raised his eyebrows. "By correct astrogation."

Acco May made an impatient gesture. "Yes, yes, I know. But what's the inside?"

Magnus Ridolph's gaze wandered to the Martian scarab on Acco May's finger. "The ring your—ah, frog-man found—I confess it has struck my fancy. I always envied my old friend Rimmer Vogel when he wore the ring which was so like it."

Acco May wrenched it off his finger with a savage smile. "No tickee no washee, hey? Okay, here's your fee. Now what's the pitch?"

Magnus Ridolph gestured eloquently. "Ordinary astrogation, nothing more. With the exception, possibly, of a small refinement I have developed."

"What's the refinement?"

Magnus Ridolph turned Acco May the blandest of stares.

"Have you ever examined a Mercator projection of, let us say, the planet Earth?"

"Naturally."

"The shortest course between two points, when charted on a Mercator projection, appears as a curve, does it not?"

"Yes."

"Classical space charts," said Magnus Ridolph, "are constructed after the pattern of a Mercator projection. The coordinates meet rectilinearly, the grid components running perfectly parallel but to infinity. This is an admirable system for short voyages, just as use of the Mercator projection results in little error on a cruise across Long Island Sound.

"However on voyages of some duration, it is necessary to remember that the earth and—on a larger scale—space is curved, and to make the necessary correction. Then we find a very significant saving of time. A journey which by classical astrogation requires thirteen days," said Magnus Ridolph, turning upon Acco May his wide guileless gaze, "may be accomplished in twelve days by use of the proper correction—though to the ignorant eye, it would appear as if the astro-gator is far off his course."

Acco May turned his back on Magnus Ridolph, his mouth like an inverted V. "Take me away," he muttered. "Maybe the new me will be brighter. If he is, he's going to go after that old goat and make him swallow his own whiskers."

"Get goin'," said the guard.

Magnus Ridolph dispassionately watched them leave. Then, turning his eyes to his hand, he inspected the ancient Martian scarab—breathed on it, polished it on his sleeve.

---