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HALF-BREED
by ISAAC ASIMOV
AND OTHERS
Binder

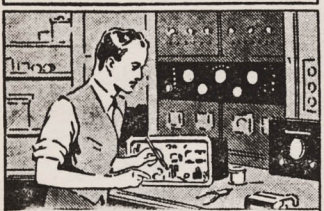
I jumped from $18 a week to $50 -- a Free Book started me toward this GOOD PAY IN RADIO

HERE'S How it Happened

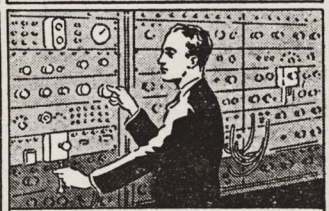
by S. J. E.
(NAME AND ADDRESS SENT UPON REQUEST)

"I had an $18 a week job in a shoe factory. I'd probably be at it today if I hadn't read about the opportunities in Radio and started training at home for them."

"The training National Radio Institute gave me was so practical I was soon ready to make $5 to $10 a week in spare time servicing Radio sets."



"When I finished training I accepted a job as serviceman with a Radio store. In about three weeks I was made service manager at more than twice what I earned in the shoe factory."



"Eight months later N.R.I. Employment Department sent me to Station KWCR as a Radio operator. Now I am Radio Engineer at Station WSUI. I am also connected with Television Station WOXK."

"N.R.I. Training took me out of a low-pay shoe factory job and put me into Radio at good pay. Radio is growing fast."

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J. E. SMITH, President
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Established 25 Years

Radio is a young, growing field with a future, offering many good pay spare time and full time job opportunities. And you don't have to give up your present job to become a Radio Technician. I train you right at home in your spare time.

Why Many Radio Technicians Make $30, $40, $50 a Week

Radio broadcasting stations employ engineers, operators, technicians. Radio manufacturers employ testers, inspectors, foremen, servicemen in good-pay jobs. Radio jobbers, dealers, employ installation and service men. Many Radio Technicians open their own Radio sales and repair businesses and make $30, $40, $50 a week. Others hold their regular jobs and make $5 to $10 a week fixing Radios in spare time. Automobile, police, aviation, Commercial Radio; loud-speaker systems, electronic devices are other fields offering opportunities for which N.R.I. gives the required knowledge of Radio. Television promises to open good jobs soon.

Many Make $5, $10 a Week Extra in Spare Time While Learning

The day you enroll, I start sending you Extra Money Job Sheets which start showing you how to do Radio repair jobs. Throughout your Course, I send plans and directions which have helped many make $200 to $500 a year in spare time while learning. I send special Radio equipment to conduct experiments and build circuits. This 50-50 training method makes learning at home interesting, fascinating, practical. I ALSO GIVE YOU A MODERN, PROFESSIONAL, ALL-WAVE SET SERVICING INSTRUMENT to help you make money fixing Radios while learning and equip you for full time work after you graduate.

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Act Today! Mail the coupon for my 64-page Book, "Rich Rewards in Radio." It points out Radio's spare time and full time opportunities and those coming in Television; tells about my course in Radio and Television; shows many letters from men I have trained, telling what they are doing and earning. Read my money back agreement. MAIL COUPON in an envelope or paste on a penny postcard—NOW!

J. E. Smith, President
Dept. OBS9, National Radio Institute
Washington, D. C.

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Dear Mr. Smith. Send me FREE, without obligation, your 64-page book "Rich Rewards in Radio" which points out Radio's opportunities and tells how you train men at home to be Radio Technicians. (Write Plainly.)

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10¢ ASTONISHING STORIES

VOL. 1 FEBRUARY, 1940 NO. 1

NOVELETTES

SHORT STORIES

READERS' FEATURES

Published bi-monthly by Fictioneers, Inc., 2256 Grove Street, Chicago, Illinois. Editorial and executive offices, 210 East 43rd Street, New York, N. Y. Second class entry pending. Bi-monthly price per copy 10c; 6 issues, $.60.

Printed in the U.S.A.

Introducing Astonishing

In two months and a few days science fiction fans will celebrate the fourteenth anniversary of magazine science fiction in America.

There have been many changes in the stories and in the appearance of the science fiction magazine since then—there has been a constant inflow of new authors, the size of the magazine has been reduced by half, new magazines have appeared—but the basic concept of science fiction itself, the eternal dream of perfection which is at the heart of every fan, has not changed. The stories in any science fiction magazine today could be read with enjoyment by any fan of fourteen years ago.

But where fourteen years ago the readers of science fiction were a minute body, today they number in the hundreds of thousands.

That is why *Astonishing Stories* is possible today. At no time in the past could a science fiction magazine in the ten cent field have had a chance of success; today such a venture is backed and guaranteed by the numbers and the loyalty of the fans.

And so we present *Astonishing Stories,* the first, though probably not the last, dime science fiction magazine.

We want to make *Astonishing Stories* the kind of magazine you want. Penny for penny, it is the best buy in science fiction today so far as quantity and quality go; we want to make it *your* best buy in the services it renders you, over and above the entertainment of the stories. We want this magazine to be your guide in buying fantasy books, seeing moving pictures, subscribing to fan magazines.

If you have any suggestions which you would like to see embodied in the magazine, send them along. "What you wish—that you shall have" is our motto.

SPECIAL NOTE TO AUTHORS: We have no "formula". If you want to try some off-trail stories, *Astonishing* is your best market. Our only criterion for stories is "Is it an *entertaining* science fiction story?"

Fan Magazines

(This department will try each issue to serve as a readers' guide to the current crop of fan magazines. If we have missed any magazines of national circulation, we apoligize, and suggest that the eidtor send us a review copy for the next issue.)

LE ZOMBIE, published fortnightly by Bob Tucker, Box 260, Bloomington, Ill. This lively and informative little publication carries news of the science fiction fan world, keeps track of the comings-and-goings of the fans, excerpts items of interest from letters received by the editor, and in general has a good time at everyone's expense.

FANTASY FICTIONEER, Official Organ of the *Illini Fantasy Fictioneers,* edited by Sully Roberds, 922 W. Division St., Normal, Illinois. This is the monthly put out by the organization sponsoring the 1940 World Science Fiction Convention in Chicago. First issue contains the club constitution, points out how fans can aid the realization of the convention.

ESCAPE, published monthly by Dick Wilson, 2574 Bedford Avenue, Brooklyn, N. Y. Carrying a cover by David A. Kyle calculated to frighten the reader to death, the magazine rockets on with its regular freight of witty items. The bits by Cyril Kornbluth alone make *Escape* worth its nickel.

THE FANTAST, published by C. S. Youd, 244 Desborough Road, Eastleigh, Hants, England. This is perhaps the last full size British fan magazine that may appear due to the war-scarcity of paper. Carries quite excellent material, including a science fiction poem by John B. Michel and another installment of Fantasynic's hilarious "Fanopolis" satire. The letter columns here are always interesting.

FANTASY WAR BULLETIN, published by the editor of *The Fantast,* is a

single sheet news-letter put out while the editor is on duty at his A.R.P. post. Carries items concerning doings of British fandom.

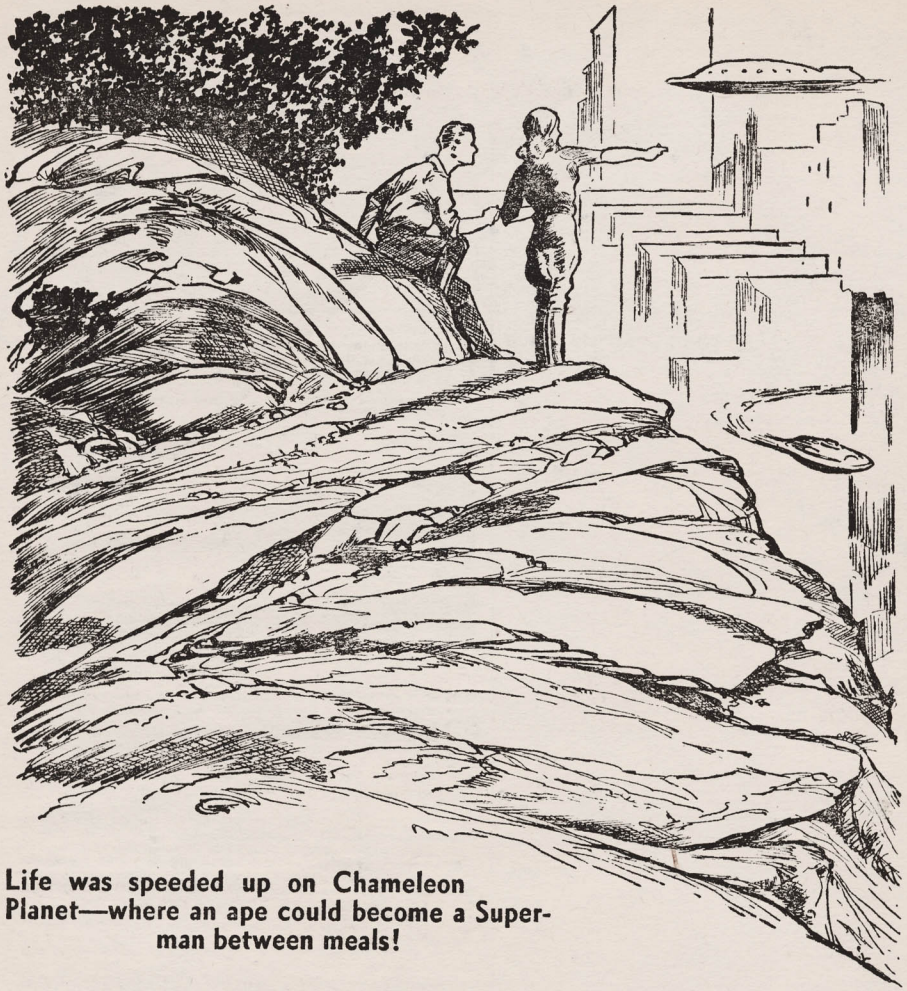
AUSTRALIAN FAN NEWS, published by William Veney, 11a Lawson St., Paddington, Sydney, N.S.W., Australia. The first Antipodean fan magazine in years, this contains articles and news items by various Australians including the writer Eric F. Russell.

SCIENCE FICTION FAN, published monthly by Olon F. Wiggins, 918 29th Street, Denver, Colorado. The oldest regularly appearing fan magazine, it can be relied upon to carry its regular columns on Fantasy Books, fan activities, magazine forecasts, and articles by most of the leaders of the fan world. The magazine, its chief illustrator, and its news-columnist were recently voted first in their respective fields by the fan world.

SCIENCE FICTION PROGRESS, published monthly by J. Michel, 2574 Bedford Avenue, Brooklyn, N. Y. Devotes itself each month to analysis of criticism of some aspect of science fiction. The latest issue discusses the war's effects on science fiction.

SCIENTI-SNAPS, published bi-monthly by Walter Marconette, 2709 E. Second St., Dayton, Ohio. Containing fiction, and articles, both serious and humorous. Charles R. Tanner, J. Chapman Miske, Robert W. Lowndes, Richard Wilson, and Harry Warner contribute good items.

VOICE OF THE IMAGI-NATION, published by Forrest J Ackerman, Box 6475, Metropolitan Sta., Los Angeles, Calif. This is fandom's all-correspondence magazine, containing controversial and interesting observations by the foremost fans.



Life was speeded up on Chameleon Planet—where an ape could become a Superman between meals!

CHAMELEON PLANET

Feature Novelette

CHAPTER ONE

The Flying World

By Polton Cross

SPACE SHIP 17 of the American Interplanetary Corporation moved at the cruising velocity of 90,000 miles a second through the barren endlessness at the eastern limb of the Milky Way Galaxy, pursuing its journey in search of new worlds to be colonized or claimed in the name of the Corporation.

In the vessel's compact control room, ace colonizer Archer Lakington stood moodily gazing out into the void, gray eyes mirroring the abstract nature of his thoughts. His broad but hunched shoulders gave the clue to his boredom. Speeding through infinity without a trace of excitement or interest was anathema to his adventurous soul. This had been going on now for eight weeks. . . .

At length he turned aside and surveyed his instruments. The long range detector needle was rigidly fixed on zero. The moment any possible world came within range, even though invisible to the eye, an alarm would ring by the actuation of a highly sensitive photo-electric cell. The detector, responding, would immediately fix the position of the disturbance.

"The more I see of space the more I think I'm a mug to be cruising around in it," he growled at last, hands in the pockets of his leather cardigan. "I'm getting a sort of yen to be back amongst the smells of New York, seeing familiar faces, telling tales of conquest over a glass of viska water."

"While you're seeing familiar faces don't forget President Bentley's," a dry feminine voice reminded him.

He twisted round and surveyed the bush of yellow hair just visible over the top of the wall couch. Elsie, his wife—his sole partner in this endless journeying—was pursuing her usual occupation when things got monotonous; simply lying

down with her hands locked behind her head. She turned a pair of level cool blue eyes toward him as she felt the strength of his gaze.

"You don't have to remind me about Bentley," he said gruffly. "If he wasn't President of the Corporation I'd head back right now for New York!"

"You mean you're scared?"

"Scared nothing!" he snapped. "I mean I'm—"

He broke off and twirled round with delighted eyes as the detector alarm abruptly clanged into noisy action. In an instant he was squatting before the instruments, keenly studying their reactions. He scarcely noticed that, true to duty, the girl was crouched beside him, her slender fingers twirling the calibrated knobs and controls.

Without a word to each other they began to check and calculate carefully. The lenses of the detector came into use and visually picked up the cause of the distant alarm. When they had both gazed long and earnestly they looked blankly at each other.

"Gosh!" Elsie exclaimed, startled. "That's the fastest planet I ever saw! Did you see it, Arch? Flying round its Sun like a bullet?"

He puzzled silently for a moment, then stooped down and again sighted the strange distant world in the powerful sights. Clear and distinct it was, a planet perhaps only slightly smaller than Earth, but behaving as no self-respecting planet should. Alone in its glory, apparently sheathed in ice, it was pursuing a highly eccentric orbit round its quite normal dwarf type Sun.

Starting from a close perihelion point it went sweeping out in a wild curve, zigzagged sharply at one place on its route with a force that looked strong enough to tear it clean out of its path—then it pulled back again and went sailing at terrific speed to remote aphelion almost beyond visual range. A mad, silly little world obviously under the pull of gigantic gravitational fields—perhaps dead stars lurking unseen in the vast void. And as it went its surface coloring changed weirdly.

"Some world!" Arch commented, as he straightened up. "We ought to be near it in about two hours if we step on it. Not that it will be much good though. The darn thing's frozen solid—"

"If you were more of a scientist and less of a fathead we might do some useful work," Elsie remarked tartly, herself now peering through the lenses. "That world is only ice-sheathed at aphelion limit but becomes all green and gold at perihelion," she went on. "Sort—sort of chameleon planet," she finished hazily, looking up.

"Spectrum warp, probably in the lenses," said Arch wisely; but she gave an unwomanly snort.

"Spectrum warp my eye! Don't try and avoid the issue! That's a planet that may have something worth while on it, even if it does hold the cosmic speed record. You wanted relief from monotony—and you've got it! Grab yourself a control panel and restore my faith in husbands."

Arch gave a mock salute and squatted down. Giving the power to the silent rocket tubes he increased the smoothly cruising perpetual speed of the vessel to the maximum 160,000 miles a second, sent it plunging like a silver bullet through the cosmos while the girl, rigid over the instruments, rapped out instructions in her terse, half cynical voice.

TRUE to calculation, the vessel came within close range of the flying world 120 minutes later, keeping pace with it in its hurtling journey.

Puzzled, the two looked down on its surface and watched the strange spreads of color that suffused it at varied points of its orbit. The nearer it came to the Sun

the grayer it became, seemed to actually cover itself with clouds—then it moved on again at top speed, merging from gray to green, to blue, fading down into red, then white, and resolving at aphelion into primary black only barely distinguishable against the utter platinum-dust dark of space.

"Chameleon planet is right!" Arch breathed, fascinated. "I still don't see though how we can colonize it. It's just a haywire rocket."

"Never mind talking about fireworks —descend and have a look at it!" the girl counselled. "It may have valuable ores or some kind of salvage worth collecting. Wait until it gets nearest the Sun and then drop down. At the rate it's going that will be at any moment. . . ." Her eyes followed it speculatively as it raced away into space.

Arch bent more closely over his controls, easing the vessel sideways from the planet's gravitational pull. With tensed muscles he waited. His gaze, along with the girl's, followed every movement of that hurtling globe as it suddenly began its return trip.

He gripped the major control switches tightly and began to jockey the vessel round, twisting it in a great arc and then flattening out as the racehorse planet tore past.

His judgment was superb—the machine leveled out at 1,000 feet above the gray, turbulent surface. Working dexterously he drove the nose downwards, plunged into the midst of the gray and found to his satisfaction that it was cloud, cushioning atmosphere that broke the terrific down rush of the ship and eased her gently to a surface that was spongy and steaming with amazing warmth.

The vessel dropped softly at last in the center of a small clearing, surrounded by immense trees. They rose on every hand in fantastic array, their lower boles as smooth as billiard balls and bluey gray in color. Beyond this shiny, bald space they sprouted into circular tiers of similar hue, oddly like hundreds of umbrellas piled on top of each other.

Even as the startled two looked at them through the window they visibly grew and added fresh veined vegetational domes to their height, quivered in the mystic ecstasy of some inner life. Nor were they isolated in their queerness. . . . In the midst of the lushy soil, vines of vivid green twirled their roots and tendrils in and out of stolid looking, bellying bushes like Gargantuan mushrooms. Everywhere, in every direction, was a swelling, tangling wilderness of stubbed, crazy shapes—here bulging, there elongating, like the irrelevant, frightening illusions of a nightmare.

"Life—gone mad!" murmured Arch soberly, then he turned away and glanced at the external meters. He felt vaguely satisfied at finding an atmosphere compatiable with Earth's, a gravity almost identical, but a temperature and humidity equalling that of the Carboniferous Age.

"Breathable, but as hot as hell," Elsie said expressively, gazing over his shoulder. "We could go outside without helmets. The sun's clouded so I guess pith hats will do."

Arch glanced again at the fantastical, swaying life.

"It's a risk," he said dubiously. "I don't mean the air—the form of life."

"What do explorers usually do? Get cold feet?" Elsie demanded. "If you won't go, I will. That's flat!"

Arch caught the challenge in her bright blue eyes. He nodded a trifle reluctantly. "O.K., we'll chance it, if only to grab a few specimens. We'll take full precautions, though. Fit up our packs with complete space suits as well as provisions. Use the space-bags; they'll stand any conditions. I'll look after the portable tent and flame guns."

"Check!" she nodded eagerly, and went

blithely singing into the adjoining storage closet.

CHAPTER TWO

Dinosaurs and Umbrella Trees

FIVE minutes later, surrounded by surging waves of sickly greenhouse warmth, they were standing together just outside the ship, the airlock securely fastened behind them. Their backs were loaded with full pack, Arch bearing the larger accoutrement in the form of a strong but collapsible vulsanite metal tent.

In silent dubiousness they looked around them on the umbrella trees and tangled shooting life that sprouted with insane fervor on every hand. Despite the heavy, drifting clouds they could feel the intense heat of the Sun beating down through the protection of their pith helmets, its ultra violet radiations tingling the skin of their bare arms. They began to perspire freely.

"Well, bright eyes, what's your suggestion?" Arch asked querulously. "Looks to me as if wandering in this tangle will make us perform a complete vanishing trick."

"We're explorers, not magicians," the girl answered briefly. "Obviously the planet's no good for colonization but we can at least grab a few of these plants for specimens. Let's go!"

She stepped forward boldly, flame pistol firmly gripped in her hand.

Arch looked after her slim figure for a moment, then with a resigned shrug prepared to follow her. Mentally he decided that the whole excursion was only fit for lunatics. . . . He moved, like the girl, with studied care, glancing around and below him at the twisting vines and sprouting shave-grass. Here and there in the patches of damp loam there frothed areas infested with minute, scuttling life, and, for every step he took, he had to dodge aside to avoid a wickedly spired carmine-hued stem as it rose like a livid bayonet from alluvial soil.

So intent was he in guarding himself, indeed—in surveying the ground, he momentarily forgot the girl, until a sudden wild shout from ahead caused him to look up with a start.

Horrified and amazed he came to an abrupt halt. Elsie was rising upwards into the air in front of the nearest umbrella tree, the carmine stem of a bayonet-bamboo thrust through the tough leather belt about her waist! Struggling wildly, she reared up to a height of thirty feet, striving frantically to free herself and calling in hysterical fright.

The ludicrous figure she cut set Arch laughing for a moment—then with a single slash from his flame gun he cut the plant in two and broke the girl's fall as she came toppling down breathlessly into his arms.

"We've no time to play at acrobats," he reproved her drily, as she straightened her rumpled clothing. "You ought to know better, Mrs. Lakington."

"Could I help it if the thing grew while I was studying an umbrella tree?" she demanded wrathfully. "This place is so darned swift you need a time machine to keep up with it! I'm going back to the ship before worse things happen!"

She broke off as she half turned. Dismay settled on her pretty face at the sight of spreading, spiraling masses of incredible growth. In the few brief minutes occupied in her bayonet-stem adventure the clearing had changed utterly.

Wild, rampant growth had sprouted up soundlessly on all sides, had already hidden the ship from view. Colors, weird and flamboyant, provided a criss-crossing maze of bewildering interlacings. Umbrella trees, bayonet-bamboos, bile-green vines, swelling objects like puff balls—they were all there, creaking in the hot, heavy air with the very speed of their

growth, providing a blur of vivid colors that was eye-aching.

Arch did not need to be told that the ship was fast being smothered. The girl's sudden startled silence was sufficient. For a moment he was nonplussed, then gripping her by the arm he plunged forward towards the tangled mass with flame gun spouting in a vicious arc, but even before he had the chance of seeing what happened an intense, saturating darkness flooded down.

"Now what?" he yelped, in exasperated alarm. "Have I darn well gone blind or—"

"No, Arch; it's night!" The girl's voice quavered a trifle as her hand gripped his arm. "At the terrific speed this planet rotates and moves the day's already exhausted! We'll have to try— Ouch!"

She broke off and staggered in the darkness as a vicious unseen thorn stabbed the bare flesh of her arm. Arch drew her more tightly to him and switched on his belt torch. The clear beam revealed the solid, impregnable mass on every side.

BEWILDERED, they stumbled round, all sense of direction confused. Razor-edged masses were springing up now, mercilessly sharp, leaving slashes on their tough leather gum boots. . . . Gripping each other they moved onwards, literally forced to do so to escape the mad life twirling insanely around them.

Twice they blundered into an umbrella tree, reeling aside only just in time to escape the sudden sharp closing of its upper folds. It seemed to be more a mystic reflex action than actual carnivorous strain.

At last the girl halted as they came into a slightly quieter region.

"Look here, Arch, what are we going to do?" she panted. "In case you don't know it we're completely lost!"

He stared at her torch-illumined face. "I'm open to suggestions. We can't find the ship again in this stuff, that's a certainty. We have provisions to last a month, and in that time—"

"A month!" she echoed, moving quickly as she felt an avid vine shooting over her feet.

"How do you figure we're going to survive a month in this hole? We'll be stabbed or strangled long before that!"

"Wonder what causes it?—the growth speed, I mean." Arch's voice came musingly out of the dark. "Incredibly fast plant mutations must have some cause behind them. Maybe something to do with the planet's orbital speed. Even time seems different here. From space this world looked to be revolving like a humming top, yet now we're on it night and day seem to arrive normally—"

He stopped short as at that identical moment the stifling, terrible dark suddenly vanished and gave place to daylight again. The glare of the cloud shielded Sun flooded down on the wild growth which, in the case of the umbrella trees at least, had already achieved cloud scraping proportions.

"Normal, huh?" the girl questioned laconically, but she was obviously relieved.

"Well, if not normal, it at least resembles day and night," Arch amended. "I expected something so swift that we'd encounter a sort of winking effect."

Elsie said nothing to that; her eyes were traveling anxiously round the confusion. The thought of the vanished space ship, the absolute craziness of everything, was obsessing her mind.

"Only thing to do is to keep on going," Arch decided at length. "Maybe we'll find a place to pitch camp and lay further plans."

"I wish I shared your optimism," the girl sighed enviously, then easing the burden of her pack she prepared to follow him. . . .

Forced to keep moving by reason of

circumstances the two blasted their way with flame guns through the crazy rampancy ahead of them. Confused, bewildered, they found themselves constantly confronted with things defying understanding.

One particularly vicious type of plant, which they nicknamed the "bellow bulb," caused them a good deal of trouble. Lying in the soppy soil like a bladder, it released a powerful lethal gas when trodden on. More than once they found themselves tottering away from these things on the verge of unconsciousness.

But at last they became thankfully aware of the fact that the insane growth of the jungle was ceasing. The vast agglomeration of trees and plants seemed to have reached maximum size: there was no longer danger from slicing barbs, blades and thorns. . . . Once they realized a passive state had been achieved they sank down gratefully on one of the ground-level vines and took their first nourishment.

"Wish I could figure it out!" Arch muttered worriedly, twirling a tabloid round his tongue.

"Looks to me as though this is a sort of swamp age," the girl muttered, thinking. "The plants have stopped growing: by all normal laws they ought to start collapsing to form future coal— Oh, but what am I saying!" she exclaimed hopelessly. "It isn't possible for that to happen. That's the work of ages."

"On a normal world it is—but here we have a world opposed to normal," Arch pointed out. "Since orbital speed is so swift it is possible that evolution might be the same way. Remember that the space plants scattered in the crater floors of the moon pass through their whole existence in the span of a lunar month. On earth a similar occurrence would demand ages. On this chameleon-like planet anything might happen. . . ."

"Might!" the girl echoed. "It *does!*"

Arch fell silent, vaguely perplexed, then he aroused himself to speak again.

"Guess we might as well pitch camp here for the time being," he said briefly. "We need rest before we think out the return trip—granting there'll ever be any! Give me a hand."

The girl came willingly to his assistance as he slid the portable shelter from his back. In the space of a few minutes the ultra modern contrivance with its hinges, brackets and angles was snapped into position, its slotted little beds sliding into fixtures as the four walls were clamped.

Grateful for the protection from the fierce ultra violet radiations of the clouded Sun, the two scrambled inside and pulled off their provision packs; then for a while they sat together on the edge of the beds, gazing through the open doorway . . . until Arch stiffened abruptly as his keen gray eyes detected a slight movement in the nearby undergrowth. Instantly his hand went to the flame pistol in his belt.

"What—what *is* it?" breathed Elsie in amazement, gazing with him as there emerged into view a remarkable object like a monstrous earwig, two bone encrusted eyes watching from the midst of a rattish face.

"Outside insect," Arch said quickly. "Harmless, I guess."

He lowered his gun and waited tensely, in increasing amazement, as between shave-grass and creeping-plants huge salamanders pulled themselves into sight, their queer three-eyed, crescent shaped skulls giving the effect of Satanic grimace.

Scorpions came next, armed with viciously poisoned needles that quivered like daggers on protruding whip-like tails. Insects began to flit about—titanophasmes, as big as eagles. Above the tops of the lower lying liana dragon-flies with yard-wide wings streaked swiftly. . . . Nor was that all. There were immense grasshoppers, millipeds as big as pumpkins, nauseous spiders dangling on ropy

threads. . . . A hideous and incredible vision.

The two sat for perhaps fifteen minutes anxiously studying the creatures, when night fell again with its former startling suddenness. Day has lasted exactly two hours!

Arch gently closed the door and switched on his torch.

Elsie's face was strained—her efforts to conceal fear were pretty futile.

"Two hours day; two hours night," she said nervously. "This place is crazy, Arch! And those horrible things outside! You're not suggesting we stop here with them around, are you?"

"What do you propose?" he asked quietly. "We daren't go outside—we'd be worse off than ever. No; the only thing to do is to stick it and hope for the best, hard though it is."

The girl shuddered a little. "Guess you're right, but it's not going to be easy."

She relapsed into silence. After a time Arch opened the door again and risked using his flashlight to see exactly what was transpiring outside. To the utter surprise of both of them the jungle was collapsing! The entire mad growth was breaking up into dried sticks and dust. . . .

And the insects! They scuttled round in the confusion, yet not for a moment did they look the same. By lightning changes they increased in size, lost their insectile appearance and became ensheathed in scaly armor. The stupendous dragon-fly creatures whizzing overhead grew larger with the moments, also achieved a protective covering that pointed beyond doubt to a reptilian strain. . . .

UNTIL finally, by the time daylight arrived once more, a new metamorphosis was complete. The two gazed out in awe on a scene magically different—evolution had slid by in a brief two-hour night! Another jungle was rising, but of a more delicate, refined nature, from the ruins of the old. Ferns of considerable size had sprouted in the clearing—behind them in fast growing banks were gently waving masses bearing strong resemblance to earthly cycads and conifers.

But nowhere was there a flower: only the fantastically colored vegetation held back from crazy growth by some new mutational law in the planet's inexplicable chemistry.

"If we set back for the space ship now we might find it," Elsie remarked anxiously. "The going would be simpler, anyhow."

"So far as the jungle is concerned, yes," Arch agreed; "but there are other perils. Look over there!"

He nodded his head to the opposite side of the clearing and the girl recoiled a little as she beheld a vast head of gray, the face imbecilic in expression, waving up and down on the end of a long neck. Flexible, rubbery lips writhed in avid satisfaction as the extraordinary beast lazily ate the soft, fast growing leaves of the smaller trees. Once, as the wind parted the vegetation for a moment, there was a vision of vast body and tail.

"Why, it's—it's an iguanodon!" she cried in horror, but Arch shook his head.

"Not exactly it, but very much like it. Herbivorous, of course. . . . You know, it's just beginning to dawn on me what's wrong with this planet—why life on it is so crazy."

"Well, although I'm glad to hear the brain has finally started to function, "I'm still anxious to get back to the ship," the girl said worriedly. "We can risk the monsters. That herb-eater is harmless enough, anyhow."

"But it won't be the only type," Arch reminded her grimly. "There'll be all kinds of things abroad—perhaps as frightful as our own one-time diplodocus and allosaurus."

"You mean we stop here?" Elsie's

eyes were on the gray head. The swarming plant life had now almost hidden it.

"Until man comes, anyhow," Arch said reflectively.

At that the girl twisted round from the doorway and stared at him amazedly.

"Until man comes!" she echoed. "Now I know you're crazy! If you think I'm going to sit here while these playboys grow up through millions of years you're mistaken! I'm heading back right now for the ship!"

"In what direction?" Arch asked sweetly, and she pursed her lips.

"I'll find it!" Her tone was defiant. "I've got a wrist compass just the same as you have!"

Arch shrugged and leaned more comfortably against the doorway. For a while he heard the determined little bustling movements of the girl behind him—then her activity slowed down a little. At length he found her beside him.

"Maybe you're right," she admitted, with a rueful pout. "But at least you might tell me what you're getting at."

"It's simple enough. Evolution on this world is straightforward, fast though it is. The only way it differs is in that it passes through it mutations all at one sweep of existence instead of dying and being born again, in a more adaptive style. The giant creatures of this moment are the very same insects and millipeds we saw last night—same minds, only changed outwardly by an amazing mutational process. Since this planet has such a weird orbit it probably accounts for it. Its close approach to the Sun at perihelion produces Carboniferous Age conditions: as it recedes further away the condition will cool to normal, finally reaching a frozen glacial state compatiable only with earth's last days. What I'm wondering is, what will happen when we reach that zig-zag part in this planet's orbit. May be trouble."

The girl puzzled for a moment. "Oddly enough, Arch, I believe your mutational idea is dead right, though how you figured it out all by yourself is beyond me. What became of the First Glacial Epoch, though? That should have appeared between the insect and mammalian stages."

"Because it happened on earth doesn't say it must happen here. In fact it's wholly unlikely. Life here will simply progress from warmth to cold, and during that period we'll have a pretty good simile of the lines earthly evolution will take. This planet being practically the same in mass and atmosphere it isn't unusual that similar life to earth's should evolve."

Elsie looked out over the changing forest, her brows knitted. For an instant her gaze caught the gray hurtling form of monstrous archaeopteryx—a natural helicopter.

"Evolution like that seems so impossible," she muttered.

"Why?" Arch objected. "On the contrary it's very sensible. Death, and thereby a possible break in the continuity of knowledge, is done away with. Besides, there is a biological parallel to bear it all out."

"Meaning what?"

"Meaning that a human embryo before it is born undergoes in nine months all the primeval states. The fertilized egg form from which the human biped develops is, in the first instance, a primeval amoeba. In the nine months of its genesis it performs, unseen except by X-ray, the very incredible fast evolution we see here in actual fact. First the amoebical cell, then clustered cells like a mulberry—a globular animalcule. It then moves on to the fish stage and shows visible gills: it traverses the scale of the lower invertebrates. Fishes, amphibians, reptiles, lower mammals, semi-apes, human apes, and lastly *homo sapiens* are all passed through. Then the child is born. If it can happen invisibly to a human embryo, why not here in the form we behold? Maybe it is the only way Nature can operate. Being

pressed for time, as it were."

"You think then that man will appear in, say, two days?" the girl questioned thoughtfully.

"Not quite so soon, perhaps, but certainly before very long. It may represent inconceivably long generations to this life, but we measure time by the hours on our watches. The ship won't hurt in the interval. It's safely locked anyhow. When this forest dies down to give place to new forms we'll be able to find it easily enough."

She nodded agreement and settled herself down again to await developments.

CHAPTER THREE

The Storm

THE day was uneventful save for occasional showers of amazing rapidity, and a certain cooling of the air that could only be explained by the amazing planet's rapid orbital recession from the Sun.

During the brief two hours there were multi-alterations, and when the night fell again it was alive with change.

The two listened fearfully to a myriad unfamiliar noises—the screech of unknown birds as they flew close over the camp; the monstrous, avid bellowing of 40-ton beasts—the ground-shaking concussions of their colossal feet. Somewhere something chattered with the hysterical abandon of a hyena.

At brief intervals the two slept from sheer strain and fatigue, until near the time for dawn when they were aroused by a sudden deep bass rumbling in the ground.

"Whatever is it?" Elsie gasped in alarm, leaping up. "Sounds like an explosion. . . ."

She jumped to the door and wrenched it open. Outside, rain was descending in hissing, blinding sheets.

"More like an earthquake," came Arch's sober voice from the gloom. "Here—grab the provisions and pack in case we have to make a dash for it!"

He snatched at the girl's baggage and thrust it on her shoulders, but almost before he had slipped into his own equipment they were both flung off their feet by a terrific earth tremor.

"It's that zig-zag deviation in this planet's orbit!" Arch gasped, scrambling up again. "We must have reached it. Let's get out of here quick, before the whole camp comes down on top of us!"

"But where do we go?" the girl asked helplessly. "It's raining a deluge outside—"

"Can't help that!" he returned briefly, and hugging her to him they plunged out into the raging dark.

Lucky it was that his foresight had guided him, for they had hardly gained the clearing's center before another tremendous convulsion of the earth overthrew them. A visible ripple raced along the ground in the dawn light, ploughed down swaying trees and shelter in one all inclusive sweep.

Raging, cyclonic wind gripped them as they staggered helplessly towards the rain-lashed jungle. Clutching each other, soaked to the skin, they were whirled along in the midst of crashing trees and ripping, tearing plants. The whole planet seemed to have suddenly gone insane.

Simmering volcanic forces had abruptly come into life, undoubtedly created by that orbit deviation swinging the globe out of normalcy.

Panting and drenched they halted finally in the jungle's depths, crouching down in the rain flattened bushes as a herd of crazed animals thundered past. Mighty brutes, overpowering in their mad hugeness. It was a vast parade of armor-plates, horns, laniary teeth, beaks anl claws—the stampeded herd of an incredible saurian age on the verge of yet another weird metamorphosis.

"What do we do next?" Elsie panted, as the earth heaved violently beneath them.

"Only stop as we are until we get a break!" Arch looked worriedly at the sky. Not only was it thick with lowering rain clouds but there also drifted across it the thick acrid smoke columns of volcanic eruption. Somewhere a crater had burst into being.

He turned back to the girl with a remark, but at that exact moment there came a roaring and crashing from the jungle to the rear. He was just in time to see a vast wall of water ploughing forward, bearing everything before it in a towering deluge of driftwood and tumbling vegetation—then he and the girl, clinging frantically to each other, were lifted on high and hurled wildly into the foaming chaos.

They went deep, locked tightly in each others' embrace, rose up again gasping and struggling for air, threshing wildly in the driftwood as the weight of their packs pulled upon them. In the half light it was difficult to distinguish anything. On every hand there was din and confusion; the piercing shrieks of drowning monsters split the screaming air.

"O.K.?" Arch yelled, clutching the girl to him, and she nodded her plastered head quickly.

"Sure—but I could think of better places to play water polo—What's that ahead? Land?" She stared through the smother.

"Of sorts," Arch threw back—and in three minutes they struck shelving ground from which all traces of forest had been blasted by earthquake and tempest.

FOR a space they could do nothing but lie flat on their backs and gasp for breath, staring at the clearing sky—then little by little it came home to them that the earthquake and tidal wave were spent.

The heavings and tremblings had ceased: the mad little world was itself again. For the first time Sunshine filtered down through the densely packed clouds, gathering strength and intensity until the wet ground was steaming with the intense heat.

Elsie sat up at last and thankfully lowered the pack from her back.

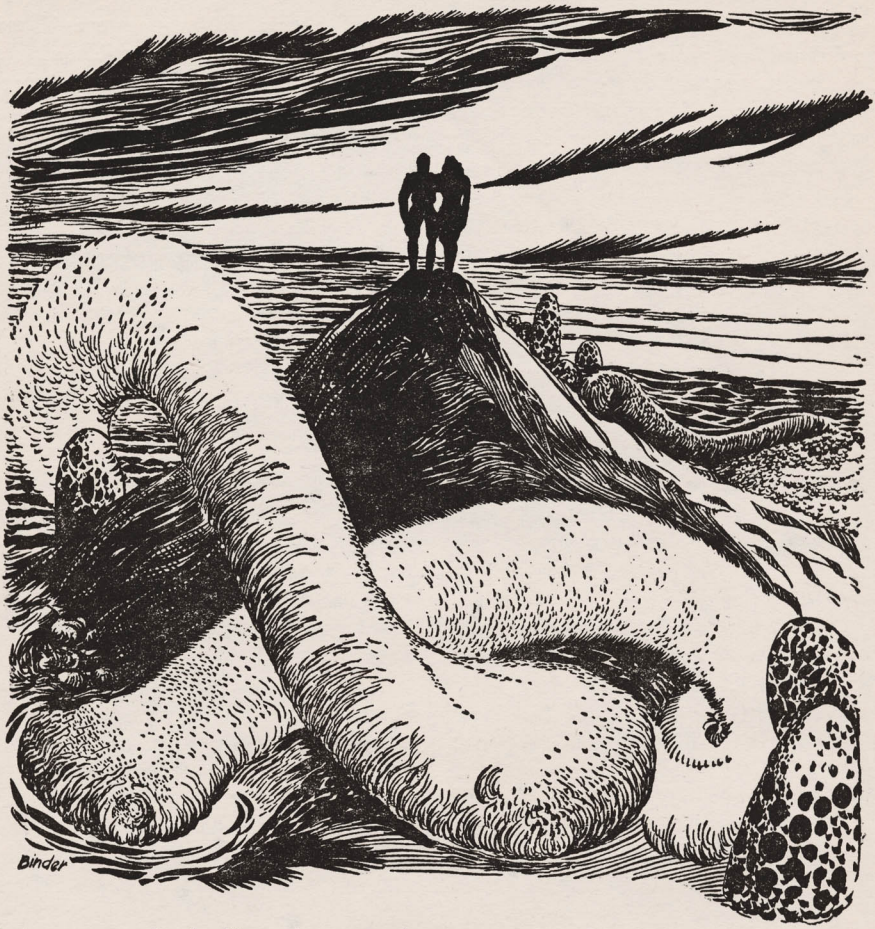
"Well thank Heaven neither water nor space can get through these," she remarked gratefully. "We can still survive a bit longer, though I certainly have a lurking suspicion that it isn't going to be easy to find the old space ship after this! Incidentally, Arch, doesn't it seem to you that it almost matches up—in a shorter version—with the Deluge and terrific repatternings earth underwent in the early stages?"

He nodded rather gloomily, staring out over the newly formed ocean.

"Very like it," he admitted. "Nature's law operating in a slightly different way—eliminating vast numbers of the giant beasts and permitting only a few to remain. Since they possess the powers of adaption without death or heredity they will presumably pattern themselves on a smaller scale now. Everything large will probably have passed away—those things that resembled the dinosaurs, ichthyosauri and pteranodonyes of earth.

The girl made a wry face. "Boy, can you sling jaw-crackers around!" she murmured, scrambling to her feet. "Still, I guess you're right. Seems to me we'd better move before some sort of Sun fever gets a hold on us, though at the rate this place moves, I hardly think it's possible to get ill— Well, what do you know about that!" she finished in astonishment, and pointed to the flat plain behind them.

Arch rose beside her and stood gazing in amazement. The plain was no longer a barren mass but was already thickly wooded in the glare of sunshine, backed at the rear by a newly risen mountain range. They stood looking on foliage



that was vaguely familiar, almost earth like—which, considering the planet's resemblance to the home world wasn't very surprising.

DARK plane trees, waving oaks, beeches—they were all sprouting and growing upwards rapidly. Amidst the branches there flitted the first signs of birds, the first visible feathered things. A steady humming presently proceeded from the forest—the low and ordered note of bees, dragon-flies, moths, butterflies, and here and there as they watched a stinging specimen of the anthropod genus came into mystic being, chirped loudly, and sped swiftly away into the sunny silences.

"Do things move on this planet!" Arch whistled at length, tentatively fingering his gun. "An hour or two ago they were giant monsters; now they've changed again and resolved into the smaller classes— And look at that!" he finished, in a yell of amazement.

Elsie hardly needed his directions. Her eyes were already fixed in astonishment upon a profusion of scampering but none the less recognizable creatures. There were marsupials, waddling armadillos, changing even as they were watched, with

incredible swiftness into rodents and hoofed animals. The birds too, as they flew, merged astoundingly into new specimens, slipped swiftly by wild mutations into bats and insect-eaters.

"Pretty little playmates!" Elsie murmured at last. "I guess we might take a closer look. We're literally between the devil and the deep sea, so what about it?"

Arch nodded. The Sun was already curving down swiftly towards the horizon. Very soon it would be night. The forest for all its wild and peculiar life was a safer and more understandable proposition. Anything might emerge out of the ocean at the coming of nightfall.

They turned and strode forward purposefully. When they reached the forest it seemed to have already attained maximum limit, yet despite its dense profusion, only blasted clear by the flame guns, it was nowhere near the solid impregnability of the earlier jungles—was more natural, more beautiful, sub-tropical.

Darkness fell with its usual blanketing suddenness. Afraid to pause the two went on steadily, beheld things they could not have thought possible. Rats of astounding size occasionally flitted across their vision: some attempted to attack until they were shattered to dust with the guns. In other directions unclassifiable monstrosities lurked in the twisted grass, stared out with great diamond-like eyes or scuttled away into the friendly blackness. The whole place was infested with weird life, some very earthly, some very alien.

Once, as the flashlight circled a wall of vegetation ahead, the two caught a vision of a ridiculous thing like an ostrich running away from them in sudden fright, its bushy tail standing up like an earthly cauliflower.

"A dinoris, or something very like it," Arch commented. "A forerunner of a future ostrich. Like—"

He stopped dead, muscles tensed and hand tightening on his flame gun as a pair of fiendishly malevolent green eyes blazed suddenly ahead. A body of brilliant stripes moved through the quivering changing-grass.

"Saber-tooth tiger—a genuine pip!" he whispered, clutching the frightened Elsie to him. "No time to take chances. Here goes!"

He fired his gun mercilessly at the very instant of the magnificent creature's spring. It never ended its leap; simply puffed into ash in mid-air.

"I hate to think what would happen if the guns gave out," the girl breathed shakily. "This is sure no place for a picnic."

She fell silent again as they resumed the advance. By the time they had passed through the thick of the jungle and reached the base of the mountain range beyond, the dawn had come again. But it was colder, much colder, and the Sun seemed smaller. . . .

For a time they wandered through the midst of loose rocks, finally singling out a cave opening in the sheer wall of towering cliff. Weary and exhausted they crawled within and flung themselves down in relief, gazing back through the opening towards the rioting confusion of jungle a mile away, and, further away still, the ocean born of the tidal wave.

"Before very long all this will pass away and maybe we'll glimpse something of modernity—something that thinks, something that will explain why this planet behaves so queerly," Arch said musingly. "All the same, I think my own ideas are pretty correct."

Elsie yawned widely. "Well, theory or no theory I'm going to take a rest. This place is too much for me!"

They both pulled off their packs and squatted down, Arch with flame pistol ready as instant protection—but before very long fatigue got the better of his good intentions and, like the girl, he slept soundly.

CHAPTER FOUR

The First Man

WHEN they awoke again it was to the knowledge that, according to their watches, two nights and two days had slid by. The cave was unchanged. Once they had refreshed and eaten they crept to the opening and stared out onto the jungle.

It was different once again—still more refined but still primeval. Here and there first new life forms were moving: bullet-like hairy beings shot from tree to tree with terrific speed. The ape evolution had been gained, was speeding onwards up the scale in absolute unison with the chameleon planet's gradual withdrawal from the Sun.

"If this evolutionary scale is similar to earth's we ought to get another Glacial Epoch around here," Elsie murmured musingly. "It's a good job we brought space suits with us. It's getting pretty cold even as it is."

"There won't be a Glacial period," Arch said with certainty. "Earth's ice age was mainly responsible for the final extinction of the saurians, but here they require no extinction: they simply merge into something fresh like a tadpole metamorphosing into a frog. Those distant apes we can see will be men before we can hardly realize it. Remember that by normal evolution millions of years passed in between states of change—but the speed of ascent from ape to man could be measured in mere thousands of years. That's why it should also go quicker here."

"In the meantime we stop right here then?"

"Sure—it's a safe spot. Why shouldn't we?"

"I was thinking of the space ship."

Arch laughed forlornly. "Swell thought that is! Probably it went west in the earthquake. Even if it did there will soon be life on this amazing world quite capable of building us a new one. You can count on that."

Elsie became silent, staring moodily through the cave opening—then she suddenly stiffened and cried sharply.

"Look down there, Arch! A couple of apes fighting it out to the death! And the smaller one's getting the worst of it, too!"

He joined her in gazing, studied the mighty hairy forms that had emerged from the forest and were battling savagely with bare hands and fighting fangs for the possession of a piece of quivering ani-

mal flesh. The speed they fought at made them mere blurs of motion. And even as they fought they were changing swiftly. The heads were broadening out; the teeth and prognathous jaws projecting less.

Finally, the smaller of the two fell backwards, to be immediately pounced upon by the larger. At that Arch jumped to his feet, flame pistol tightly gripped in his hand.

"What's the idea?" Elsie asked in a startled voice.

"A thought's just struck me. We could do with a companion from this world to tell us what it's all about. I'm going to rescue the smaller ape, if I can. Before long he'll be a man. Stay here or come with me. Please yourself."

She scrambled to her feet at that and followed him through the cave opening. Running swiftly together over the loose rubble they gained the fighting pair at last and paused, momentarily appalled by the overpowering fury and speed of the brutes. Beyond doubt it was a fight to the death. The forest behind was echoing with the gibbering of apes, sub-humans, and queerly fashioned things that had no placeable origin, scuttling wildly through the fastness.

ARCH hesitated for a moment, maneuvering for a good position—then as the gaint aggressor abruptly stood upright for a final plunge Arch released his flame gun. Vivid streaking energy struck the brute clean in the stomach, blasted his great hairy body into fragments amidst a passing stench of singeing hair and flesh.

"Nice going!" Elsie breathed in delight, then swung round nervously as the other ape got painfully to its feet.

By the time it had fully stood up it was miraculously healed of its injuries and had become less apelike in form, less shaggy. Instead it had all the evidences of an earthly Heidelberg man—huge, hairy and terrible.

Arch backed away gently, flame gun ready, calling to the biped coaxingly.

"We're friends. Want to help," he said anxiously. "Don't try and start anything or I'll let you have it!"

A momentary silence fell. Even the forest went quieter—changing and sliding strangely into new and complex patterns. whirling in the sea of mutations.

The rescued apeman stood in puzzled bewilderment, grinning diabolically. Elsie drew tightly into Arch's arm at the sight of that receding forehead, protruding eyebrows, iron hard jaws and sharply pointed ears.

"Couldn't—couldn't you have chosen a better looking pupil?" she ventured, voice trembling. "He's giving me the jitters."

"As long as I've got this flame gun we're safe enough. . . ."

Arch held out his hand slowly, then snatched it back as the brute's huge teeth bared in petulant anger. . . . Then suddenly it raised a hand to its little forehead and seemed to give the slightest of shudders. When it lowered the hand the facial appearance had changed again into that of a near-Neanderthal man.

Arch tired of the mutual scrutiny at last, tired of guessing at the workings in the creature's little brain. He turned, pointed towards the cliff cave, and headed back towards it, glancing ever and again over his shoulder.

"Maybe he'll follow," he murmured, and the girl sniffed.

"I don't fancy being bottled up in a cave with that brute," she grumbled. "Apart from the fact that he isn't handsome he might make the place smell."

"Will you get it through your thick head that he'll one day be a man of supreme and far reaching intelligence?" Arch snapped. "At the rate he changes at he'll be equal with you and me at the end of a few days. Besides he'll be darned helpful to us. He owes us a debt,

don't forget. We saved his life."

She glanced back nervously. "Well, he's following us anyhow," she said worriedly. "Suppose—suppose we stop outside the cave? Maybe it'll be safer."

Arch nodded assent and once they gained the cave he stood ready and waiting until the brute came up. There was something incredible and baffling about the mad evolution of the creature. The sub-human effect had changed again: the creature had lost the power of operating the nodules of its simian-pointed ears. At terrific speed he was developing into an intelligent man.

Finally he came level, looking in almost childlike wonderment at his outspread fingers. Between them reposed the vestigial remains of his saurian origin. In thirty seconds they had become natural fingers, but thickly stubbed.

"We're trying to help you," Arch said presently, making dumb motions. "We want you for a friend."

The brute looked up; a faint flash of wisdom crossed his apish face and then disappeared. His only response was a deep, chesty grunt, then he sat down heavily right across the cave entrance as though to wait.

"No dice," Arch growled. "He *would* choose that place to squat. Guess we'll have to wait until he gets more intelligent."

Elsie, her fears abating somewhat at the evidence of the creature's docility, relinquished her hold and squatted down too. Within a few minutes the Sun westered over the fantastic forest and sank at lightning speed.

The brute slept during the two-hour night, watched ceaselessly by the chilled and wondering Earthlings. . . . When the Sun rose again the creature was no longer an ape but a naked man quite on a par with a modern earth being.

The moment he woke up and beheld the two shiveringly watching him he leapt lithely to his feet and sped at a terrific speed into the distance—not towards a forest but towards an area now sprouting with rudely designed huts and abodes.

The age of the wild had passed.

"PITY he dashed off like that," was Elsie's comment, as she rose stiffly and rubbed her chilled bare arms. "Maybe he got self conscious at finding himself a nudist. If he was as cold as I am I'm not surprised."

"The cold is our growing distance from the Sun," Arch said. "As to our friend, you've said something a darn sight more accurate than most of your observations. The need for clothing, in his now advanced mind, will be a strong urge. Bet you a dollar he turns up again!"

"Check!" the girl said, and after diving into the cave for the provision bag she settled herself to eat and wait again, grateful for the Sun, smaller though it undoubtedly was.

For an hour there was no sign of the ape-cum-man. The only changes lay in the queer city. With every passing moment it changed indescribably. Illusory flutterings constantly rippled over it. In fifteen minutes the crude dwellings were normal edifices; the first ramifications of a city were coming into being.

"Do you think that city builds itself or is it actually erected by the labor of unseen creatures?" Elsie asked at last, her blue eyes utterly perplexed. "It isn't even reasonable to suppose that any beings could work at such a frantic rate and with progression of ideas."

"Don't forget that this planet is in top gear," Arch murmured. "Think back on the terrific speed at which everything has moved—or at least it's looked that way to our senses. Remember the speed of the earlier metamorphoses, the whirling rate of that ape fight—the way our naked friend streaked off like lightning with the lid off. Because earthly evolution and

movement is so slow it doesn't imply that the same thing must exist everywhere else. This chameleon planet has to cash in on the fruits of an entire existence in the equivalent of a mere earthly fortnight. That means that the inhabitants work in like ratio—don't even waste time on dying. Just grow right up from beginning to end. Their buildings appear like blurs because of the rate they move at. The further on evolution and intelligence travel the faster everything will go, I expect. Increasing knowledge and modernity makes for increasing speed. What really interests me is where it is all going to end. Maybe Almega will be able to tell us if he comes back."

"Almega?" Elsie asked in surprise, frowning.

"Sure—Alpha and Omega cut short. Suits him, don't you think?"

"Not bad—for you," she admitted slyly; then before she could speak further there came a streak of dust from tumult of the city.

OUT of the Sunshine there suddenly merged the figure of Almega himself, half smiling, now a complete man of an ultra-modern age.

A one-piece garment, blue in color and elastic in texture—specially designed to accommodate the constant changes of his figure—covered him from heels to neck.

Arch jumped in surprise.

"We're friends," he began again. "I tried to tell you—"

"I know, when I was in primordial form," Almega interjected briefly. "My brain was not then developed to its present stage."

Arch gazed in amazement. "Say, how come you talk my language?"

"Thought waves," said Almega briefly. "I have not much time to speak. I am so fast and you are so slow. Listen to me. I speak under effort. Forced to go slow. Very slow."

"Shoot!" Arch invited.

Almega hesitated for a moment, then said, "Our evolution is very rapid. Soon I shall be a superman. Then on to other states. Come to thank you for saving me. My brain was then only 430 grams. Now it is 1,350 grams. Soon it will be 2,000 grams. . . ."

He stopped again, visibly changing. His forehead, already massive, was commencing to bulge strangely. His body changed form swiftly, becoming thinner and smaller than before.

"Your space ship was not destroyed. Lies in a straight line that way, some distance off." He pointed the exact direction and Arch checked it minutely on his wrist compass. "Reach it as soon as you can. This world will pass shortly to remote aphelion. Cold will completely destroy you but we shall adapt ourselves."

"Am I right in believing that time is far swifter here than it is to us?" Arch questioned eagerly.

The swelling head nodded swiftly. "Quite right. Our evolution is encompassed in one circling of the Sun—we go from beginning to end without dying and leave cellular spores at the end of our course, to start again at perihelion. Our climate too pursues the same changes, though of course it is an inactive state. Rain and sun here are so swift to you you will hardly see the difference, save in the long disaster at the erratic point of this planet's orbit, which you have already experienced. We look like you because of similar conditions."

"When you've run this course of mankind, then, your world will be empty?" Elsie asked interestedly.

"No; man's stage only represents one dominion. Be same on your world in the future. My brain is better now. I see your world is very far away. No matter. Man on any planet is only one form of dominion. Before that stage we were the masters in other forms. Just as there

have been former types, so there will be later types. Incessant change. Shortly I shall lose sense of smell and develop spectroscopic eyes and ears. I shall read the light-symphonies of Nature; I shall hear the pulsations of the universe. My teeth will disappear, so will my hair. My eyes' visual range will change as this world speeds further away from the Sun and becomes embraced in twilight. As the dark deepens I shall see in that, too."

"Then?" Arch asked, thinking of a possible earthly parallel.

"Ears will disappear," said Almega dispassionately. "We shall conquer all things as Man—so swiftly you will not see it. We shall conquer space and the universe. To you a mere blur. Evolution will go on. . . ."

HE CHANGED again. His eyes glistened queerly: his body went even thinner. But with hardly an alteration in his clipped voice he went on,

"I can think better now. We shall become insects. So it will happen with your world. Already your insects are adapted for future control. Particularly your *cephenomia* fly. It is the fastest flier on your planet. So will we be. We shall war with termites, gain brief mastery and change again. By then—to you mere days—our planet will have moved very far from the Sun. It will be cold. We shall change into wormlike beings—*echinodermata,* as you call them. We shall go further than that; move into the state from which we came—a single cell. In that wise, still intelligent, we shall live through into the ultimate night of our world at aphelion. The cell will remain, to be born again at perihelion and repeat the life-cycle."

"A single cell!" cried Arch in amazement.

"Yes," Almega said, changing again into something that was all head and penetrating, thought-battering eyes. "You had a similar thing on your world in the alluvian epoch. You called it *Caulerpa.* It looked like green algae, had a fernish body and grew to four feet in height. All in one cell."

"He's right there!" Elsie exclaimed. "I've heard of it."

"And the purpose behind this astounding evolution of yours?" Arch demanded. "You live through all your stages and work back to a single cell, then you do it all again. Why?"

"Why is anything?" Almega asked surprisingly. "My race and I will not come again. When our intelligence passes at the planet's aphelion we shall go elsewhere, leaving behind only a cell which, at perihelion, will sprout again. But with another mind. Where our own minds go we do not know. Like you, we do not understand the riddle of death."

He turned with sudden swiftness and glanced at the westering Sun. "An epoch has gone!" he said anxiously. "You go—keep safe. Thank you. . . ."

And the space where he stood was suddenly empty. Only a line of settling dust sweeping down to the crazy, changing city revealed the magically fast path he had taken.

"Can that guy move!" Arch whistled. "He could play badminton with himself and sleep between serves. . . ." Then he sobered a little and glanced at the girl. "Well, you heard what he said. Guess we'd better be moving, Mrs. Lakington."

"It is a bit chilly at that," she agreed. "Now we know all about it from our sentence-stilted friend we might as well go."

They shouldered their packs again, cast a last look at the cave, then as they moved away from it darkness returned to chameleon planet.

THAT night of all others was painted with sights unique in their experience of planet exploration. As they moved

sharply in the direction Almega had indicated—apparently due south by Arch's wrist compass—they beheld the transformation of the city in all its weird, incredible glory.

The scene presented was that of a blur of lights as buildings supplanted buildings, as the air machines of a now far reaching science streaked the blackness. Sound, deep-pitched and vibrant, floated across the intervening space like the droning of a super beehive. It was hard to imagine that in that enormity of power and mutation a race was passing literal epochs.

The two only stopped twice during the night to rest. When the dawn came the city was behind them, momentarily still in its wild upbuilding. The chill wind of that dawn, the paling light of the increasingly distant Sun, both embraced a city that had come to a stop, the ingenuity of architecture evidently at last played out. A row of tall, slender buildings reaching to the sky, atop which there stood complicated towers and the various devices of a far advanced science, stood in mute testimony to the slow passing of a race that had reached its mightiest thoughts—in man form at least—in two short hours of apparent night!

"Don't you think it's time we wrapped ourselves up a bit?" Elsie asked at length, rubbing her arms vigorously. "It's getting freezing cold. The air's thinning a bit, too. No telling yet how far we may have to go."

The night shut down like a breath from the void, sending them stumbling onwards with a slowly rising terror—the monstrous fear of unknown forces reaching out of that great and ebon dark. Afraid to stop, they kept on going.

THE dawn was the strangest they had seen. The Sun was as red and cold as a super-Arctic, so vast was his distance. Its long, slanting red wavelengths fell upon a forest directly ahead.

"Is—*is* it a forest?" asked Elsie uncertainly through the helmet phones, stopping wearily. "I thought all life had gone for good."

They moved more slowly now, both from fatigue and the cumbersome folds of their space suits. In five minutes they gained the forest and passed into its slowly changing midst. It was so far the slowest and yet the most astounding place they had witnessed. A woodland of gray, frosty shapes, sheerly beautiful, deeply red lit. The life that tenanted it, harmless apparently, moved with a certain slowness . . . but *what* life!

Enormous reeds were gliding along through the thinning air like decapitated serpents, twisting and writhing, unutterably grotesque. In another direction bristling gray footballs were rolling swiftly along in search of hidden prey, propelled after the manner of an earthly polypus by whiplike tentacles.

As the Earthlings passed wonderingly through their midst, staring incredulously at the infinitely diversified forms, one or other of the strange objects burst suddenly apart and became two—bipartition of cells.

"Unicellular life of the *nth* degree," Arch breathed, fascinated.

"I'd sooner see a space ship than a whole lot of cells," Elsie sighed. "How much further, I wonder?"

They went on slowly through the very midst of the balls and rods, through the thickest part of the lacy, cellular trees, until at length they were through it. Behind them, the forest began to disappear. . . . Gigantic bacteria, the toughest, most adaptable things in life, were beginning the final dominion before the utter extinction of death itself.

Ahead there stretched a desert of ice. Nothing was stirring in that redly lit bitterness: no new form of life was manifesting under the sheathed armor of what had

once been land and water. Chameleon Planet was on the verge of death.

Elsie stopped suddenly and gripped Arch's inflated arm.

"Suppose we never find the ship?" she asked almost hysterically. "Do you realize what it means? This world is finished —and so will we be if something doesn't—"

She broke off. The Sun, slanting swiftly down to the horizon, suddenly set something gleaming brightly not half a mile distant—a pointed spire in the ice field. She jerked forward so quickly that she nearly broke the helmet phone cord.

"What the hell—!" Arch gasped, then he pulled up short on the ice as he saw the reason for her wild lunge.

It was the ship! Half of it projecting sharply out of the ice; the rest of it buried in the frozen tomb. Quick as a flash he whipped out his flame gun.

"Still a chance!" he panted. "The door's shut so the inside will be unharmed. It won't be crushed, either—the plates are plenty strong enough to resist ice pack. Get busy!"

Without further words they both set to work with their twin flame guns.

Tearing off his pack, Arch dived, perfectly protected by his space suit. He used his flame gun constantly to keep the ice from reforming and crushing him to death. . . . To spin the external screws of the airlock was a matter of moments. His shout of triumph traveled into the girl's helmet phones as she too came floating through the narrow tunnel.

By degrees, working like divers, they shut the three safety compartment doors one after the other and finally gained the grateful interior of the control room.

Still space-suited, Arch gave the power to the rocket tubes. The exhaust blasted ice and water in a vast shower.

Half an hour later the two looked out into the void—but Chamelon Planet was out of sight.

WHITE LAND OF VENUS

By Frederic Arnold Kummer, Jr.

Five million dollars in *solium* lay at the heart of the legendary White Land — but its guards were the blind and fearsome *kathals*.

THE thick Venusian jungle was like a steaming, stewing pot of spinach. Fantastic green growths loomed on every hand, towering as high as terrestrial redwoods, giant weeds sprouted in grotesque profusion, while vines, varying in thickness from the diameter of a lead pencil to that of a man's thigh, wove a well-nigh impenetrable barrier on all sides. The jungle was moist to the saturation point; rolling white clouds of mist formed ghostly veils about the masses of lush vegetation. Between the mist and the canopy of vines overhead, the green hell was plunged into murky gloom, visibility limited to a few shadowy feet. Moreover it was hot, with the kind of heat that transforms a terrestrial's nerves into taut guy-wires.

Carl Dravot's nerves had been in the guy-wire state for days, and were now approaching the breaking point. Staggering along under his heavy pack, he peered with blood-shot eyes at the three figures ahead. Two of them, laden with all manner of camp equipment, were Venusians, tall antennaed creatures whose stalked eyes and hairy bodies gave them a look of fierceness quite out of keeping with their timid dispositions. In front of the

Venusians was Jeff Vickers, wiry, bronzed, grim-faced, his damp shirt clinging to his muscular torso. Machete in hand he hacked a path through the green barrier, each stroke falling with a monotonous regularity that somehow suggested an automaton.

Dravot stared bitterly at his fellow-terrestrial. Didn't Vickers ever feel tired, he wondered. Wasn't he human? Three weeks he'd held the lead, since leaving the last outpost, driving forward inexorably. And for what? Where. . . .

A flicker of scarlet, seen from the corner of his eye, broke Dravot's reflections. A long tenacle-like vine, covered with brilliant reddish fuzz, lashed out toward him. Too late he recognized it as the wicked Venusian *quero,* that queer growth which has all the kick of an electric eel.

With a smothered gasp Dravot sprang back but, weighed down by the heavy pack upon his shoulders, he was not quick enough. Like a striking boa the scarlet vine curled about his throat, and surging, searing electric current swept through Dravot's body. Desperately he struggled, tried to tear the vine loose, but in vain. Then, as the *quero* poured out its charge, he became motionless, rigid.

"Jeff!" he choked. "Help!"

The two Venusian bearers were crouching upon the muddy ground, horrified. Past them Vickers plunged, his lean brown face tense. One swift stroke of the machete, slashing downward, severed the scarlet vine several feet from Dravot's body. Cut off from the source of current in its roots, the length of vine became limp, dropped from about the terrestrial's neck. Groaning, Dravot slumped to his knees.

"Here!" Vickers handed his companion a flask. "You must have been day-dreaming not to have noticed the *quero.*" Then, as Dravot took a long pull at the canteen. "Okay, now?"

"Okay?" Dravot swayed to his feet, eyes blazing. "Heat, boiling fogs, these devilish vines . . . and you ask me if I'm okay! I'm sick of it, Jeff! Already we've come further into this green hell than any other terrestrial. And why? Where are we heading? What's it all about?"

Vickers hooked his thumbs over his belt, regarded his companion coldly.

"You signed up blind, didn't you?" he said. "To follow me for three months, no questions asked. And you're to get a half share in any proceeds that may accrue from this expedition."

"Proceeds?" Dravot laughed harshly. "What proceeds can you get out of this steaming hot-house? I'm through, finished! Not another step forward do I take until I learn where we're going and why!"

Vickers' grey eyes were flinty. "I've been waiting for this. Well, I suppose we're near enough now." He wheeled to the two tall Venusians. "Make camp here. *Jao Latu!*"

Obediently the bearers commenced work. Ground was cleared, two tough fibroid tents pitched, an electric grill . . . for none of the damp green vegetation could be used as firewood . . . set up. A small but powerful atomic generator was taken from Dravot's pack, connected to the grill, and food placed on to cook.

While the Venusians were thus engaged, Vickers drew Dravot to one side, spoke swiftly, softly.

"You want to know where we're going," he began. "Maybe you think I've been acting mysteriously not to tell you, but I had my reasons. I was afraid . . . afraid you might forget, mention it within earshot of the bearers. One word of where we're heading, and they'd bolt like scared rabbits." Vickers' voice became even lower. "D'you know what's at the center of this damned jungle?"

A look of amazement crossed Dravot's face.

"You mean what they call the White

Land?" he muttered. "I've heard Venusian legends about it. Supposedly the home of the *kathals,* the evil spirits, or some such nonsense. But what do you hope to find. . . ."

"Listen!" Vickers whispered. "Did you ever hear of the *Astrella?*"

Dravot nodded, flicked a large yellow Venusian ant from his wrist. "Sticks in my mind somehow," he muttered. "Like the old terrestrial story of the *Titanic.*"

"Both were big accidents," Vickers said, "even if separated by a couple of centuries. The *Astrella* was one of the first spaceships. Was loaded with a bunch of refugees from the Thelist wars of 2103. Over two hundred of them, all of the wealthy class, who were determined to make new homes for themselves as far from war-torn earth as possible. After hiring the *Astrella,* stocking it up with supplies, they found they had about five million dollars left over. Knowing this money would be commandeered if they left it on earth, the refugees converted it into *solium,* the smallest bulk possible, and took it with them. Figured that when things cooled off on earth, they'd use it to buy additional supplies. They took off hastily on the 19th of September, 2104, just beating a squadron of Thelist planes who'd been sent to intercept them, and headed for Mars. Halfway there, they learned via radio that the Thelists had sent a cruiser to Mars, still hot on the trail of that five million. So the refugees shifted their course and didn't say where they were bound for, not wanting to be pursued. On the 8th of December, nearly three months after the *Astrella* left earth the Lunar radio station picked up her call letters and a few disjointed words. And that was all. Two hundred terrestrials, five million in *solium* . . . gone!"

"FIVE million!" Dravot murmured. "And my share would be two and a half! But what makes you think they crashed in the fabled White Land?"

"This!" Vickers reached into his pocket, drew out a curiously shaped bit of greyish metal, shaped like a nozzle. "Know what it is?"

Dravot examined the piece of metal, shook his head.

"It's a fuel jet!" Vickers exclaimed. "Made of sub-chromite! The kind they used in the firing chambers of the old ships! More, there's the name of a Dutch supply firm stamped upon it and the *Astrella* was built in the Netherlands! I found the nozzle six months ago, strung about the neck of a Venusian chieftain. He said it was a charm, had great powers because it had come from the legendary White Land, the place of spirits, in the center of this big jungle!"

"Good Lord!" Dravot stared excitedly at the bit of metal. "Then . . . then, if your guess is correct, we've only to reach the Whi. . . ."

"Quiet!" Vickers gripped his companion's arm. One of the tall Venusian bearers was teetering toward them, his antennae twitching, his stalked eyes motionless.

"What is it, Honu?"

"Food ready." The bearer motioned toward the array of pots on the electric grill. "You eat now?"

"Right." Vickers slipped the fuel jet into his pocket.

"Come on, Dravot!"

For the next three days the little party ploughed through the wet white mists, knee deep in mud, choked by the noxious vapors of the jungle, reeling from fatigue. Swarms of sharp-stinging ants, clouds of gnats, slimy snakes, beset them, and the vicious vegetation of the Venusian forests made every step a hazard—*queros,* acid-dripping *yaths,* the bright-blossomed, sweet-smelling, carnivorous orchids, huge editions of the prophetically named Venus fly-traps of earth. The heat was terrible, of the turkish-bath variety . . . steamy,

moist, choking. And with each mile forward the jungle grew darker, shadowed by thickening fogs, dense growths until they could see only a pace or so ahead.

It was on the morning of the fourth day that the change became noticeable. Vickers, hacking a path with his machete, studied the towering masses of vegetation with a triumphant eye. As the darkness increased the plant life began to take on a different aspect. The taller trees, the giant ferns that shut off the sun's rays remained the same; the change was in the undergrowth, the rank grass, the head-high weeds. They were, it appeared, becoming less green, whiter!

Pale, like human beings shut off from the sun, these lesser growths began to take on a fungoid appearance. Bleached moss, bone-white lichens, supplanted the tall grass; huge leprous plants, smooth, wan, reminded Vickers of overgrown terrestrial toadstools. Even the vines and creepers had become colorless, waxy, somehow unclean.

"Carl!" Vickers whirled about, his face exultant. "We—we've reached . . . !" He broke off at sight of the two Venusians, shadowy figures in the gloom, standing like bizarre robots behind him; their quasi-human faces were drawn with fear, their slender antennae quivering nervously.

"The White Land!" Honu, the shorter of the two, whimpered plaintively. "This place of spirits, of the *kathals,* who live on blood! We no go on! Turn back! Now, before. . . ."

"No sale," Dravot said sternly, tapping the atomite gun at his waist. "You try running and I'll blast you all over the jungle! I don't miss often, even in darkness like this!" He paused, wiping the sweat from his forehead. "How about taking five minutes breather, Jeff?"

"Right!" Vickers' voice issued from the shadows ahead. "I want to check my maps, anyhow. We ought to be near the wreck of the *Astrella,* as I see it. The White Land isn't large, according to legend." He glanced contemptuously at the big shivering Venusians, drew a map-case from his pocket. "I'll need a flash. . ."

"Coming up." Dravot's electric torch cut a swath in the dark mists. "I. . . ." He broke off, staring. In the path of the beam of light, the strange white fungus-like growing shriveled, wilted, drooped to the ground, dead! "Look, Jeff! It destroys. . . ."

"No!" One of the Venusian bearers sprang toward Dravot, wrenched the flash-light from his hand, and hurled it into the misty darkness. "Never any light here! Never! *Kathals* no know what light is! They come find out!"

"Here you!" Vickers emerged from the gloom, machete in hand. "What's the big idea?"

"Kathals" the Venusian moaned. "Never see light here in blackness! Come find out what it is!"

"More of their nonsense," Dravot growled. "They think the evil spirits of the White Land will come to find out what light is!" He glanced about a trifle uneasily. "Can't say as I'd blame them. Between the mists and the foliage above, you can't see your hand before your face! Guess that's why the undergrowth here is so white, mushroom-like! As for these alleged evil spirits, these *kathals.* . . ." His voice trailed off into tense silence. "What—what's that?"

JEFF VICKERS stiffened to attention. From the dense foliage about them came a soft rustling sound, like the movement of many moving bodies in the undergrowth. The two Venusians began to mutter invocations, their hairy forms trembling, their protruding eyes wide with horror.

Suddenly Dravot gasped, and Vickers felt as though an icy hand had gripped his stomach. Something was creeping

through the masses of fungi . . . something the like of which they had never in their wildest imagining conceived of. Vague, formless, it seemed partly transparent, part opaque, and it glistened wetly in the gloom. Like some monstrous jellyfish, the size of a barrel, the bloated shape dragged itself along by means of short tentacles, stumpy, boneless arms. No eyes, no mouth, no external organs of any sort were visible. The flaccid form exuded a sickening odor of decay.

All this the two terrestrials took in with one glance, as the nightmare beast crept toward them through the darkness. Suddenly a bubbling scream of terror broke from one of the Venusian's lips and he plunged forward into the jungle. Three steps he took and then his screams turned to cries of despair. Moving with surprising swiftness a slimy shape had wrapped itself about the bearer's knees, brought him tumbling to the ground. In an instant four other jelly-like creatures had emerged from the pallid foliage and the Venusian was buried beneath a mass of writhing, flabby flesh.

"God Almighty!" Dravot hardly recognized his own voice. With shaking fingers he drew the atomite gun at his waist. But before he could raise the weapon to fire, a shapeless opaque form dropped from the network of vines above, landed with stunning force upon his shoulders.

Knocked to his knees, Dravot lost his grip on the gun, dropped it. The thing on his shoulders was like a huge, shelless snail, a giant slug. Slippery tentacles passed about his neck, and the odor of decay was overpowering. Frantically Dravot tore at the tentacles but the slug did not relax its grip.

Vickers, armed only with the machete, dashed across the little clearing. One blow of the keen blade, and the bloated monstrosity on Dravot's shoulders, all but cut in two, fell to the ground.

"Th . . . thanks!" Dravot gasped, staggering to his feet. His neck, he suddenly noticed, was streaming blood; the slug, apparently, like terrestrial leeches or ticks, was capable of penetrating the skin without pain to its victim.

The clearing presented a revolting scene. Both Venusians were down, marked by squirming mounds of slimy flesh. The forest seemed alive with the giant slugs. As Dravot groped about in the darkness for his lost gun, another of the jelly-like creatures dropped from above, landed beside him with a dull plop.

"Never mind the gun!" Vickers gripped his companion's arm. "Got to get out of here! Now! Come on!"

Across the clearing the two men ran, breathless. One of the great slugs attempted to bar their path, but a blow from Vickers' machete split it into two wriggling sections, each portion oozing a dark viscid fluid. Then, hacking, tearing a way through the clumps of white morbid vegetation, the terrestrials sought to escape.

As they plunged into the wan jungle, a ruthless sound was audible behind them. Great bloated shapes were following slowly, inexorably!

Gripped by sudden panic the two men redoubled their efforts. Hindered by the dense mushroom-like growths, weighed down by the packs they had had no time to unfasten, they floundered through the darkness. And always they could hear behind them the slither of unwieldy bodies, the rustle of undergrowth. Hearts pounding, breath coming in gasps, they staggered on, knowing that sooner or later they must drop from exhaustion, fall a prey to the great creeping slugs.

All at once Vickers, in the lead, gave a cry of warning. The ground beneath his feet had become suddenly soft, was oozing about his knees.

Deserately he tried to drag himself free, but the mud, like quicksand, sucked him steadily down.

"Dravot!" he gasped. "Help! A bog . . . !"

DRIPPING blood from his lacerated neck, Dravot stumbled in the direction of Vickers' voice. Advancing as far as he dared into the marsh, he clutched at his companion's hand, dragged him from the sticky black gumbo. Regaining dry ground, Vickers crouched, panting, by a clump of pallid growths. Behind them the rustle of the undergrowth grew louder and huge, ghostly shapes were visible in the shadows.

"Finished!" Dravot chuckled hoarsely. "Take your choice! Death by suffocation in the marsh or. . . ."

"My fault." Vickers swayed to his feet, gazed about helplessly; he was empty-handed; the machete having been lost in the mud. "All my talk about a fortune in *solium!* We haven't a chance, now. Sorry, Carl. Those big white devils. . . ."

A rustle in the undergrowth not six feet away interrupted him. Panicky, both men spun about. The sound had come from the weed-grown marsh. Were they surrounded by the giant slugs, Dravot wondered. Fists knotted, eyes bleak, he stared at the masses of leprous vegetation. Suddenly Vickers gasped. The thick warty stalks of two huge weeds had parted and between them stood a girl!

Pale she was, as everything was pale in this White Land, with hair as dark as the sliding shadows and eyes like polished onyx. Her garments were a curious collection of broad leaves and vines.

"Who are you?" she whispered, staring at their muddy, disheveled figures.

"Terrestrials like yourself," Vickers gasped. Then, glancing over his shoulder at the livid, slimy shapes crawling toward them. "The *kathals!*"

"Oh!" The girl's voice broke at sight of the great creatures. "Come! Follow me! Quick!" She turned toward the swamp.

"But" . . . Vickers hesitated . . . "the quicksand . . ."

"There's a path," the girl flung over her shoulder, "that the slugs don't know! Anyhow, they're blind! Can't see! Hurry!"

Vickers, supporting Dravot who was weak from loss of blood, nodded, plunged into the morass after the girl. There followed a nightmare flight which in his exhausted condition he barely remembered. The marsh was overgrown with the eternal pale vegetation, great sprouts and stalks thrusting upward on every hand from the ooze. Huge plants and swirling mists plunged the bog into darkness, cloaked the fugitives in clinging shadows. The heat was stifling and a rank odor of decay permeated the steamy air.

Like a pale noiseless wraith the strange girl led the two fugitives through the weird Venusian fens, twisting, winding, yet always sure of herself. Leaping to a clump of solid vegetation, stepping assuredly into a pool of black mud which, despite its forbidding appearance was only a few inches deep, balancing herself lithely as she walked along the fallen trunk of a huge fern that bridged oily streams.

Vickers, blindly following her slim figure, had long since ceased to wonder. Who this strange, nymph-like terrestrial girl could be, what she was doing in the White Land of Venus—these things meant little now. It was only important that the giant slugs were lost in the distance, that their lives, for the time being, were safe.

Wearily he supported the reeling Dravot, followed his slender guide across the marsh.

At length, after what seemed hours of toil, Vickers noticed that the ground was growing firmer. They were, it appeared, emerging from the morass onto an island, a dry spot in the center of the bog. Suddenly the dark-haired girl paused, gave a shrill, peculiar whistle.

Shapes appeared in the swirling mists ahead.

"Zora?" a deep voice called. "That you, Zora?" A tall man, clad like the girl in leaves and vines, approached them. "I. . . . Oh! Who are these?"

"Strangers. Terrestrials, the girl replied. "One of them wounded by the slugs. I do not know how they got here."

"Terrestrials!" The man's voice rose excitedly. "Then perhaps an expedition at last . . . ! Here!" He motioned to the other shadowy shapes. "Carry them to the camp!"

Wiry men, pale, and, Vickers thought, rather undernourished, picked them up, carried them through the clump of towering weeds. Suddenly the strain of the past few hours took its toll and Vickers went limp, dropping a thousand miles into the dark reaches of oblivion.

JEFF VICKERS awoke slowly, his body stiff, his every muscle aching. On all sides there was only the eternal gloom of the White Land and he wondered if he would ever see the bright sunlight of earth again. Then, as consciousness filtered into his numbed brain, he became aware of his immediate surroundings. He was, it seemed, in a bed, a bunk of some sort . . . and beside him rose an iron bulkhead! Rust-flaked, damp with moisture, yet unmistakably the bulkhead of a space ship!

Bewildered, Vickers sat up, glanced about. The cabin was dark but he could see that it was of antiquated design. In a bunk opposite lay Dravot's inert figure.

"Carl!" Vickers exclaimed. "We we're in a space ship! How, in this damned Venusian swamp . . . !"

"Dunno." Dravot raised himself feebly to one elbow. "I wondered myself . . . thought it was . . . hallucination. . . ."

A patter of footsteps sounded and Zora, the dark-haired girl, entered the cabin

"You must rest." Very gently she thrust Dravot back upon his cot. "You have lost much blood." Then, turning to Vickers. "Feeling better, now?"

"Stiff and hungry." He nodded. "But how—what's a space ship doing here?"

"Why, it crashed here. Years ago, before I was born. Dad and Mother used to tell me about it. More than half the people aboard were killed. The survivors had only one desire—to win clear of this marsh and reach civilization, or at least some pleasanter spot for founding their colony. They worked tirelessly, day after day, testing the quagmire for a path that would lead to dry land. Took them months, old Hawkins says. And when they at last mapped out the path, the one along which I led you, and crossed onto the firm ground beyond, the things you call *kathals* fell upon them, drove them back. Many were killed and the rest retreated here to the ship once more. They were only peaceful refugees and had no weapons. . . ."

"Refugees!" Vickers echoed. "Then this is the *Astrella?*"

"Of course!" the girl spoke as though there were no other ships. "Come! The others are waiting outside."

Vickers followed her from the cabin, along a dim corridor. Between the crash and the rust, the ship was a hopeless wreck. Its entire forward section was crumpled like an accordian, its hull cracked in a score of places, its plates all but rusted away. At the end of the corridor the girl stepped through a battered air-lock, swung down to the sodden ground.

In a small cleared space were perhaps a dozen pale scrawny figures, young people for the most part. Descendants, Vickers realized, of the original ship-load of refugees. At sight of him, they came forward eagerly, their faces lit with hope.

"Is it a rescue party at last?" an old man quavered. "Are there other terrestrials beyond the marshes?"

Vickers paused a moment before replying, awed by the strange scene. The towering masses of livid vegetation, the rusty skeleton of the space ship, the wan, semi-savage terrestrials. . . .

Drawing a deep breath, he plunged into his story.

WHEN he had concluded, a hopeless silence fell over the group of refugees.

"Ah, so!" Old Hawkins, a grey-bearded, long-haired ancient, sighed. "Then none knew of your destination, and your bearers killed by the *kathals!* You and your friend are trapped . . . like us!"

"But" . . . Vickers frowned . . . "isn't there some way of fighting clear? If we could overcome the giant slugs. . . ."

"No way." The old man shook his head. "There is no source of power and the ship is a rusty wreck. What weapons have we that can overcome thousands of the *kathals?* One atomite gun could—but we have nothing. Even our food," he pointed to several slabs of mushroom-like vegetation—"must be eaten raw, since there is nothing to burn in this wet, steaming swamp. Three parties we sent to try and carry a message through to civilization, and not one returned. Blind though they are, the *kathals* have great powers of smell, can scent humans, kill swiftly." The old man paused, his far-away eyes on the clouds of mist. "Of the original crew of the *Astrella* I alone survive. For fifty years I have been in this foggy darkness, watching my friends die one by one, watching these children grow to maturity as savages, leaf-clad creatures of the marshes. Our children,"—his gaze swept the circle about him—"weak, pale things from lack of sunlight, knowing only how to hide, cringe, avoid the great slugs! Savages! And we had such great hopes of a splendid colony, a place of science and advancement where all of our race might live in peace, honor, and happiness, far from the intolerance and hatred of war-torn earth! Such a fine dream . . . and such a bitter awakening! Even yesterday, when you and your companion arrived, I had hopes of a rescue party at last, of leaving this gloomy swamp and starting anew in some place of green fields, bright sunlight, clean, cool air. . . . And now, instead of helping us, you and your friend can only become what we are. Sun-starved savages, doomed to this terrible White Land until you die!"

"Until we die!" Vickers' gaze swept the circle of pallid faces and he shuddered. "But there must be some way . . . some weapon to destroy the slugs! Some way to get out of this. . . ." He broke off as a man came racing through the shadows toward them.

"Quick!" Stumbling wearily, the man clutched at old Hawkins' arm. "The *kathals!* I was out foraging and. . . . They've found the path across the swamps! The blood of the wounded stranger left a trail they could scent, follow! See!" He swung about, pointing.

Among the livid stalks of the tall growths, formless shapes were visible, inching relentlessly toward them. A dozen, a score, a hundred, of the big slugs were dragging themselves across the dry isthmus toward the wrecked *Astrella.* Watching, Vickers felt the hair at the back of his neck bristle. A nightmare, it seemed, horrible even on this nightmare planet of Venus.

"Quick!" Zora's voice broke the tense silence. "Into the ship!"

Frantic, the gaunt refugees crowded through the air-lock, slammed it shut. Within five minutes the *Astrella* was surrounded by the slimy shapes . . . shapes that clambered clumsily over the hull, sought to squeeze through the cracks in its rusted plates.

"Oh!" Zora, peering through a port hole, shuddered. "No escape!" She began to sob.

Vickers, detaching himself from the group of panicky refugees, placed an arm about her slight shoulders. "It's all right." He tried to sound encouraging. "We'll pull through somehow."

But in spite of Vickers' attempts at encouragement, the long hours stretched into days without hope of escape. Cut off from their supplies of food and water, the refugees tottered about the wrecked ship like living spectres. Dravot, weakened by the loss of blood, lack of nourishment, babbled incessantly of bright sunlight, of the cool winds of earth. The *Astrella* was like a great metal mausoleum, those days, echoing hollowly to broken voices, to the sound of shuffling, dragging footsteps. The sun's rays blotted out by the rolling clouds of mist above, there was only darkness, peopled by the moist, jelly-like shapes that waited with grim stubbornness about the locked ship. From time to time the half-starved refugees would weep like children, or glare sullenly at Vickers and Dravot whom they held responsible for this calamity. Weakened by years of malnutrition, lack of sunlight, they had little strength or courage with which to face an emergency.

Zora alone seemed to retain any strength of character, bravery. Daily she guided Vickers about the ship in search of a weapon of some sort; her eyes, accustomed to darkness from childhood, were able to see when he could only grope. From room to room he wandered, poking among the rusty rocket machinery, the empty fuel and food holds, the almost unrecognizable remains of the radio. Odds and ends of every sort were to be had . . . old-fashioned tools, rusty galley equipment, a huge copper landing light, corroded navigators' instruments—all useless.

Once Vickers stumbled upon a square lead chest, was about to open it when Zora stopped him.

"Solium," she said, moistening her cracked lips. "It's pretty, but useless. The older people seem to value it, but I don't know why."

VICKERS threw open the lid of the chest, stared down at the glittering blue grains. Five million dollars worth of the precious metal, enough to hire a fleet of rescue ships. . . . Five million, and they'd gladly trade it for one atomite gun! Laughing harshly, he closed the chest, moved on.

The packs which he and Dravot had worn when attacked by the big slugs were equally useless. His own had been full of medical supplies, a water-purifying unit. Dravot held the atomic generator they had used to run the electric grill; it was a source of almost unlimited power, but what use was power without some method of utilizing it? For a time Vickers toyed with the idea of electrocuting the huge slugs, but the thought of spearing them with live wires was ridiculous. In despair he abandoned his search of the ship.

On the morning of the fourth day old Hawkins died. The other refugees were barely able to crawl. Licking off the moisture that condensed on the rusty plates of the ship helped in some measure to assuage their thirst, but the gnawing pangs of hunger would not be stilled. Thought of the big mushroom-like plants, their staple article of food, not a hundred feet from the ship, brought them to the verge of madness.

Vickers, peering through a porthole into the darkness beyond, shook his head helplessly. The dim white shapes still ringed the ship; they had ceased to climb over the hull, now, and lay like giant blobs of gelatin about the battered hull, waiting for hunger to drive the terrestrials into the open. Beside Vickers stood Zora, her face drawn, pinched. On his bunk across the cabin Dravot was muttering incoherently.

"My fault, all this," Vickers muttered. "My greed. Bringing death to Dravot, to you, to all the others. . . . If only I hadn't tried to find the *Astrella!*"

"If you hadn't," Zora whispered. "I'd never have seen you. It . . . it doesn't matter so much, Jeff, now that I'm with you."

Vickers refused to be consoled.

"No matter what you think," he said slowly, "the others'll die blaming me, hating me. There must be some way to save them! Some method of . . . but it's hopeless! No escape!" Shoulders sagging, he fell into a despondent silence.

Zora made no reply. The room was quiet except for Dravot's feverish muttering. "Light," he was saying. "Light in a world of darkness! Light that destroys!"

"Poor boy," Zora whispered. "Unless he gets food soon. . . ."

With a swift gesture Vickers motioned for her to be silent. Face tense, he bent over Dravot.

"Light destroys!" the wounded man said thickly. "Pretty white flowers gone! All withered . . . gone!"

"Jeff!" Zora whispered. "What is it? What's he saying?"

"Saying?" Vickers squared his shoulders. "Good God! And to think I didn't remember until his delirium! Wait here!" Revived by hope, he ran from the cabin.

When Jeff Vickers returned some five minutes later he was swaying under the weight of the atomic generator and the big copper landing light he had unearthed among the *Astrella's* supplies. Of old-fashioned design, the beacon was no more than two thick carbon sticks placed before a burnished reflector some three feet across. Working swiftly Vickers removed the glass front of the light scraped the reflectors to a gleaming brilliance, and connected the terminals of the generator to the sticks of carbon. At length he bent down, touched a lever, and the powerful little dynamo began to hum.

INSTANTLY a beam of dazzling, blue-white light cut out across the cabin.

"Oh!" Zora staggered back, shielding her eyes. "What is it?"

"What is it?" Vickers repeated, puzzled. Then, smiling, "Of course! I'd forgotten you were born in this darkness, never seen bright light!" He waved back the other emaciated refugees who were crowding through the door of the cabin. "Stand clear! If this works, we're saved!

If it doesn't. . . ." Instead of finishing the sentence he crossed the cabin, pulled open the big air-lock!

As the massive metal door swung open, a dozen of the giant slugs, scenting human life, crawled forward. Zora screamed and the gaunt refugees stood frozen with horror. With a swift movement Vickers swung the big searchlight about, swept the great formless shapes with its beam. And at the touch of the ray of light a strange thing happened. The snail-like creatures began to wither, to shrivel! Great red blotches appeared on their slimy white bodies and they thrashed about with their short tentacles as if in agony! From one to the other Vickers swept the beam of light, until the space about the old ship was strewn with twisting, writhing shapes. In less than ten minutes the entire band of pulpy creatures was destroyed!

"Jeff!" Zora, half-blinded by the dazzling light, stumbled toward him. "How . . . how is it that this white shining thing kills them? I—I don't understand. . . ."

"Simple." Vickers grinned. "It's a matter of conditioning. You see, in this place of darkness, a light, except for the feeble glow that seeps through the clouds of mist, is unknown. And the vegetation, the slugs were unused to it. Even on earth strong sunlight will kill mushrooms, or terrestrial slugs and snails; such things need darkness. And certain insects such as the grylloblatta campodeiformis will die if exposed to a small flashlight's rays. Even human beings, whose skins are toughened to sunlight, can be badly burned, even killed, by sunlight, though they feel no heat."

"These giant slugs were a product of this dark Venusian swamp, had evolved without need of light waves. Wet, translucent, they were like the human eye, which, unshielded by its lid of skin, is highly sensitive to light. The slugs had never been exposed to strong light and it was fatal to them. Just before they jumped us back in the jungle we noticed the white vegetation wither and die before Dravot's flashlight. And when he muttered something in his delirium about light destroying flowers, I remembered." Vickers paused, smiling. "You see? Light is a ray, a radiation. It's just as though human beings were to be subjected to some ray to which they were unaccustomed, for which nature had not given them protection. Light, a normal, necessary radiation to us, was a death ray to the giant slugs!"

"Then . . . then. . . ." Zora murmured. "After we've regained our strength, we'll be able to cross the swamps to civilization."

"More than that, Zora," Vickers whispered. "We're going back to earth. Going home! The Thelist wars are forgotten now, and your people will be heroes rather than refugees. There's a new life ahead for them—and for you and me!"

Half Earth, Half Mars—The Tweenie!

HALF-BREED

By Isaac Asimov

A Novelette

CHAPTER ONE

The Tweenie

JEFFERSON SCANLON wiped a perspiring brow and took a deep breath. With trembling finger, he reached for the switch—and changed his mind. His latest model, representing over three months of solid work, was very nearly his last hope. A good part of the fifteen thousand dollars he had been able to borrow was in it. And now the closing of a switch would show whether he won or lost.

Scanlon cursed himself for a coward and grasped the switch firmly. He snapped it down and flicked it open again with one swift movement. And nothing happened —his eyes, strain though they might, caught no flash of surging power. The pit of his stomach froze, and he closed the switch again, savagely, and left it closed. Nothing happened: the machine, again, was a failure.

He buried his aching head in his hands, and groaned. "Oh, God! It should work —it should. My math is right, and I've produced the fields I want. By every law of science, those fields should crack the atom." He arose, opening the useless switch, and paced the floor in deep thought.

His theory was right. His equipment was cut neatly to the pattern of his equations. If the theory was right, the equipment must be wrong. But the equipment was right, so the theory must. . . . "I'm getting out of here before I go crazy," he said to the four walls.

He snatched his hat and coat from the peg behind the door and was out of the house in a whirlwind of motion, slamming the door behind him in a gust of fury.

ATOMIC power. Atomic power! *Atomic power!*

The two words repeated themselves over and over again, singing a monotonous, maddening song in his brain. A siren song! It was luring him to destruction; for this dream he had given up a safe and comfortable professorship at M.I.T. For it, he had become a middle-aged man at thirty—the first flush of youth long gone,—an apparent failure.

And now his money was vanishing rapidly. If the love of money is the root of all evil, the need of money is most certainly the root of all despair. Scanlon smiled a little at the thought—rather neat.

Of course, there were the beautiful prospects in store if he could ever bridge the gap he had found between theory and practice. The whole world would be his —Mars too, and even the unvisited planets. All his. All he had to do was to find out what was wrong with his mathematics —no, he'd checked that, it was in the equipment. Although— He groaned aloud once more.

The gloomy train of his thoughts was broken as he suddenly became aware of a tumult of boyish shouts not far off. Scanlon frowned. He hated noise especially when he was in the dumps.

The shouts became louder and dissolved into scraps of words: "Get him, Johnny!" "Whee—look at him run!"

A dozen boys careened out from behind a large frame building, not two hundred yards away, and ran pell-mell in Scanlon's general direction.

In spite of himself, Scanlon regarded the yelling group curiously. They were chasing something or other, with the heartless glee of children. In the dimness he couldn't make out just what it was. He screened his eyes and squinted. A sudden motion and a lone figure disengaged itself from the crowd and ran frantically.

Scanlon almost dropped his solacing pipe in astonishment, for the fugitive was a Tweenie—an Earth-Mars half-breed. There was no mistaking that brush of wiry, dead-white hair that rose stiffly in all directions like porcupine-quills. Scanlon marvelled—what was one of *those* things doing outside an asylum?

The boys had caught up with the Tweenie again, and the fugitive was lost to sight. The yells increased in volume; Scanlon, shocked, saw a heavy board rise and fall with a thud. A profound sense of the enormity of his own actions in standing idly by while a helpless creature was being hounded by a crew of gamins came to him, and before he quite realized it he was charging down upon them, fists waving threateningly in the air.

"Scat, you heathens! Get out of here before I—" the point of his foot came into violent contact with the seat of the nearest hoodlum, and his arms sent two more tumbling.

The entrance of the new force changed the situation considerably. Boys, whatever their superiority in numbers, have an instinctive fear of adults,—especially such

a shouting, ferocious adult as Scanlon appeared to be. In less time than it took Scanlon to realize it they were gone, and he was left alone with the Tweenie, who lay half-prone, and who between panting sobs cast fearful and uncertain glances at his deliverer.

"Are you hurt?" asked Scanlon gruffly.

"No, sir." The Tweenie rose unsteadily, his high silver crest of hair swaying incongruously. "I twisted my ankle a bit, but I can walk. I'll go now. Thank you very much for helping me."

"Hold on! Wait!" Scanlon's voice was much softer, for it dawned on him that the Tweenie, though almost full-grown, was incredibly gaunt; that his clothes were a mere mass of dirty rags; and that there was a heart-rending look of utter weariness on his thin face.

"Here," he said, as the Tweenie turned towards him again, "Are you hungry?"

The Tweenie's face twisted as though he were fighting a battle within himself. When he spoke it was in a low, embarrassed voice. "Yes—I am, a little."

"You look it. Come with me to my house," he jerked a thumb over his shoulder. "You ought to eat. Looks like you can do with a wash and a change of clothes, too." He turned and led the way.

He didn't speak again until he had opened his front door and entered the hall. "I think you'd better take a bath first, boy. There's the bathroom. Hurry into it and lock the door before Beulah sees you."

His admonition came too late. A sudden, startled gasp caused Scanlon to whirl about, the picture of guilt, and the Tweenie to shrink backwards into the shadow of a hat-rack.

Beulah, Scanlon's housekeeper, scurried towards them, her mild face aflame with indignation and her short, plump body exuding exasperation at every pore.

"Jefferson Scanlon! Jefferson! She glared at the Tweenie with shocked disgust. "How can you bring such a thing into this house! Have you lost your sense of morals?"

The poor Tweenie was washed away with the flow of her anger, but Scanlon, after his first momentary panic, collected himself. "Come, come, Beulah. This isn't like you. Here's a poor fellow-creature, starved, tired, beaten by a crowd of boys, and you have no pity for him. I'm really disappointed in you, Beulah."

"Disappointed!" sniffed the housekeeper, though touched. "Because of *that* disgraceful thing. He should be in an institution where they keep such monsters!"

"All right, we'll talk about it later. Go ahead, boy, take your bath. And, Beulah, see if you can't rustle up some old clothes of mine."

With a last look of disapproval, Beulah flounced out of the room.

"Don't mind her, boy," Scanlon said when she left. "She was my nurse once and she still has a sort of proprietary interest in me. She won't harm you. Go take your bath."

THE Tweenie was a different person altogether when he finally seated himself at the dining-room table. Now that the layer of grime was removed, there was something quite handsome about his thin face, and his high, clear forehead gave him a markedly intellectual look. His hair still stood erect, a foot tall, in spite of the moistening it had received. In the light its brilliant whiteness took an imposing dignity, and to Scanlon it seemed to lose all ugliness.

"Do you like cold chicken?" asked Scanlon.

"Oh, *yes!*" enthusiastically.

"Then pitch in. And when you finish that, you can have more. Take anything on the table."

The Tweenie's eyes glistened as he set his jaws to work; and, between the two of them, the table was bare in a few minutes.

"Well, now," exclaimed Scanlon when the repast had reached its end, "I think you might answer some questions now. What's your name?"

"They called me Max."

"Ah! And your last name?"

The Tweenie shrugged his shoulders. "They never called me anything but Max —when they spoke to me at all. I don't suppose a half-breed needs a name." There was no mistaking the bitterness in his voice.

"But what were you doing running wild through the country? Why aren't you where you live?"

"I was in a home. Anything is better than being in a home—even the world outside, which I had never seen. Especially after Tom died."

"Who was Tom, Max?" Scanlon spoke softly.

"He was the only other one like me. He was younger—fifteen—but he died." He looked up from the table, fury in his eyes. *"They* killed him, Mr. Scanlon. He was such a young fellow, and so friendly. He couldn't stand being alone the way I could. He needed friends and fun, and—all he had was me. No one else would speak to him, or have anything to do with him, because he was a half-breed. And when he died I couldn't stand it anymore either. I left."

"They meant to be kind, Max. You shouldn't have done that. You're not like other people; they don't understand you. And they must have done something for you. You talk as though you've had some education."

"I could attend classes, all right," he assented gloomily. "But I had to sit in a corner away from all the others. They let me read all I wanted, though, and I'm thankful for *that.*"

"Well, there you are, Max. You weren't so badly off, were you?"

Max lifted his head and stared at the other suspiciously. "You're not going to send me back, are you?" He half rose, as though ready for instant flight.

Scanlon coughed uneasily. "Of course, if you don't want to go back I won't make you. But it would be the best thing for you."

"It wouldn't!" Max cried vehemently.

"Well, have it your own way. Anyway, I think you'd better go to sleep now. You need it. We'll talk in the morning."

He led the still suspicious Tweenie up to the second floor, and pointed out a small bedroom. "That's yours for the night. I'll be in the next room later on, and if you need anything just shout." He turned to leave, then thought of something. "But remember, you mustn't try to run away during the night."

"Word of honor. I won't."

Scanlon retired thoughtfully to the room he called his study. He lit a dim lamp and seated himself in a worn armchair. For ten minutes he sat without moving, and for the first time in six years thought about something beside his dream of atomic power.

A quiet knock sounded, and at his grunted acknowledgment Beulah entered. She was frowning, her lips pursed. She planted herself firmly before him.

"Oh, Jefferson! To think that you should do this! If your dear mother knew. . . ."

"Sit down, Beulah," Scanlon waved at another chair, "and don't worry about my mother. She wouldn't have minded."

"No. Your father was a good-hearted simpleton too. You're just like him, Jefferson. First you spend all your money on silly machines that might blow the house up any day—and now you pick up that awful creature from the streets. . . . Tell me, Jefferson," there was a solemn and fearful pause, "are you thinking of *keeping* it?"

Scanlon smiled moodily. "I think I am, Beulah. I can't very well do anything else."

CHAPTER TWO

The Secret of Atomic Power

A WEEK later Scanlon was in his workshop. During the night before, his brain, rested by the change in the monotony brought about by the presence of Max, had thought of a possible solution to the puzzle of why his machine wouldn't work. Perhaps some of the parts were defective, he thought. Even a very slight flaw in some of the parts could render the machine inoperative.

He plunged into work ardently. At the end of half an hour the machine lay scattered on his workbench, and Scanlon was sitting on a high stool, eyeing it disconsolately.

He scarcely heard the door softly open and close. It wasn't until the intruder had coughed twice that the absorbed inventor realized another was present.

"Oh—it's Max." His abstracted gaze gave way to recognition. "Did you want to see me?"

"If you're busy I can wait, Mr. Scanlon." The week had not removed his shyness. "But there were a lot of books in my room. . . ."

"Books? Oh, I'll have them cleaned out, if you don't want them. I don't suppose you do,—they're mostly textbooks, as I remember. A bit too advanced for you just now."

"Oh, it's not too difficult," Max assured him. He pointed to a book he was carrying. "I just wanted you to explain a bit here in Quantum Mechanics. There's some math with Integral Calculus that I don't quite understand. It bothers me. Here—wait till I find it."

He ruffled the pages, but stopped suddenly as he became aware of his surroundings. "Oh, say—are you breaking up your model?"

The question brought the hard facts back to Scanlon at a bound. He smiled bitterly. "No, not yet. I just thought there might be something wrong with the insulation or the connections that kept it from functioning. There isn't—I've made a mistake somewhere."

"That's too bad, Mr. Scanlon." The Tweenie's smooth brow wrinkled mournfully.

"The worst of it is that I can't imagine what's wrong. I'm positive the theory's perfect—I've checked every way I can. I've gone over the mathematics time and time again, and each time it says the same thing. Space-distortion fields of such and such an intensity will smash the atom to smithereens. Only they don't."

"May I see the equations?"

Scanlon gazed at his ward quizzically, but could see nothing in his face other than the most serious interest. He shrugged his shoulders. "There they are —under that ream of yellow paper on the desk. I don't know if you can read them, though. I've been too lazy to type them out, and my handwriting is pretty bad."

Max scrutinized them carefully and flipped the sheets one by one. "It's a bit over my head, I guess."

The inventor smiled a little. "I rather thought they would be, Max."

He looked around the littered room, and a sudden sense of anger came over him. Why wouldn't the thing work? Abruptly he got up and snatched his coat. "I'm going out of here, Max," he said. "Tell Beulah not to make me anything hot for lunch. It would be cold before I got back."

IT WAS afternoon when he opened the front door, and hunger was sharp within him. Yet it was not sharp enough to prevent him from realizing with a puzzled start that someone was at work in his laboratory. There came to his ears a sharp buzzing sound followed by a momentary silence and then again the buzz which this time merged into a sharp crack-

ling that lasted an instant and was gone.

He bounded down the hall and threw open the laboratory door. The sight that met his eyes froze him into an attitude of sheer astonishment—stunned incomprehension.

Slowly, he understood the message of his senses. His precious atomic motor had been put together again, but this time in a manner so strange as to be senseless, for even his trained eye could see no reasonable relationship among the various parts.

He wondered stupidly if it were a nightmare or a practical joke, and then everything became clear to him at one bound, for there at the other end of the room was the unmistakable sight of a brush of silver hair protruding from above a bench, swaying gently from side to side as the hidden owner of the brush moved.

"Max!" shouted the distraught inventor, in tones of fury. Evidently the foolish boy had allowed his interest to inveigle him into idle and dangerous experiments.

At the sound, Max lifted a pale face which upon the sight of his guardian turned a dull red. He approached Scanlon with reluctant steps.

"What have you done?" cried Scanlon, staring about him angrily. "Do you know what you've been playing with? There's enough juice running through this thing to electrocute you twice over."

"I'm sorry, Mr. Scanlon. I had a rather silly idea about all this when I looked over the equations, but I was afraid to say anything because you know so much more than I do. After you went away, I couldn't resist the temptation to try it out, though I didn't intend to go this far. I thought I'd have it apart again before you came back."

There was a silence that lasted a long time when Scanlon spoke again, his voice was curiously mild, "Well, what have you done?"

"You won't be angry?"

"It's a little too late for that. You couldn't have made it much worse, anyway."

"Well, I noticed here in your equations," he extracted one sheet and then another and pointed, "that whenever the expression representing the space-distortion fields occurs, it is always as a function of x^2 plus y^2 plus z^2. Since the fields, as far as I could see, were always referred to as constants, that would give you the equation of a sphere."

Scanlon nodded, "I noticed that, but it has nothing to do with the problem."

"Well, *I* thought it might indicate the necessary *arrangement* of the individual fields, so I disconnected the distorters and hooked them up again in a sphere."

The inventor's mouth fell open. The mysterious rearrangement of his device seemed clear now—and what was more, eminently sensible.

"Does it work?" he asked.

"I'm not quite sure. The parts haven't been made to fit this arrangement so that it's only a rough set-up at best. Then there's the constant error—"

"But does it *work?* Close the switch, damn it!" Scanlon was all fire and impatience once more.

"All right, stand back. I cut the power to one-tenth normal so we won't get more output than we can handle."

HE CLOSED the switch slowly, and at the moment of contact, a glowing ball of blue-white flame leaped into being from the recesses of the central quartz chamber. Scanlon screened his eyes automatically, and sought the output gauge. The needle was climbing steadily and did not stop until it was pressing the upper limit. The flame burned continuously, releasing no heat seemingly, though beside its light, more intensely brilliant than a magnesium flare, the electric lights faded into dingy yellowness.

Max opened the switch once more and the ball of flame reddened and died, leaving the room comparatively dark and red. The output gauge sank to zero once more and Scanlon felt his knees give beneath him as he sprawled onto a chair.

He fastened his gaze on the flustered Tweenie and in that look there was respect and awe, and something more, too, for there was *fear*. Never before had he really realized that the Tweenie was not of Earth nor Mars but a member of a race apart. He noticed the difference now, not in the comparatively minor physical changes, but in the profound and searching mental gulf that he only now comprehended.

"Atomic power!" he croaked hoarsely. "And solved by a boy, not yet twenty years old."

Max's confusion was painful, "You did all the real work, Mr. Scanlon, years and years of it. I just happened to notice a little detail that you might have caught yourself the next day." His voice died before the fixed and steady stare of the inventor.

"Atomic power—the greatest achievement of man so far, and we actually have it, we two."

Both—guardian and ward—seemed awed at the grandeur and power of the thing they had created.

And in that moment—the age of Electricity died.

CHAPTER THREE

The Tweenie's Mate

JEFFERSON SCANLON sucked at his pipe contentedly. Outside, the snow was falling and the chill of winter was in the air, but inside, in the comfortable warmth, Scanlon sat and smoked and smiled to himself. Across the way, Beulah, likewise quietly happy, hummed softly in time to clicking knitting needles, stopping only occasionally as her fingers flew through an unusually intricate portion of the pattern. In the corner next the window sat Max, occupied in his usual pastime of reading, and Scanlon reflected with faint surprise that of late Max had confined his reading to light novels.

Much had happened since that well-remembered day over a year ago. For one thing, Scanlon was now a world-famous and world-adored scientist, and it would have been strange had he not been sufficiently human to be proud of it. Secondly, and scarcely less important, atomic power was remaking the world.

Scanlon thanked all the powers that were, over and over again, for the fact that war was a thing of two centuries past, for otherwise atomic power would have been the final ruination of civilization. As it was, the coalition of World Powers that now controlled the great force of Atomic Power proved it a real blessing and were introducing it into Man's life in the slow, gradual stages necessary to prevent economic upheaval.

Already, interplanetary travel had been revolutionized. From hazardous gambles, trips to Mars and Venus had become holiday jaunts to be negotiated in a third of the previous time, and trips to the outer planets were at last feasible.

Scanlon settled back further in his chair, and pondered once more upon the only fly in his wonderful pot of ointment. Max had refused all credit; stormily and violently refused to have his name as much as mentioned. The injustice of it galled Scanlon, but aside from a vague mention of "capable assistants" he had said nothing; and the thought of it still made him feel an ace of a cad.

A sharp explosive noise brought him out of his reverie and he turned startled eyes towards Max, who had suddenly closed his book with a peevish slap.

"Hello," exclaimed Scanlon, "and what's wrong now?"

Max tossed the book aside and stood up, his underlip thrust out in a pout, "I'm lonely, that's all."

Scanlon's face fell, and he felt at an uncomfortable loss for words. "I guess I know that, Max," he said softly, at length. "I'm sorry for you, but the conditions—are so—."

Max relented, and brightening up, placed an affectionate arm about his foster-father's shoulder, "I didn't mean it that way, you know. It's just—well, I can't say it but it's that—you get to wishing you had someone your own age to talk to—someone of your own kind."

Beulah looked up and bestowed a penetrating glance upon the young Tweenie but said nothing.

Scanlon considered, "You're right, son, in a way. A friend and companion is the best thing a fellow can have, and I'm afraid Beulah and I don't qualify in that respect. One of your own kind, as you say, would be the ideal solution, but that's a tough proposition." He rubbed his nose with one finger and gazed at the ceiling thoughtfully.

Max opened his mouth as if he were going to say something more, but changed his mind and turned pink for no evident reason. Then he muttered, barely loud enough for Scanlon to hear, "I'm being silly!" With an abrupt turn he marched out of the room, banging the door loudly as he left.

The older man gazed after him with undisguised surprise, "Well! What a funny way to act. What's got into him lately, anyway?"

Beulah halted the nimbly-leaping needles long enough to remark acidly, "Men are born fools and blind into the bargain."

"Is that so?" was the somewhat nettled response, "And do *you* know what's bitting him?"

"I certainly do. It's as plain as that terrible tie you're wearing. I've seen it for months now. Poor fellow!"

Scanlon shook his head, "You're speaking in riddles, Beulah."

The housekeeper laid her knitting aside and glanced at the inventor wearily, "It's very simple. The boy is twenty. He needs company."

"But that's just what he said. Is *that* your marvelous penetration?"

"Good land, Jefferson. Has it been so long since you were twenty yourself? Do you mean to say that you honestly think he's referring to *male* company?"

"Oh," said Scanlon, and then brightening suddenly, "Oh!" He giggled in an inane manner.

"Well, what are you going to do about it?"

"Why—why, nothing. What *can* be done?"

"That's a fine way to speak of your ward, when you're rich enough to buy five hundred orphan asylums from basement to roof and never miss the money. It should be the easiest thing in the world to find a likely-looking young lady Tweenie to keep him company."

Scanlon gazed at her, a look of intense horror on his face, "Are you serious, Beulah? Are you trying to suggest that I go shopping for a female Tweenie for Max? Why—why, what do I know about women—especially Tweenie women. I don't know his standards. I'm liable to pick one he'll consider an ugly hag."

"Don't raise silly objections, Jefferson. Outside of the hair, they're the same in looks as anyone else, and I'll leave it to you to pick a pretty one. There never was a bachelor old and crabbed enough not to be able to do *that.*"

"No! I won't do it. Of all the horrible ideas—"

"Jefferson! You're his guardian. You owe it to him."

The words struck the inventor forcibly, "I owe it to him," he repeated. "You're right there, more right than you know." He sighed, "I guess it's got to be done."

SCANLON shifted uneasily from one trembling foot to the other under the piercing stare of the vinegar-faced official, whose name-board proclaimed in large letters—Miss Martin, Superintendent.

"Sit down, sir," she said sourly. "What do you wish?"

Scanlon cleared his throat. He had lost count of the asylums visited up to now and the task was rapidly becoming too much for him. He made a mental vow that this would be the last—either they would have a Tweenie of the proper sex, age, and appearance or he would throw up the whole thing as a bad job.

"I have come to see," he began, in a carefully-prepared, but stammered speech, "if there are any Twee—Martian half-breeds in your asylum. It is—."

"We have three," interrupted the superintendent sharply.

"Any females?" asked Scanlon, eagerly.

"*All* females," she replied, and her eye glittered with disapproving suspicion.

"Oh, good. Do you mind if I see them. It is—."

Miss Martin's cold glance did not waver, "Pardon me, but before we go any further, I would like to know whether you're thinking of adopting a half-breed."

"I *would* like to take out guardianship papers if I am suited. Is that so very unusual?"

"It certainly is," was the prompt retort. "You understand that in any such case, we must first make a thorough investigation of the family's status, both financial and social. It is the opinion of the government that these creatures are better off under state supervision, and adoption would be a difficult matter."

"I know, madam, I know. I've had practical experience in this matter about fifteen months ago. I believe I can give

you satisfaction as to my financial and social status without much trouble. My name is Jefferson Scanlon—."

"Jefferson Scanlon!" her exclamation was half a scream. In a trice, her face expanded into a servile smile, "Why of course. I should have recognized you from the many pictures I've seen of you. How stupid of me. Pray do not trouble yourself with any further references. I'm sure that in your case," this with a particularly genial expression, "no red tape need be necessary."

She sounded a desk-bell furiously. "Bring down Madeline and the two little ones as soon as you can," she snapped at the frightened maid who answered. "Have them cleaned up and warn them to be on their best behavior."

With this, she turned to Scanlon once more, "It will not take long, Mr. Scanlon. It is really such a great honor to have you here with us, and I am so ashamed at my abrupt treatment of you earlier. At first I didn't recognize you, though I saw immediately that you were someone of importance."

If Scanlon had been upset by the superintendent's former harsh haughtiness, he was entirely unnerved by her effusive geniality. He wiped his profusely-perspiring brow time and time again, answering in incoherent monosyllables the vivacious questions put to him. It was just as he had come to the wild decision of taking to his heels and escaping from the she-dragon by flight that the maid announced the three Tweenies and saved the situation.

Scanlon surveyed the three half-breeds with interest and sudden satisfaction. Two were mere children, perhaps ten years of age, but the third, some eighteen years old, was eligible from every point of view.

HER slight form was lithe and graceful even in the quiet attitude of waiting that she had assumed, and Scanlon, "dried-up, dyed-in-the-wool bachelor" though he was, could not restrain a light nod of approval.

Her face was certainly what Beulah would call "likely-looking" and her eyes, now bent towards the floor in shy confusion, were of a deep blue, which seemed a great point to Scanlon.

Even her strange hair was beautiful. It was only moderately high, not nearly the size of Max's lordly male crest, and its silky-white sheen caught the sunbeams and sent them back in glistening highlights.

The two little ones grasped the skirt of their elder companion with tight grips and regarded the two adults in wide-eyed fright which increased as time passed.

"I believe, Miss Martin, that the young lady will do," remarked Scanlon. "She is exactly what I had in mind. Could you tell me how soon guardianship papers could be drawn up?"

"I could have them ready for you tomorrow, Mr. Scanlon. In an unusual case such as yours, I could easily make special arrangements."

"Thank you. I shall be back then—," he was interrupted by a loud sniffle. One of the little Tweenies could stand it no longer and had burst into tears, followed soon by the other.

"Madeline," cried Miss Martin to the eighteen-year-old. "Please keep Rose and Blanche quiet. This is an abominable exhibition."

Scanlon intervened. It seemed to him that Madeline was rather pale and though she smiled and soothed the youngsters he was certain that there were tears in her eyes.

"Perhaps," he suggested, "the young lady has no wish to leave the institution. Of course, I wouldn't think of taking her on any but a purely voluntary basis."

Miss Martin smiled superciliously, "She won't make any trouble." She turned to the young girl, "You've heard

of the great Jefferson Scanlon, haven't you?"

"Ye-es, Miss Martin," replied the girl, in a low voice.

"Let me handle this, Miss Martin," urged Scanlon. "Tell me, girl, would you really prefer to stay here."

"Oh, no," she replied earnestly, "I would be very glad to leave, though," with an apprehensive glance at Miss Martin, "I have been very well treated here. But you see—what's to be done with the two little ones? I'm all they have, and if I left, they—they—"

She broke down and snatched them to her with a sudden, fierce grip, "I don't want to leave them, sir!" She kissed each softly, "Don't cry, children. I won't leave you. They won't take me away."

Scanlon swallowed with difficulty and groped for a handkerchief with which to blow his nose. Miss Martin gazed on with disapproving hauteur.

"Don't mind the silly thing, Mr. Scanlon," said she. "I believe I can have everything ready by tomorrow noon."

"Have ready guardianship papers for all three," was the gruff reply.

"What? All three? Are you serious?"

"Certainly. I can do it if I wish, can't I?" he shouted.

"Why, of course, but—"

Scanlon left precipitately, leaving both Madeline and Miss Martin petrified, the latter with utter stupefaction, the former in a sudden upsurge of happiness. Even the ten-year-olds sensed the change in affairs and subsided into occasional sobs.

BEULAH'S surprise, when she met them at the airport and saw three Tweenies where she had expected one, is not to be described. But, on the whole, the surprise was a pleasant one, for little Rose and Blanche took to the elderly housekeeper immediately. Their first greeting was to bestow great, moist kisses upon Beulah's lined cheeks at which she glowed with joy and kissed them in turn.

With Madeline she was enchanted, whispering to Scanlon that he knew a little more about such matters than he pretended.

"If she had decent hair," whispered Scanlon in reply, "I'd marry her myself. That I would," and he smiled in great self-satisfaction.

The arrival at home in mid-afternoon was the occasion of great excitement on the part of the two oldsters. Scanlon inveigled Max into accompanying him on a long walk together in the woods, and when the unsuspecting Max left, puzzled but willing, Beulah busied herself with setting the three newcomers at their ease.

They were shown over the house from top to bottom, the rooms assigned to them being indicated. Beulah prattled away continuously, joking and chaffing, until the Tweenies had lost all their shyness and felt as if they had known her forever.

Then, as the winter evening approached, she turned to Madeline rather abruptly and said, "It's getting late. Do you want to come downstairs with me and help prepare supper for the men."

Madeline was taken aback, "The *men*. Is there then someone besides Mr. Scanlon?"

"Oh, yes. There's Max. You haven't seen him yet."

"Is Max a relation of yours?"

"No, child. He's another of Mr. Scanlon's wards."

"Oh, I see." She blushed and her hand rose involuntarily to her hair.

Beulah saw in a moment the thoughts passing through her head and added in a softer voice, "Don't worry, dear. He won't mind your being a Tweenie. He'll be *glad* to see you.

IT TURNED out, though, that "glad" was an entirely inadequate adjective when applied to Max's emotions at the first sight of Madeline.

He tramped into the house in advance of Scanlon, taking off his overcoat and stamping the snow off his shoes as he did so.

"Oh, boy," he cried at the half-frozen inventor who followed him in, "why you were so anxious to saunter about on a freezer like today I don't know." He sniffed the air appreciatively, "Ah, do I smell lamb chops?" and he made for the dining-room in double-quick time.

It was at the threshold that he stopped suddenly, and gasped for air as if in the last throes of suffocation. Scanlon slipped by and sat down.

"Come on," he said, enjoying the other's brick-red visage. "Sit down. We have company today. This is Madeline and this is Rose and this is Blanche. And this," he turned to the seated girls and noted with satisfaction that Madeline's pink face was turning a fixed glance of confusion upon the plate before her, "is my ward, Max."

"How do you do," murmured Max, eyes like saucers, "I'm pleased to meet you."

Rose and Blanche shouted cheery greetings in reply but Madeline only raised her eyes fleetingly and then dropped them again.

The meal was a singularly quiet one. Max, though he had complained of a ravenous hunger all afternoon, allowed his chop and mashed potatoes to die of cold before him, while Madeline played with her food as if she did not know what it was there for. Scanlon and Beulah ate quietly and well, exchanging sly glances between bites.

Scanlon sneaked off after dinner, for he rightly felt that the more tactful touch of a woman was needed in these matters, and when Beulah joined him in his study some hours later, he saw at a glance that he had been correct.

"I've broken the ice," she said happily, "they're telling each other their life histories now and are getting along wonderfully. They're still afraid of each other though, and insist on sitting at opposite ends of the room, but that'll wear off—and pretty quickly, too."

"It's a fine match, Beulah, eh?"

"A finer one I've never seen. And little Rose and Blanche are angels. I've just put them to bed."

There was a short silence, and then Beulah continued softly, "That was the only time you were right and I was wrong—that time you first brought Max into the house and I objected—but that one time makes up for everything else. You are a credit to your dear mother, Jefferson."

Scanlon nodded soberly, "I wish I could make all Tweenies on earth so happy. It would be such a simple thing. If we treated them like humans instead of like criminals and gave them homes, built especially for them and calculated especially for their happiness—"

"Well, why don't *you* do it," interrupted Beulah.

Scanlon turned a serious eye upon the old housekeeper, "That's exactly what I was leading up to." His voice lapsed into a dreamy murmur, "Just think. A town of Tweenies—run by them and for them—with its own governing officials and its own schools and its own public utilities. A little world within a world where the Tweenie can consider himself a human being—instead of a freak surrounded and looked down upon by endless multitudes of pure-bloods."

He reached for his pipe and filled it slowly, "The world owes a debt to *one* Tweenie which it can never repay—and I owe it to him as well. I'm going to do it. I'm going to create Tweenietown."

That night he did not go to sleep. The stars turned in their grand circles and paled at last. The grey of dawn came and grew, but still Scanlon sat unmoving—dreaming and planning.

CHAPTER FOUR

Forty Years Later—and Venus

AT eighty, age sat lightly upon Jefferson Scanlon's head. The spring was gone from his step, the sturdy straightness from his shoulders, but his robust health had not failed him, and his mind, beneath the shock of hair, now as white as any Tweenie's, still worked with undiminished vigor.

A happy life is not an aging one and for forty years now, Scanlon had watched Tweenietown grow, and in the watching, had found happiness.

He could see it now stretched before him like a large, beautiful painting as he gazed out the window. A little gem of a town with a population of slightly more than a thousand, nestling amid three hundred square miles of fertile Ohio land.

Neat and sturdy houses, wide, clean streets, parks, theatres, schools, stores—a model town, bespeaking decades of intelligent effort and co-operation.

The door opened behind him and he recognized the soft step without needing to turn, "Is that you, Madeline?"

"Yes, father," for by no other title was he known to any inhabitant of Tweenietown. "Max is returning with Mr. Johanson."

"That's good," he gazed at Madeline tenderly. "We've seen Tweenietown grow since those days long ago, haven't we?"

Madeline nodded and sighed.

"Don't sigh, dear. It's been well worth the years we've given to it. If only Beulah had lived to see it now."

He shook his head as he thought of the old housekeeper, dead now a quarter of a century.

"Don't think such sad thoughts," admonished Madeline in her turn. "Here comes Mr. Johanson. Remember it's the fortieth anniversary and a happy day; not a sad one."

CHARLES B. JOHANSON was what is known as a "shrewd" man. That is, he was intelligent, far-seeing person, comparatively well-versed in the sciences, but one who was wont to put these good qualities into practice only in order to advance his own interest. Consequently, he went far in politics and was the first appointee to the newly created Cabinet post of Science and Technology.

It was the first official act of his to visit the world's greatest scientist and inventor, Jefferson Scanlon, who, in his old age, still had no peer in the number of useful inventions turned over to the government every year. Tweenietown was a considerable surprise to him. It was known rather vaguely in the outside world that the town existed, and it was considered a hobby of the old scientist—a harmless eccentricity. Johanson found it a well-worked out project of sinister connotations.

His attitude, however, when he entered Scanlon's room in company with his erstwhile guide, Max, was one of frank geniality, concealing well certain thoughts that swept through his mind.

"Ah, Johanson," greeted Scanlon," "you're back. What do you think of all this?" his arm made a wide sweep.

"It is surprising—something marvelous to behold," Johanson assured him.

Scanlon chuckled, "Glad to hear it. We have a population of 1154 now and growing every day. You've seen what we've done already but it's nothing to what we are going to do in the future—even after my death. However, there is something I wish to see done *before* I die and for that I'll need your help."

"And that is?" question the Secretary of Science and Technology, guardedly.

"Just this. That you sponsor measures giving these Tweenies, these so long despised half-breeds, full equality,—political,

—legal,—economic,—social,—with Terrestrials and Martians."

Johanson hesitated, "It would be difficult. There is a certain amount of perhaps understandable prejudice against them, and until we can convince Earth that the Tweenies deserve equality—" he shook his head doubtfully.

"Deserve equality!" exclaimed Scanlon, vehemently, "Why, they deserve more. I am *moderate* in my demands." At these words, Max, sitting quietly in a corner, looked up and bit his lip, but said nothing as Scanlon continued, "You don't know the true worth of these Tweenies. They combine the best of Earth and Mars. They possess the cold, analytical reasoning powers of the Martians together with the emotional drive and boundless energy of the Earthman. As far as intellect is concerned, they are your superior and mine, everyone of them. I ask only equality."

The Secretary smiled soothingly, "Your zeal misleads you perhaps, my dear Scanlon."

"It does not. Why do you suppose I turn out so many successful gadgets—like this gravitational shield I created a few years back. Do you think I could have done it without my Tweenie assistants? It was Max here," Max dropped his eyes before the sudden piercing gaze of the Cabinet member, "that put the final touch upon my discovery of atomic power itself."

Scanlon threw caution to the winds, as he grew excited, "Ask Professor Whitsun of Stanford and he'll tell you. He's a world authority on psychology and knows what he's talking about. He *studied* the Tweenie and he'll tell you that the Tweenie is the *coming* race of the Solar System, destined to take the supremacy away from we pure-bloods as inevitably as night follows day. Don't you think they deserve equality in that case."

"Yes, I do think so,—definitely," replied Johanson. There was a strange glitter in his eyes, and a crooked smile upon his lips, "This is of extreme importance, Scanlon. I shall attend to it immediately. So immediately, in fact, that I believe I had better leave in half an hour, to catch the 2:10 strato-car."

JOHANSON had scarcely left, when Max approached Scanlon and blurted out with no preamble at all, "There is something I have to show you, father—something you have not known about before."

Scanlon stared his surprise, "What do you mean?"

"Come with me, please, father. I shall explain." His grave expression was almost frightening. Madeline joined the two at the door, and at a sign from Max, seemed to comprehend the situation. She said nothing but her eyes grew sad and the lines in her forehead seemed to deepen.

In utter silence, the three entered the waiting Rocko-car and were sped across the town in the direction of the Hill o' the Woods. High over Lake Clare they shot to come down once more in the wooded patch at the foot of the hill.

A tall, burly Tweenie sprang to attention as the car landed and started at the sight of Scanlon.

"Good afternoon, father," he whispered respectfully, and cast a questioning glance at Max as he did so.

"Same to you, Emmanuel," replied Scanlon absently. He suddenly became aware that before him was a cleverly-camouflaged opening that led into the very hill itself.

Max beckoned him to follow and led the way into the opening which after a hundred feet opened into an enormous man-made cavern. Scanlon halted in utter amazement, for before him were three giant space-ships, gleaming silvery-white

and equipped, as he could plainly see, with the latest atomic power.

"I'm sorry, father," said Max, "that all this was done without your knowledge. It is the only case of the sort in the history of Tweenietown." Scanlon scarcely seemed to hear, standing as if in a daze and Max continued, "The center one is the flagship—the *Jefferson Scanlon.* The one to the right is the *Beulah Goodkin* and the one to the left the *Madeline.*"

Scanlon snapped out of his bemusement, "But what does this all mean and why the secrecy?"

"These ships have been lying ready for five years now, fully fuelled and provisioned, ready for instant take-off. Tonight, we blast away the side of the hill and shoot for Venus—tonight. We have not told you till now, for we did not wish to disturb your piece of mind with a misfortune we knew long ago to be inevitable. We had thought that perhaps," his voice sank lower, "its fulfillment might have been postponed until after you were no longer with us."

"Speak out," cried Scanlon suddenly. "I want the full details. Why do you leave just as I feel sure I can obtain full equality for you."

"Exactly," answered Max, mournfully. "Your words to Johanson swung the scale. As long as Earthmen and Martians merely thought us different and inferior, they despised us and tolerated us. You have told Johanson we were superior and would ultimately supplant Mankind. They have no alternative now but to hate us. There shall be no further toleration; of that I can assure you. We leave before the storm breaks."

The old man's eyes widened as the truth of the other's statements became apparent to him, "I see. I must get in touch with Johanson. Perhaps, we can together correct that terrible mistake." He clapped a hand to his forehead.

"Oh, Max," interposed Madeline, tearfully, "why don't you come to the point. We want you to come with us, father. In Venus, which is so sparsely settled, we can find a spot where we can develop unharmed for an unlimited time. We can establish our nation, free and untrammeled, powerful in our own right, no longer dependent on—"

Her voice died away and she gazed anxiously at Scanlon's face, now grown drawn and haggard. "No," he whispered, "no! My place is here with my own kind. Go, my children, and establish your nation. In the end, your descendants shall rule the System. But I—I shall stay here."

"Then I shall stay, too," insisted Max. "You are old and someone must care for you. I owe you my life a dozen times over."

Scanlon shook his head firmly, "I shall need no one. Dayton is not far. I shall be well taken care of there or anywhere else I go. You, Max, are needed by your race. You are their leader. Go!"

SCANLON wandered through the deserted streets of Tweenietown and tried to take a grip upon himself. It was hard. Yesterday, he had celebrated the fortieth anniversary of its founding—it had been at the peak of its prosperity. Today, it was a ghost town.

Yet, oddly enough, there was a spirit of exultation about him. His dream had shattered—but only to give way to a brighter dream. He had nourished foundlings and brought up a race in its youth and for that he was someday to be recognized as the founder of the *super-race.*

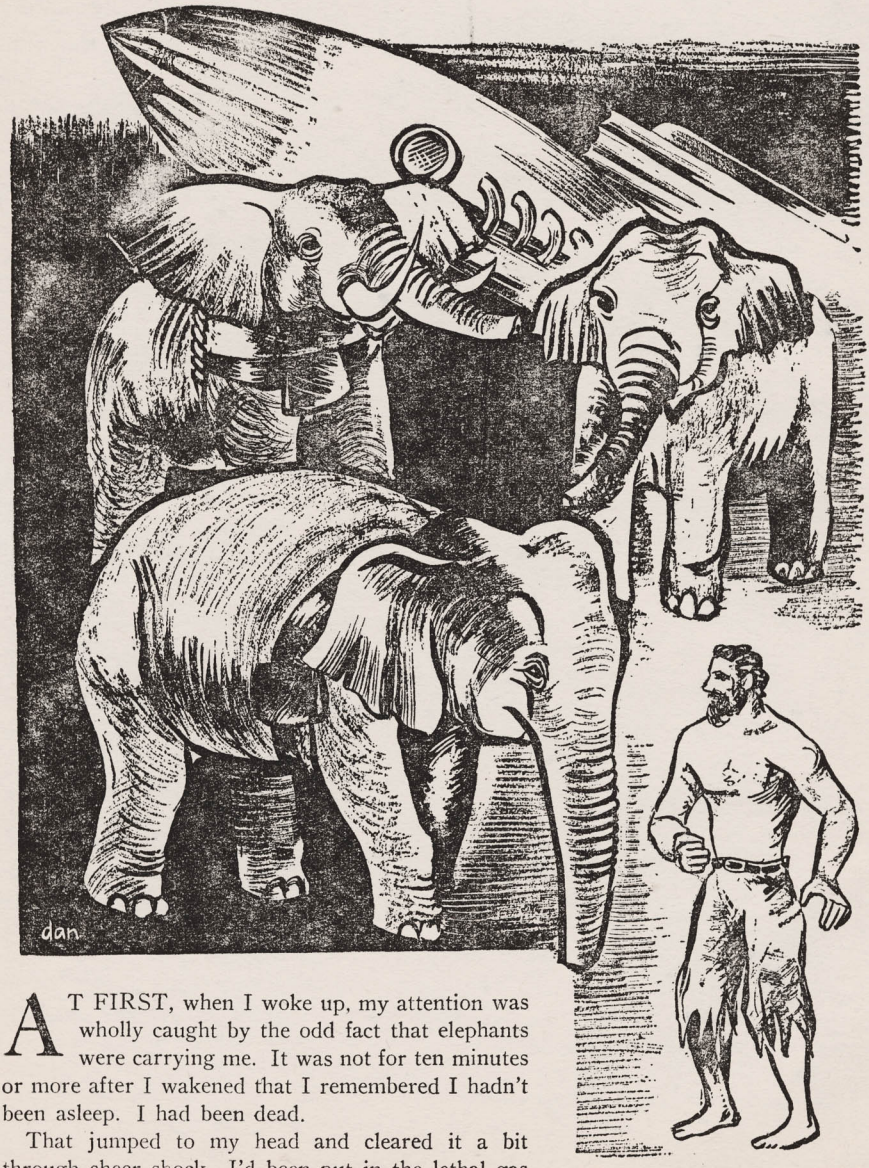
It was *his* creation that would someday rule the system. Atomic power—gravity nullifiers—all faded into insignificance. *This* was his real gift to the Universe.

This, he decided, was how a God must feel.

ELEPHANT EARTH

When all the living men had died, a dead man came to life again—and found the world ruled by elephants.

By Gabriel Barclay



AT FIRST, when I woke up, my attention was wholly caught by the odd fact that elephants were carrying me. It was not for ten minutes or more after I wakened that I remembered I hadn't been asleep. I had been dead.

That jumped to my head and cleared it a bit through sheer shock. I'd been put in the lethal gas

chamber, for a murder I never committed. Just before that, a scientist had offered two thousand dollars for my body, and I'd accepted to pay my lawyers. After that, the bare room, rather comforting, and oblivion. . . .

And now I was alive again. But where? In a circus? I lifted my head and saw that my two elephants—I was riding in a sort of a hammock or litter swung between them—were part of a long parade. I saw a long column of wrinkled backs, serpentine trunks, lettuce-leaf ears—and not a mahout among them.

That much I took in before a trunk-tip shoved me down to the bottom of my carrier. An elephantine squeal counselled that I lie still.

I lifted my hand to my throat. Something hung there, a tablet of lead. I jerked at it, and the supporting wire broke. I held it up and gazed at the stamped letters:

TO THE OPENER OF THIS SEALED VAULT:

You see here a number of records and articles of the twentieth century. This tablet lies upon the breast of a living man, treated chemically to suspend animation. When fresh air enters the vault, he will awaken. Let him tell you of the future about the age in which he lived.

"I'll be damned!" I grumbled, in a voice that seemed choked with dust. "Have I done a Rip Van Winkle?" Nobody answered, but one of my elephants gave me a wise look out of his piggy eye.

We had come to a slope. I could see below and behind—a throng of elephants, carrying all sorts of burdens, but no man riding or accompanying; behind them sprawled a wild landscape, all trees and bushes, with here and there what looked like ruined walls and tumbledown roofs. My carriers came to a halt upon a level surface and lowered my stretcher. I looked up into a circle of broad, intent elephant-faces.

Now I was allowed to stir. Two trunks helped me to my feet.

WE WERE on a deck of bolted metal plates, the elephants and I. It was a tremendous ship, lying low in the water, with two chunky funnels and two sprawling, one-story cabin blocks. Everything was elephant-squat and elephant strong. Up the sturdy gangplank, from a half-ruined stone dock, lurched more great beasts.

Then I felt faint and dizzy, and I guess they carried me to a cabin, a place ten feet high and thirty feet square. The walls were set with drawers and circular ports, but the only furniture was a big pallet. There I was set down, and a big gray brute folded down on his knees to watch me.

First he gave me a lemon-tasting drink, from a big cup with a spout. Then, with a sponge or cloth, he wiped my face and chest.

'Thanks," I said, wondering if he understood. "Now, what's all this business about?"

He reached his trunk into a pouch that hung from a sort of shoulder harness. First he drew out a yard-wide pad of paper, then a pencil as big as a walking stick. And he began to scrawl. I stared.

First he made some funny marks, like Arabic, then achieved three capital letters:

M A N

"Man!" I almost yelled. "That's me—man!" I pointed to the word, then to myself. At once the beast touched the word with his trunk, then my chest. He savvied. I grabbed the pencil and wrote MAN in turn, and my name, WILLIARD. After this, I printed out ELEPHANT. "That's you," I said, pointing to him. "Elephant—you."

His trunk reclaimed the pencil and began again, slowly and carefully: I UNDESTAND SOME MAN RITING. YOU UNDESTAND.

I took that last for a question. "Sure I understand," I said, and nodded. He continued, with more capitals: LONG TIME ALL MAN GONE. ELP (He scratched this out) ELEPHANT RULE NOW.

I stared at the writing, at the big monster with the pencil, and I felt cold and panicky. "Is that true? Gosh, if you could only talk." I got the pencil again and wrote: ARE ALL MEN DEAD?

He studied the question mark, and copied it several times before he scribbled an answer: LONG TIME AGO DEAD FROM SICK.

"A plague," I guessed, and printed a new question: HOW LONG AGO?

He wrote again: LONG TIME. Then: WE LEARN TALK ECH OTHER.

We began with names. On mine he could get only a snorting squeal, Huillid. Of his I made the word Aarump. You can see how hard it would be to get a common speech medium. We compromised, each learning the other's tongue and speaking in his own. We wrote a lot to bridge gaps, in English.

I never tried to master the elephant writing.

OUR ship was sailing, and I was kept in the cabin like a prisoner. Aarump was my guard, philosopher, and friend. In the days that followed, I made a sort of kiltlike garment of cloth woven from coarse linen-like fibers, with moccasins and belt of very good dressed leather. And Aarump was able to give me more dope on the death of humanity.

It had happened "long time ago"—so long, he could not say for certain. A disease, deadly and mysterious, had swept the world, killing whole nations between dawn and dusk. It may have happened well past the end of the twentieth century, for Aarump mentioned a world league of nations, and the mining of metal and coal in Antarctica. Then, too, he told of six rocket ships ready for interplanetary flight when the sickness came. Several score people had fled the plague in these, heading apparently for Venus. Their fate was unknown. All others had died, except myself, in the sealed vault; and I was beginning to think I wasn't very lucky to have lived.

The elephants, man's most intelligent and capable servants, had carried on.

The first elephant-rulers had merely continued, through habit, the work they had been taught to do. Then wise leaders, by chance or enterprise, began to plan for themselves. Man's tools and machines, left idle, were reclaimed and altered to the touch of trunks instead of fingers. Language and organization grew, century by century, and abstract thinking. It must have taken ages. Finally an elephant-scholar stumbled on the key to old human books and writings. Now they could read well, though they didn't always understand.

"Which book inspires you most?" I asked. "I mean, of those written by humans?"

"There is no one in particular," Aarump replied. "Several volumes have been found, dealing with the career of a human being who excites our admiration intensely. He was reared from infancy by apes, became strong and wise and practical. He did return to civilization, but was inclined to reject it because of obvious faults and—"

"Tarzan!" I cried, and when I had written the name, Aarump said: "Yes, that is the book. Tell me, did this individual win the appreciation he deserved among his fellow-men?"

It took some explanation to make Aarump understand that Tarzan was a character only in a lively imagination, and he was considerably disappointed. He then said that, rejecting the ape-man as not a reality, he was inclined to admire most a sapient human being who, as described by a doctor-colleague, had flawless deduc-

tive methods that brought criminals to justice.

"Sherlock Holmes," I said. "Sorry, friend, but he's fiction, too."

Aarump was deeply shocked, and had something rather Bible-sounding to say about all men being liars.

Between discussions he brought me dried fruit and floury buns, and sometimes he mixed my drinking water with very good grape wine. I remembered that elephants sometimes enjoyed liquor; this must have been one of the most popular of the acquired human crafts.

We were crossing the Atlantic, I gathered, to reach the great elephant-country in Southern Europe. Aarump drew me a map, and I saw that their chief city was on the west coast of Italy, perhaps where Naples had once stood. There were other nations, he said, to the north and east in Europe and Asia Minor. "Ten millions in all, or more," he estimated, "not to mention the savage, unorganized bands far south across the land-locked sea."

"And I am the only man on Earth," I added.

"You are the only man on Earth."

It chilled me with loneliness.

THE day came when I, locked in my cabin, heard commotions, engine murmurs, whistle signals. Aarump came and told me that we were landing.

I went on deck, dressed in my home-made tunic and moccasins. It was a bright, warm afternoon. The crew of elephants was ranged at the rails, gazing out over a landlocked expanse of blue water, dotted with broad, low-built craft of all sizes. Beyond rose the square, massive buildings of a stone city.

Closer we steamed, and a sturdy tug came alongside to take charge. It towed and shunted us into a great slip next a dock of red stone. The long, strong gangplank was run out. An officer-elephant went ashore, conferred with some colleagues on the dock, then returned. Aarump and a companion came up at my two elbows, and I felt a loop of thin, strong metal chain slide over my shoulders and tighten at my waist. The other end Aarump clipped to his shoulder harness. Then we went down the gangplank.

Aarump called the town something like *G'au*—another word I can't pronounce or spell exactly—and said it was the largest community of elephants on Earth. We left the dock, moved along the street above it, and boarded a great, low, open car, like a motorized tumbril. It rolled away with us.

The elephant-capital G'au was built of stone, mostly white and red. The streets —all of fifty yards wide—were paved in concrete, and the sidewalks were as broad as the old front yards of men. But the thickest buildings were almost all single-story jobs; the rare second and third stories seemed added as afterthoughts to completed one-story houses. Some of these upper levels were reached from outside by solid ramps. I never saw a staircase in G'au.

Of course, this type of building was understandable. How could elephant-workmen climb, swing on flimsy ropes, walk along narrow girders? There could be no skyscrapers for them.

The inhabitants moved all around us, riding in cars like ours, or pacing the sidewalks. When there were two or more together, they kept step, like soldiers. Most of them wore shoes, fitted cylinders of metal-clamped leather or rubber, on all four feet. Some, perhaps the dandies of the place, were draped in gay-patterned cloths, like the trappings of a rajah's favorite beast. They weren't any more than mildly curious about me; I remembered that man, so eager to stare and know and find out, was descended from the ultra-curious monkey. And I remembered, again, that I was the last of my race. I felt a freezing weight of lonely terror.

At last we dismounted from the car, and Aarump led me into a white stone house that reminded me of a mausoleum. The room inside was uncomfortably spacious, with a thick rug but no furniture or pictures. I felt like a minnow in a bathtub. The other elephant that had come with us tramped away through an inner door, and I heard him squeaking and bugling to some others. Aarump informed me that I was about to meet the leaders of his people.

WHEN they arrived, they were mighty unassuming, for all their bulk. None of them wore caparisoning, only utilitarian harnesses to support their pocket-pouches; but all of them were long on native elephant dignity. They gathered around me, about fifteen of them, like dogs told to guard a squirrel—watchful, cautious, somehow yearning to do something to me. Aarump made a little lecture about how I was found, and what I had had to say about myself and my dead race. He was most respectful. Then the Number One elephant of the examiners—he was the smallest one there, no more than seven feet at the shoulder, but bumpy and high in the brow—began to ask questions. I could understand him pretty well, and Aarump interpreted for me.

Before long, the boss beast had me talking religion, and he was mystified and fascinated. He must have asked a hundred questions on the subject, and I doubt if he wholly understood any of my answers. Perhaps Aarump did not interpret me quite well enough. Then a bigger riddle came up—man's ancient necessity for laws and their enforcement. The whole mastodon committee laughed, actually laughed, with deep gurgling in their trunks. The chief wondered aloud why mankind couldn't accept rules made seriously for the good of the race and the protection of the individual, and this time I was stumped for an answer.

Then I described governments, politicians and orators, and they almost popped their big sides with elephantine laughter.

"Tongues, not brains, ruled your people," said the chief. "It is well that you died, all of you. Likewise understandable."

Nothing malicious or sharp in his manner, only a flatly definite opinion. I tried to disagree in the same dispassionate manner, saying that the arrival of the plague was nothing more than bad luck.

Aarump tried to translate, but paused. "What was that last word?" he asked me. "Write it on this pad . . . yes, we have seen the word in men's books, but find it hard to understand." He passed the pad to the chief, and it went from trunk to trunk around the circle, all the huge gray heads nodding seriously above it. Meanwhile the chief addressed me again:

"We are, naturally, interested in you as a survivor of a race from which we have learned certain useful things. I am sure that you will repay our study and discussion." Others in the group made sniffing noises of agreement. "I wish that we had recovered more human beings, especially a female."

A female, a woman! And suddenly I thought of all the nice girls I'd known, with bright eyes and soft hair and ready smiles; girls who'd taken tea with me and ridden in cars with me, and let me hold hands in movies, and who had written me letters on tinted stationery; and now there'd never again be one for me to look at and talk to and maybe kiss. . . .

"A female would give you children, to be studied or trained for our use," the chief was continuing.

I lost a little of my temper. "You'd better be glad I'm alone," I snapped. "With a dozen men to help, I'd put you elephants into servitude again."

All listened solemnly to Aarump's translation of this, but I got no answering spark of rage.

"Why speak of such things?" the chief asked carelessly. "Since there is only one of you, there shall never be more. Possibilities are not important unless they can be converted into actualities."

This struck me as being a true elephantism, and I said so; but the chief shook his head.

"It was recognized by at least one outstanding member of your species, a human being whose autobiography I have read. Many copies have been discovered, so you may know the same history. He was shipwrecked on the most desolate island, with all his companions lost; instead of despairing, he lived and even throve alone for years; he taught himself to do without the things he could not have, and to profit by the things he did have. So that, after saving a prisoner from some savages—"

"Robinson Crusoe," I groaned. "More fiction."

Aarump translated, and added something of what I had told him concerning Tarzan and Sherlock Holmes. They all stared at me. I felt like a kid trapped stealing cookies, by all his aunts and uncles at once.

AFTER this, the meeting was thrown open, so to speak. The lesser leaders began to argue.

"I represent the Medicals," said one who was maybe the tallest of them all, but quite gaunt and rickety for an elephant. "I think the most important item to be studied in this specimen is his structure of bone and muscle. See!"

With the tip of his trunk he drew my hand forward.

"This prehensile instrument," he lectured, "is the most delicate ever achieved by nature, superior to our own natural equipment."

A colleague agreed with him, but urged against vivisection of me. "He is small and deft, and we will be better advised to keep him alive, to use him in doing certain delicate work," he pointed out. "Perhaps he can achieve greater perfection in, say, the assembling of electrical apparatus, than we."

A third urged that I be placed on exhibit, so that the citizenry of G'au and other cities might observe me, but he was quickly shouted down. Several spoke in support of the rangy Medical leader, whose suggestion that my "structure of bone and muscle" be studied seemed to involve a general chopping and hewing of me apart. I was glad to find that the other school of thought, the one that would keep me alive to do "certain delicate work," had its adherents as well.

"I think I ought to have some voice in this matter," I ventured to say to Aarump, but he did not think the remark worth translation. Instead he asked permission to offer a plan of his own, and the argument died down for a moment.

"I am one of those who study rocket engineering and the possibilities of flight to other worlds," he began diffidently.

"A most imperfect science," grumbled the Medical leader.

"Not if we use this specimen," argued Aarump. "One of our own race would be too large and weighty for the ship we have been perfecting; but here is a living, intelligent being, not more than a tenth of the weight of the lightest of us. If he was allowed to fly in the ship—"

"I do not approve it," the chief cut in. "He might be killed, or lost in space. The opportunity of study, or other benefit from him, would be gone forever."

"Give him to us," pleaded the Medical spokesman.

"No, no," interposed the head of the Mechanical party. "Again I point out—"

"Silence," the chief interposed. "I have the final decision in this matter. Let us foregather tomorrow, and I shall then announce the inclination of my viewpoint. This meeting may stand dismissed."

We broke up then, and Aarump was instructed to take me to a secure lodging in the rear of the building.

When he and I were alone, and he had brought me food for which I had very little appetite, we talked.

"How do you think the chief will decide about me?" I asked him. "Do I get butchered, or put to work?"

"I cannot tell you that. It may depend on how well you do delicate mechanical tasks."

I shivered a little, knowing that I was no better a mechanic than the majority of my race.

I had a vision of myself being set to work at, say, clock-making or lens-grinding, failing miserably, and being turned over to the Medicals with their scalpels and probes. Ugh!

Finally Aarump took his leave and locked me in. And loneliness rode down upon me like a charge of dark, silent cavalry. What if I did win the boon of life? It would be work, hard and unhandy; food now and then, a place to sleep—and elephants, monstrous, impersonal elephants, interested only in the novelty of my appearance and the profit of my handwork; slavery and isolation, captivity and friendlessness. Perhaps death would be better than that, even death as an agonized subject under giant surgical instruments. The pain would come to an end after minutes, after an hour at most. Then oblivion, the next world. Perhaps I'd see, as my long-gone Sunday School teacher used to promise so confidently, the loved ones I'd lost. . . .

It was hours before I slept, and then I dreamed horribly about alternate drudgery and torture.

AARUMP'S trunk twitched me awake in the dark hour before dawn. He and two other elephants, strangers, had forced the lock of my door. They told me, very quietly, to follow them.

"Where?" I asked Aarump. "To the laboratory or the sweatshop?"

"To neither," he replied. "We are going to let you escape, after a fashion. Come."

I went with them, out into the night of stars and through an alley and into a meadow-like open space. Beyond, in the midst of some rough sheds, was a big oval contrivance of gray metal, set in a steel-lined pit like a ten-foot egg in a cup.

"It is a rocket vehicle," Aarump told me. "We shall fire it within five minutes, and before many hours it will come to the planet Venus." He put his trunk-tip, very insistently, upon my shoulder. "You, Huillid, shall go inside."

"I? Go in that?" I gasped.

"Yes. Our engine will not lift the weight of one of us. But you are small enough, light enough, to ride to Venus."

I protested that I knew absolutely nothing about space-flying.

"That need not matter," I was assured. "The vessel is automatic, and if launched now will hold the proper course. Your only duty will be to inform us if you land safely."

One of the others opened a panel in the side of the egg. I could see a little cell of a cabin, lined with cushions and furnished with a hammocklike sling. A single metal lever showed in one padded wall.

"If you are alive on landing," Aarump directed me, "pull that lever down and then around in a circle to the right. It will fire off a special charge of white-burning explosive, that will flash clear through the cloudy envelope of Venus and advise us, here at our telescopes, that the journey was a success. It will also open the door of the ship and let you out."

I nodded, rather stupidly. "And let me out," I repeated. "After that, Aarump?"

"After that," said Aarump, "you must fend for yourself."

I studied the big metal egg, the three elephants, the starry black sky. I studied,

too, the grassy soil under my feet. Suddenly I wished I could take root in it forever—stay here on Mother Earth.

"You'll get into trouble over this," I reminded Aarump.

"That need not concern you, Huillid. But if you do not wish to go, you may remain. You will die by torture or live in toil."

His words were no chance shot, and they decided me. I stepped toward the open door of the space-ship. Three trunks helped me in and strapped me into the hammock. I gazed at Aarump in what must have been a pitiful manner.

"Wish me luck," I begged.

"What does that word mean?" he asked me, as once before. And then the panel closed and locked. I counted thirty seconds before there came a roaring whoop of exploding fuel, and a humming vibration as I took flight. I could not see out, but I knew that I was going faster, faster. It was not sleep that came, nor yet a trance, but I seemed to slide away into restful detachment.

MY SENSES became alert again. Hours had passed, I knew, and there was no vibration. I'd come to a stop, then, on Venus. The journey was over.

I groped through the straps of the hammock. My hand found the lever and pulled it down, then turned it. There was a scream like the grandfather of all Roman candles, and then the panel sprang open. I kicked free of my bonds, and scrambled out.

It was getting on for twilight, or so it seemed, and all around me grew high, luxuriant plants. I did not study them closely just then, nor did I turn then or later to gaze at the ship that had carried me from my mother planet. I did glance up, at a thickly clouded sky that was full of filtered radiance, and then I gazed across at a silvery stream of water. I took a few steps toward an angular boulder, and sat down.

I knew a greater aloneness than ever. On Earth I had been the only man, but at least I knew the continents and oceans, the plants and animals, and I had had Aarump and other intelligent fellow-beings. Here—what was here?

I wondered for the thousandth time about those long-ago brothers and sisters of mine who had tried to reach Venus, and leave behind the plague-ridden Earth. What had been their fate. . . ?

Or had they ever existed?

The elephants had mistaken Tarzan, Sherlock Holmes, and Robinson Crusoe for real persons in true stories. And there had been so much science fiction; some of it must have come in the way of the elephant-scholars—fancies of H. G. Wells, or Stanley G. Weinbaum, or Eando Binder! And they'd taken that for the truth, had thought people had actually taken flight from catastrophe! I groaned aloud.

Somebody chuckled. I sprang up and whirled around.

A girl had come up from behind a clump of palm-like trees.

She wore brief, becoming garments, that seemed spun out of silver wire. A dark fillet caught her blond hair back from a lively, lovely face. In the hollow of one arm she carried a weapon like a rifle.

When my eyes met hers, she smiled.

"Hello, stranger," she greeted me.

ASTEROID

By Lee Gregor

The monster came down on their homes, sucking them in to a hot and horrible death. And all they could do was to give the men a headache.

THE SUN was setting on Ansen, and the reflecting light made a jewel of the planetoid. The jagged mineral crystals scattered the slanting beams in a shower of iridescence.

Sinsi floated, swaying slightly at the summit of a slender peak, watching the last sparkles die out of the mountain tips across the tiny valley. His body, an impalpable swirl of tenuously bound atoms, glowed a placid hue, a color that was three places past violet in the spectrum. Of a sudden there came a change, an agitated vibration of the tinge in his extremities. He leaped a little, and whirled about, then saw the two who approached.

Aio was smaller than Sinsi, and of a paler shade. Emonit was older than the two, and his violet was nearly in the visible range. The trio pulsed in greeting,

with an undercurrent of something that was deeper. Aio flew to Sinsi, and the two coalesced vibrations, while Emonit hovered near and edded a satisfying bass note.

Sinsi male; Aio female. What was Emonit, with that curious third-member relationship? Emonit, the elder, who, once upon a time, had been the active member in a triplet.

"Sinsi," Emonit pulsed, after the pair had completed greeting. His hue was somber and his tone serious. "I feel something wrong in space. There is a vibration that does not belong there, and it comes closer."

"You were always more sensitive than I," Sinsi said. "I have felt nothing."

"It is faint." Emonit suddenly gave a nervous jerk and flew lightly around the mountain tip. "But it will not be faint for long."

THE ASTEROID was black and white like a too-contrasty photograph. George Hames kept looking at it through the port. "I never thought that Mitchell was batty. You don't accumulate as much money as he has if you're not all there. But what he sees in a hunk of rock like that to make him spend a million dollars for habitizing is more than I can understand. Why come all the way out here when you can get what you want right on Earth? 'Build your summer estate in the heart of the Himalayas,'" he quoted — roughly — from an advertisement. "'''Midst dizzying heights and awesome depths you can commune with nature in her most glorious state. The sweeping lines . . .'"

"Mitchell said I'd know it when I saw it." Arno Murray stood at the port also. He kept looking at the asteroid, but where Hames hadn't expected to see anything, and hadn't seen anything, Murray was looking for something, but he couldn't find it.

"Know what?" Hames finally turned away from the port and walked over to the machine that paneled the wall, where he studied for the hundredth time the plotted course that was automatically carrying the ship to an orbit around the asteroid.

"I don't know." Murray kept looking out at the asteroid. "Mitchell said I was to landscape the place. He said I'd know what there was about it as soon as I saw it, and then I'd know what to do. He didn't say any more."

"A screwball! A million dollars worth!"

"Ah-hhhh" It was an abrupt indrawn sigh, like of pain. The sudden explosion of light that sparkled from the asteroid reflected from Murray's eyes brilliantly. The sun was on the crystals, and they shimmered and flowed like they were incandescent.

Murray didn't move for fifteen minutes after that. Hames left him alone. To Hames the glory was a lot of light reflected from shiny rocks. But Hames was an engineer who did the landscaping that Murray designed. Murray was an artist, and Murray saw things that Hames couldn't. Murray stood motionless and silent for fifteen minutes, while in his mind was building a picture of what that land of scintillating crystals could be with the engineering and manipulating of Hames' crew and machines.

FEAR WAS a sibilant whispering in the ether. The people of Ansen milled about in agitated eddies, shrieking their fright of the cylinder of metal that had come blasting out of space to circle their little world.

In the chant-like speech of their kind, they shrilled panic and stirred space with frenzy.

"The monster comes!" they called, and the fear went around the planet in a hysterical wave.

"The monster comes and kills our peo-

ple! It is hot, almost like the sun itself. It propels itself against the ether, and when space warps to slacken its speed, our people are caught in the vortex and hurled to annihilation in the furnace! Emonit, tell us what to do!"

Emonit was there. From the tall peak he had shimmered down, trailed by Sinsi and Aio. His colored was disturbed, and his vibrations tense with thought. He swept up to the center of the fear-stricken mob, and flashed sharply.

"Quiet!" His emanation sped outward. "This puzzle will be solved. The monster is impossible by all we know, but it is there, so it must be. It is hot, of a temperature that cannot support life. But there are life vibrations there. Many of them. Vibrations and vibrations all uncontrolled and intermingled so that I cannot separate one from the other. All I know is that there are life vibrations, and where they are—then they can be destroyed."

"How?" All asked as one.

Emonit's shade grew tinged with a hue that was rarely there. He sank back a little.

"It is fearful. . . ." he began.

And chaos was awhirl in space. The hot and dense cylinder of metal shrieked through the ether above; the braking grasp of forces that tangled in the fabric of the universe caught the followers of Emonit, and tugged them into the dissolution of heat. Shrieks of pain shrilled out, and then the mass was gone into the distance below the horizon, and there was silence, save for the whisper of space itself.

One by one they straggled back—those who had managed to flee before the grip had become too strong. Emonit was still there, and those left flurried their colors in relief, for he was their wisest, and the only one who could know what to tell them. Sinsi and Aio timorously floated back along the ether breeze, entwined with each other.

Emonit quivering with horror, was silent for a long time. Those about him, waiting for him to say something. . . .

And then horror was gone. Sometimes horror is not enough. Sometimes there can be worse than horror. Emonit's color grew deeper. It deepened until it was almost below ultra-violet. Almost until those who were in the monstrous metal cylinder might have seen it.

For from the other side of the planetoid messages had come to him. Messages of such urgency that in their shrieking crescendo they had reached him through the insulating rock and around the shifting currents of space—before breaking off.

"It has landed! It has landed, and from its base has come streaming forces and currents of power that are of a magnitude vast enough to break the rock atom from atom and electron from proton and combine it again into vapors that blast outward and overwhelm us with their fury and incandescence!"

MURRAY looked at the thermopyle and said: "It's cold down there."

"Darn right it's cold." Hames disdained to lift his face from the computing machine he was ticking away at. "What did you expect? We're practically incandescent compared to what they call hot down there. Now go away and let me get some work done. Did you ever think what kind of arithmetic I have to go through so dopes like you could walk around on asteroids without getting their toes frostbitten? Figuring mass and specific heat, and rates of absorption and radiation, and air insulation—and figuring what disintegration proportions to go into air and how much into heat and how much condensed into lining for the central chamber. . . . Wouldn't it be fun without a shipload of machines to do the work on? Go away to your paint-box, now, and let me work."

If Murray could stand and look through portholes all day long, Hames could spend

his time with his nose in the calculators. They were accomplishing the same thing, but each in his own way—one dreamt and made beautiful pictures in his mind. The other dreamt with figures and equations and turned the beautiful pictures into solidity.

It needed both.

The control board burped, and winked coquettishly at Hames with a solitary pink light. A half dozen meters jiggled as the drive dug its toes into the fabric of space and set the ship to decelerating. Hames kicked and rolled half-way across the room in his swivel chair so he could give his attention to the orbit-setting. The ship spun around the planetoid in a narrowing circle.

In night for a half hour, the darkness was stark. The rapidly rising sun, though far away, was refracted and reflected into a glorious sight by the crystals, and Murray could not take his eyes away from it. Then a day of bare rocks, jagged peaks, and two tiny valleys. Briefly. And night again.

The ship spun and spun, and its speed became less, with its kinetic energy absorbed by space. The landing jarred a little, and Hames cussed the instruments. Then he was leaping downstairs and cussing the crew into their space-suits.

He didn't waste a second. He had the converters roaring before the machines were set up for the other work. The beam bit fiercely into the rock below, exploding it into a mixture of heat and expanding air. The remainder went into a dense, glassy slag that lined the tube which was beginning to extend into the center of the planetoid. The artificial atmosphere was running away, but later a gravity machine would be working down there, holding it in.

The ground heated incandescent and then bubbled vigorously for a yard around. And heat started to seep through and through the interior of the planetoid.

"TO CANCEL a vibration—the cancelling wave must be destroyed also." There. Emonit had told what the sacrifice must be. He had said what had to be done, and now he stood there in silence, and all the others stood in silence around him. There was no more torturing of space with hysteria. No more wailing and shrieking with agonized fear. Emotion was beyond that.

The deadly, annihilating heat was seeping through the asteroid. The ship, at the center of the inferno, was on the other side of the world. Half the people of Ansen were destroyed. Soon the heat would reach this side, and there would be no more people of Ansen. No more. All would be gone. And the subtle color harmonies that sparkled from the sun-lit crystals would no longer be seen—by anybody. For the optic instruments of the invaders were too gross to catch the delicacy of the flavor in the light that came from the crystals.

Horror had gone beyond horror, and the heat was approaching.

"Who shall try first?" The whisper seeped vaguely through the group, coming from no one in particular, from everybody in general.

Silence again, while each seemed to shrink into himself. Then a convulsive movement in the corner of the crowd. A swirl of frightened light darted up and off to the horizon.

"Brave one." Emonit's faint thought followed him. "Remember what I said. Choose a life vibration. Attune your own to it. Absorb energy from space. Blanket the other vibration. Destroy it. You must be strong. Strong without measure. For the strange ones have power that we know not."

THE CONVERTER was running at pitch, boring out the guts of the asteroid. The soil machines were pulverizing the hard rock and turning it to fer-

tility that would grow lush plants of a design to match the hard, brilliant crystals. Murray was at his drawing board, dragging pictures out of his head, and putting them down onto the white. Hames patrolled the control room, surveying the multitude of recorders that had been constantly at work—many eyes and ears and fingers to detect what was happening, visibly and invisibly, in space, and partly out of space—and leaving them on the tape so that Hames could see them when he wanted to.

The room was about as silent as it usually was. The generator made a far-off drone that was so quiet it was almost a hush. The little clickings of the instruments as they puttered away at their endless tasks. The pop of a relay every once in a while. Little tiny mechanical noises that all put together made silence. Then there came another noise that was not mechanical, and it intruded. It came from Hames, and it was a whistle. It started high, and it came down in a glissando that ended when he reached the bottom of his range. When that happened he kept his mouth puckered, and his hand came halfway up to his chin, and then stayed there.

"Hey, Murray!" he called, softly.

No answer.

"Murray, come here." Louder.

"What do you want?" Murray's frame intruded itself in slow sections through the door. His voice was peevish.

"Look at the counter tape." Hames didn't notice the frown that was on Murray's face. "At hour eleven we hit a flock of gamma rays. They kept averaging five times normal. Sometimes more. And at sixteen thirty the counter went wild, like somebody stuck a can of radium down its gizzard."

"So what?"

Murray wasn't usually dense like that, and Hames shot him a curious glance.

"Don't you see? Eleven was when we started digging in with the brakes. Sixteen thirty was when we started with the converter. We've stirred up something."

"What do you do for a headache?" Murray's contributions to the conversation were becoming unusually brilliant.

"Gawd!" Hames felt the height of frustration. "I make discoveries, and he bothers me with headaches. There's a medicine chest. Take whatever you want."

"I never had a headache before."

"TWICE—and both failed." Emonit had felt the death of the pair, and a cloak of gloom spread itself over the few remaining of Ansen. They gathered more closely to Emonit, and their chanting mass-voice whispered. "Too strong. Too strong." Over and over. And there was nothing but despair, for the asteroid was being disemboweled to give heat, and the heat was leaking through the miles of rocks to find them wherever they might hide, and leave nothing where they had been.

"I'll go." Sinsi suddenly rose. "If it requires more power, I am the strongest. I can do it."

"No!" Aio fluttered to him, her color livid.

"No!" Emonit towered over them all. "None of us is strong enough. Not even you, Sinsi. You must not be sacrificed. Not you."

Sinsi quivered. "Why not I, as well as others?"

Emonit faltered. "Let that not matter. We know that one cannot go alone. Many might."

"Many might—yes! Many, each in tune with the other, totalling enough power to damp the life vibrations of the monster. Who will come with me?"

"You?" Aio danced in protest.

"Why not me?" Sinsi was defiant. "Do you think I could stand here and let others die to save me? It is not a mere danger of dying, but it is death itself."

Emonit wearily put in his voice. "Can you forget the heroics of youth? Can you think of the future? Rather that I should lead the attempt than you. For I shall not last long anyway, and you must survive to be the leader of our people. Born to that. . . ."

"Born to nothing!" Sinsi glowed furious. "Leaders mean nothing. While you waste time preventing each from sacrificing himself, all will be destroyed when the heat comes. I'll go myself, and any who want to come can follow."

A shrieking and howling of ether made a crescendo around the group. A swirl of tenuous shapes arose.

"Sinsi. You stay." The tone was sharp and decisive. "Emonit is right." Sinsi fell back from where he had risen. "You must stay and we must go. Let us hope that we win."

And the horizon rose high behind them.

"Will." Emonit's thought flew fiercely out to them. "Your will and the forces of your life to destroy the monsters. Make your vibration a mighty power that will be withstood by nothing."

Sinsi stood there, agitatedly. Aio hovered about him, but he would not be calmed. "I should have gone," he kept saying. "To stay here while they blast away their lives. To do nothing while they save us. . . . Oh, yes, Aio. I know that we three belong together, and that we must not be separated, but can that overpower the knowledge that we stay in safety, while others meet terror for the sake of us? To take sacrifices from others is harder—so much harder—than to make sacrifices oneself."

Aio flew to him, and they were as one, comfortingly.

"If the time comes," Aio was fierce and soft, "we shall go together."

"IT'S NOT only irrational, but it's insane. It's not only illogical, but it's batty. It's nuts. It's screwy."

Hames talked like he meant it. He paced the little room, glaring at the meters that goggled cooly into his face at the end of each lap, and raising a fuss like the insides of a rocket motor.

Murray stood at a porthole, looking through it. He'd been standing there for an hour now, while Hames had been gently going mad tearing through all the books on atomic physics in the ship's library. Now Hames was deadlocked, and Murray still stood looking through the porthole at the landscape outside. It got on Hames' nerves.

"Haven't you seen enough of that bunch of colored glass out there?" he yapped, irritably. "You haven't done anything since we've landed but stand and look through the porthole."

Hames was a bunch of nerves. Murray was lax, and he hardly moved his face to answer.

"I've got a headache," he said. "I never had a headache before, and it bothers me."

"Well, why in cosmos don't you take something for it?"

"I dunno." It was with a loose little sigh. "The crystals are so beautiful. The colors—I'd almost swear there are some I'd never seen before." He closed his mouth, and looked out through the port, while his hand went up to his hurting head.

Hames gave up and went back to his books. The engineer couldn't see things that Murray saw, and it irritated him. They thought too differently.

He mashed his book shut, and started pacing again. While the drone of the converter made an accompaniment to the click of his shoes.

The converter, blasting atoms apart, and boring away down into the center of the little world. . . .

"We come close to the planetoid and dig in with the brakes, and the Geiger counter jumps to five times the average." Hames roared it out as he pounded the

floor. Maybe if he made a lot of noise about it the answer would come from somewhere. "We start digging with the converter, and counter acts like somebody dropped a ton of radium on it. Maybe the force fields touched off some radioactive substance around here. Maybe the stuff is right underneath, and the converter beam is multiplying its rate of disintegration. But it ain't, because the stuff coming through is all gamma rays, and no alphas or betas. And there's no direction. It comes from all around. Enough gammas to singe our hair if we weren't shielded. From all around. Look at the counter jump!"

Hames made a prayer to the little gods that inhabited that section of the universe in thanks for his not being outside the shield, where the counter units were.

"I never had a headache before," Murray whispered, vaguely. "I don't like it."

"You and your headaches and your blasted colored crystals." Hames turned fiercely upon Murray. "You don't know what a headache is like until you've tried to untangle a problem like this."

It roused Murray. "Scientific observations and deductions—" Caustic! "Why don't you make something out of my getting a headache as soon as the digging started and the rays began to come in?"

IT WAS a weary little group that gathered around Emonit and Sinsi and Aio. The bottom was gone from their universe, and there was no longer any future for their world-line. "They failed. They failed." Reiterated over and over again, the words were dug into their consciousness, and there was no answer to their fate.

"Power." Sinsi was bitter. "What good is the most power we can get against a wall that cannot be broken through?"

"Perhaps power is not all." Aio hesitated in saying her thoughts. "Maybe the three of us. . . ."

"The three of us?" Sinsi puzzled. "Why three any better than a score or a hundred?"

"*We* three." Emonit saw, quickly. "The bond that is between us. The subtler vibrations that only play among us, because we are a special three. Not unique. This grouping of three is the basis of life, but each is special to itself. And being special. . . ."

"And futile, unless we do something." Sinsi, impatient lest courage seep away entirely. "Come, and stop wasting talk."

Space whispered to itself. It was like the whistle of a wind that has traveled far distances of desert and sea, and now breathes with a sibilant voice through tree branches, so softly telling a portent of something that is to come.

The three felt the whisper gently caress them as they sped around the circle toward the cylinder that lay there like a blood-sucking insect. This was finality.

MURRAY'S eyes were bloodshot.

"Good Lord," thought Hames. "This is going too far. An artist might visualize differently than I do, but Murray looks like he actually sees things that are different. Maybe even different from what *he's* supposed to see. Maybe he's cracking."

Murray saw Hames looking at him. "Whatever you're thinking, it's not so."

"I'm not thinking anything," Hames lied. "But your eyes look strained. Maybe you've been using them too much."

"I don't see a damn thing." How did Murray seem to keep knowing what Hames was thinking? "But I feel funny." He shivered.

A great flare of gammas hit the counter, and the tape reeled merrily off the spool. Hames bent over to watch closely, and abruptly a gasp hissed from his mouth.

"They've stopped! The gammas have stopped, and the counter's back to normal cosmics. The converter is still running.

Why should they stop, and after the big flareup?"

He was bent over, eyes fixed on the counter tape, and not seeing anything, for he was thinking, and when you think you don't see. Hames was thinking. His mind was pacing at red speed, and he didn't see Murray.

Murray's face looked like it was going to cry. It twisted, and its eyes were bright, and suddenly words exploded from it. *"Oh—you engineers just can't feel—what you're doing."*

And Murray ran out of the room, slamming the door behind him. Hames sat and stared at the space where Murray had disappeared, as if his eyes could see through the metal. The footsteps clicked down the corridor, and then there came a rasp and a whirr.

"MURRAY-Y-Y-Y!" Hames bellowed.

The door was behind his leap, and the corridor seemed to drag unendingly beneath his running feet, but the inner airlock valve was irrevocably sealed, and the hiss of the opening outer came through to the inside.

Murray was a shapeless mass that staggered, hopped, floated, and fell lightly to the bottom of the cold vacuum.

"Good Lord. Why did he do it? Why did he do it?" The question channeled into Hames' brain and burned like fire there.

Hames stood looking through the porthole. He tried to see what Murray had seen there, but all he could see was what looked like a lot of jagged colored glass sticking up in a crazy pattern that had no meaning. Artists saw things differently. That's why they were artists, and not button pushers. They thought differently. Hames stood looking through the porthole, and he wondered what Murray had meant when he had burst out: *"You engineers just can't feel. . . ."*

Hames hadn't felt anything. What had Murray felt? What had his mind, more delicately organized than Hames, felt to drive him mad and send him with twisted face through the airlock?

THE UNENDING whisper of space hissed gently about the asteroid. The little people who had shimmered in the delight of bathing in the ether breezes were not there to feel the whisper, nor to see the strange colors of the crystals. They had been as a wall of soft mud holding back the tide of the sea. They had been like children hammering at a massive bronze door to break it down.

And now they were gone, and space was empty of their strange life. They had fought bravely, and with that might of spirit and that curious love they had. Now they were gone, and their utmost power had been like the touch of the breeze against the side of a battleship.

But *had* they accomplished anything? What had Murray meant when he said, *"You engineers just can't feel?"*

HAMES looked out of the porthole at the blotch that had been Murray, and began to frame the words of his new thesis:

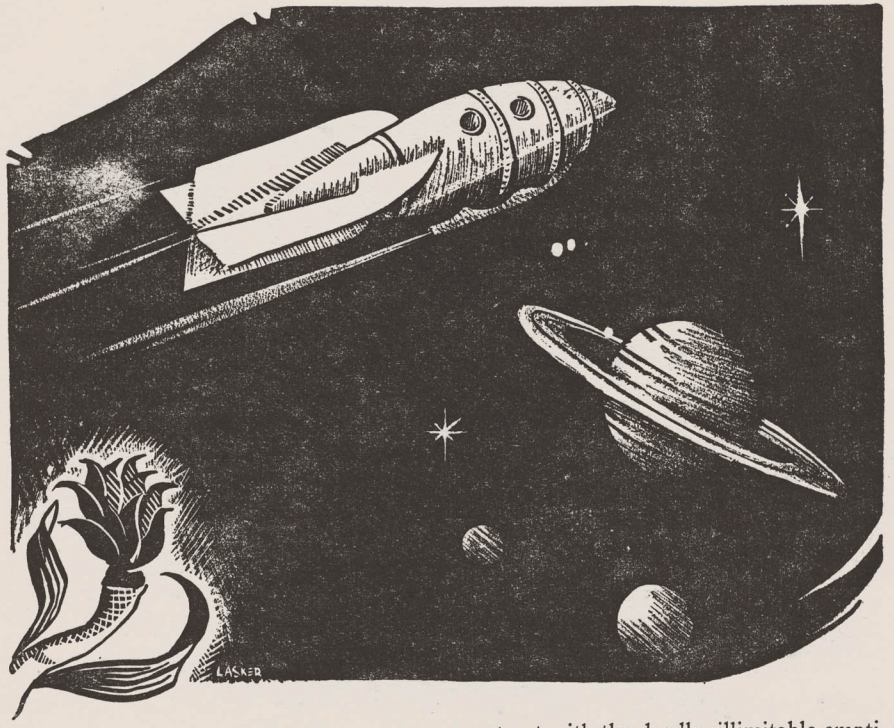
"Report on the form of gamma-particle radioactivity found on the asteroid Ansen."

THE LIFESTONE

By Paul Edmonds

A Full-length Novelette

For thousands of years the Desert Nations had worshipped the Lifestone. And when Lang stole it he made his biggest gamble—a billion dollars against ten thousand lives!



CHAPTER ONE

The Wreck of the *Starbird*

WITHIN the control room of the space ship it was impossible to hear the harsh clamor of the riveters. Walls of beryllium and insulation deadened the sound of repair work, but a deep, grinding vibration shook the giant craft. Outside in airless space, Captain Griffin knew, men in protective armor were working against time. Meteors swarm near Saturn, and unless the battery of photo-magnetic cells that lined the hull was replaced swiftly, the *Starbird* had made her last run.

Space liners are never silent. There is always the distant hum of powerful machines, the faint patter of hurrying feet, the murmur of voices. All the normal sounds of life seem intensified through contrast with the deadly, illimitable emptiness stretching all around, a blazing curtain of starlight that blackens the skins of spacemen with rays that not even polaroid glass can exclude. Somehow Griffin's dark tan seemed oddly incongruous with his blonde, huge Viking build. Though he was still a young man, his hair was bleached almost white.

Frowning, he glanced at a crumpled sheet of paper on the desk beside him. But a moment later he had forgotten it to stand before a porthole, gazing into the abyss, pale blue eyes narrowed. Unaided vision, however, was useless to discover the bullet-swift drive of a meteor. Only the photo-magnetic cells could protect spacecraft against the most deadly menace of outer space—and the cells were dead.

The *Starbird* had been well on the outward run from Jupiter's Ganymede when the alarm bells sounded. Now, stand-

ing alone in the room that was the ship's brain, Griffin whispered an oath. Blind rage rose up within him, a cold, bitter anger against the unscrupulous greed of a third-rate transport company. Space flyers need unceasing attention to safeguard them against the innumerable dangers of their tremendous voyages, and the strains and stresses of hundreds of long trips had weakened the *Starbird*. But the owners would rather spend two thousand dollars in bribes to the inspectors than five or ten thousand for the replacement of shoddy equipment. So the guarding photomagnetic cells, that automatically warned against the near approach of meteors and set up a compensating field of repulsion, had burned out near Saturn, and a dozen of the crew were working desperately on the outer hull, welding and connecting the emergency units.

Thirty men were in the ship, more than half of them passengers who preferred to run the risk of traveling in a low-priced, shabby vessel rather than pay the exorbitant rates of the giant luxury liners whose owners dared take no chances with poor equipment. The *Starbird* was chiefly a freighter, carrying tons of machinery, fuel, and food supplies to the outer planets and their moons, which, though rich in minerals, were almost incapable of supporting human life.

A sound made Griffin turn swiftly. At the door stood a slim, round-faced man whose appearance of youth was belied by the lurking devil in his brown eyes. A smile of half-malicious amusement quirked one corner of the newcomer's mouth. Felix Lang was apparently pleased. He had come aboard at Ganymede City, bound for Uranus; his nationality Griffin did not know, though he was sure Lang was not Earthborn.

"Still worrying, Mister?" he asked, with the trace of some indefinable accent. "What's the use of that?"

Griffin nodded toward the porthole.

"If a meteor hits us—"

"We die quickly. Clean, sudden—but cold. That reminds me—" Lang calmly opened a drawer of the desk, extracted a flat silver bottle and drank deeply. He looked at Griffin, wise eyes glistening. "Distilled on Venus—and for medicinal use only. Bring on your meteors, Mister."

Griffin retrieved the bottle. "Every time you come in here you swipe a drink. We may need that liquor before long."

A DARK streak ripped past the porthole, a black line drawn suddenly against the shimmering star-curtain.

"That," Griffin informed his guest, "is a meterite. Not far away, either. If there was an atmosphere out there it'd have looked like a comet."

"Even meteors are better company than the other passengers," Lang said. "They know something's wrong, and they're scared stiff. The Venusians have a proverb—'It is better to be devoured at a gulp by an ugly fish-lizard than to be absorbed slowly by the beautiful Medusa fungus.' "

"Why must you spout quotations at a time like this?" Griffin asked. "My troubles won't be over even when the repair work's finished. Look at this." He thrust the crumpled sheet of paper at Lang, who glanced at the signature and whistled.

"Chief of the Interplanetary Guards! There *is* trouble, eh?"

"There is trouble—and a hell of a lot of it. Ever heard of the Lifestone?"

Lang blinked. "Who hasn't? The most famous jewel on Mars—or in the system."

"It's the most sacred fetich of the Desert Nations of Mars," Griffin said. "Like the Kaaba—the Black Stone—at Mecca. The Martians have worshipped it for ages—the wasteland tribes, anyhow. A thousand years ago when Earthmen first dropped in on Mars the Desert Nations were praying to the Lifestone, and

it's the one thing no outsider can tamper with. Martians are insane on the subject. I'd rather take a sledgehammer to the Kaaba with a million Mohammedans watching me than to touch the Lifestone —or even look at it. The fetich-worship of ages—it's old, Lang—older than Earth's civilization. When man was a Neanderthaler the Desert Nations were in their prime, had the greatest culture the system ever knew. And they worshipped the Lifestone then. Now they've retrogressed; they're uncivilized—but no Earthman has ever dared touch the jewel, and only four have ever seen it. I mean —five men."

"I see you've studied history," Lang said drily.

"The Lifestone's been stolen. An Earthman stole it, the Martians say. And they're in revolt. Unless it's recovered every Terrestrial on Mars will be wiped out—and probably tortured first if that can be managed conveniently."

The groaning vibration that shook the ship increased in intensity. Griffin's voice grew louder as he went on:

"They traced the thief to Ganymede City, and they know he boarded the *Starbird,* Lang. You can't see it, but there's a gun in my pocket—and it's pointed your way. So you'd better tell me where the Lifestone is before I squeeze the trigger."

The other didn't move, but his lips quirked in a one-sided smile. "You think I have it—that I'm the thief?"

"Aren't you?" Griffin asked.

"Of course. But your suspicions hurt me, Mister. I thought—"

GRIFFIN brought out his weapon—a flat, stubby automatic that carried both deadly and sleep-producing needles in its magazine. "Sorry, Lang. But we're heading back to meet a Guardship as soon as the repair work's finished. I've already sent a radiogram. You see, there are lots of people on Mars, and they'll all be dead in a few weeks if the Lifestone isn't brought back."

Lang snapped his fingers. "A few lives! They won't be missed. The Earth Council will pay plenty before it gets the stone back." Suddenly his smile broadened, and he grinned delightedly. "I tell you, Mister, I am a mighty clever little fellow the way I worked it—a damn plucky chap!" His strange accent grew stronger. "For two years I lived with the Desert Nations—you know they drink nothing but water? What a two years! Then one night I got my ship from where I'd hidden it, took aboard a few Martian big shots, and told 'em I'd learned the Lifestone was going to be stolen. We'd planned well. My cousin had already blasted his way into the temple when I got there. I don't think he knew I was going to kill him."

Lang shook his head sadly. "No. However, it was the best way. The scheme was that he'd make a bluff at stealing the jewel and then escape. My companions naturally would make sure the Lifestone was okay—and that's when I took it. I got all six of them with five shots, not counting the bomb I used on my cousin. Three of the Martians were armed, too. What a smart chap I am!" he finished.

Griffin was sure now that Lang had some of the conscienceless Callistan stock in him—the cold-blooded, passionless exactitude of that race, and probably some candid, naive Venusian blood as well. He said, eyebrows lifted, "Well, you clever little fellow, just hand over the Lifestone before I puncture your hide."

LANG'S reply was cut short. Without warning came catastrophe swift and complete. A rending, jarring crash shook the ship, and the scream of escaping air. Thunder of valves shutting deafened the two momentarily. A sudden cessation of gravity showed that the controls had been wrecked.

They floated up from the floor as the ship lurched, then drifted down slowly. Emergency gravitational fields were being automatically created. But the power was failing fast.

Griffin dived for the door, making use of every projection to pull himself along and increase his speed. Over his shoulder he promised, "I'll settle your hash later, buddy!"

Alarm bells shrieked. Above their hysterical clamor a toneless robot voice bellowed, "Go at once to the lifeboats that have been assigned you. Do not wait to get your luggage. Hurry!"

Lang followed the captain more slowly, still smiling. The *Starbird* was smashed; a glance at the instruments had told that. The meteorite, a small one, had driven slantwise through the body of the hull, wrecking the engine room and warping and weakening the whole structure of the ship fatally.

The next quarter of an hour was to Griffin an eternity of hopeless activity. For the important thing now was to avoid loss of life. Perhaps some had already perished in the crash; he could not tell. The crew were well trained, and at last the lifeboats were filled and cast off. Several of them, however, were useless, and the others jammed to capacity. As the last of the tiny ships floated free of the airlocks Griffin turned hastily to seek a means of escape for himself.

Finally he found a boat that was spaceworthy. About to enter it, he paused, remembering that he had not seen Lang since the crash, though he had checked every survivor. With methodical haste he began to search the collapsing liner.

He found Felix Lang crumpled in the corner of a corridor, blood smearing the wall and oozing slowly from a scalp wound. A lurch of the buckling ship had apparently knocked him unconscious. Griffin hoisted Lang's light form to his shoulders and hurriedly retraced his steps.

The great liner was singing a threnody of death. Tortured metal screamed; the crash of safety doors sounded as compartment after compartment burst its seams and let the atmosphere escape. The air in the corridor abruptly became a roaring gale against which Griffin fought grimly. Frigid chill of space touched him with congealing fingers as he thrust Lang into the safety boat and sprang in after him, sliding the door shut with numbed hands.

Machinery rumbled, suddenly went silent. With no sense of movement the boat slipped silently into the vast abyss, a tiny speck of flotsam on an ocean whose shores were infinity.

Two men, alone in space. . . .

CHAPTER TWO

The Selenites

"THIS is a hell of a fix," Griffin said, sombrely chewing the bit of his pipe. He couldn't smoke; there wasn't enough air.

Lang smiled sleepily. "The Venusians have a proverb—'Men who dance on the teeth of dinosaurs should not complain if they are devoured.' "

"One more of those lousy proverbs and I'll wring your neck," Griffin promised. "Only two days since the wreck, and the air's almost gone. Maggoty food, the water-vaporizer working when it feels like it, not enough power to send out an S O S—and you talk about dinosaurs' teeth."

"We sent several calls for help," Lang pointed out. The little man did not seem discommoded by his plight; the bandage about his head only gave him a certain air of rakehell deviltry. "Somebody may have heard it. When the other boats are picked up there'll be a search."

"Like looking for an atom in the Pyramid," Griffin grunted. "That reminds me: where's the Lifestone?"

"I left it on the *Starbird,*" Lang smiled.

"I don't believe you."

"And quite right, too," the little man admitted unblushingly. "What good would it do you if I gave it to you?"

"None. And I don't think I want it. Right at present I'm safe enough if I sleep with one eye open, but if I had the Lifestone you'd cut my throat with your toenail—if you got the chance. Keep it, and I hope it chokes you."

The little ship swayed, jarred. The blanket of stars was blotted out from the portholes on one side. The televisor—which was practical only for transmission over short distances—buzzed sharply. Griffin sprang to it, threw a switch. On the screen a pattern of dots danced madly, and then resolved themselves into a face.

The fat, silver-skinned countenance of a Selenite looked at Griffin. One of the race that dwelt on the Dark Side of the Moon, beneath the titanic dome that held life-giving atmosphere and a civilization.

"We're alongside," the Selenite said in his soft, shrill voice. "And—wait a minute—"

Grating of metal jarred the boat. Abruptly there was blackness outside the portholes.

"We've got you," the Selenite said with satisfaction. "Wait till we pump air in the lock and you can come out."

"Good!" Griffin said, breathing deeply. Due to the lack of air he had been taking shallow breaths for a long time, though he had scarcely realized it. "You came along just in time."

"Come out now," the televisor murmured, and the face faded from it. Lang was already working on the door. It slid open; a gust of cool, fresh air, with a faint tangy flavor, sent new vigor coursing through the two men. Starved blood drank it in gratefully.

Griffin followed Lang out to the floor of the lock. Bare walls of steel were all around them; a slit of light widened. In silhouette a grotesque shadow loomed.

"Captain Griffin?" the Selenite's voice whispered. "But come in, come in! We are anxious—" His gross body drew back, was visible as a shapeless bag overgrown with an iridescent crop of feathery fronds, inches long—adaptations of the silvery scales that covered the bare skin of his hand and face.

Faceted eyes gleamed from the puffy face, so startlingly human in contour—yet so strangely alien.

A LITTLE warning note clanged at the back of Griffin's mind—the hunch that had so often warned him of danger. But he had no choice. He entered the cabin, Lang at his heels, stared around. Drapes and cushions of violet samite made the room luxurious. Lounging on a low couch was another Lunarian, very tall, skeleton-thin, with his mobile lips pursed ironically. The faceted eyes were unreadable.

The door clanged shut. A puffy hand pointed to a table nearby, with cushions piled invitingly around it. "We've prepared, Captain Griffin. Food—and drink. Probably you're both hungry. Don't wait on ceremony; eat while we talk."

Griffin hesitated, but Lang hastily snatched up a rosy, aromatic drink and drained it at a gulp. His round face glowed.

"May the gods reward you," he said unctuously, bowing to his hosts. "Is that a pheasant? Ah-h—"

Griffin hesitated, and then sat down beside Lang, who was industriously refueling. A drink of the rosy liquor strengthened him, and he turned to say, "You got our S. O. S."

The Selenite nodded. "The other lifeships have been picked up, Captain Griffin. Ether calls have been going out for two days. The wreck of the *Starbird* is front-page news."

The slim one waved a languid hand. "I

am Elander. This overstuffed gentleman is Thurm. We're on a pleasure jaunt to Ganymede City."

Lang, busy with a pheasant, said, "My name's Felix—"

"Lang," Thurm interrupted, his plump face smiling. "Oh, you're front-page news too. You and the Lifestone."

Griffin froze. Lang's brown eyes flickered, went stone-hard. He didn't move.

"Elander and I have decided to take the Lifestone," Thurm went on pleasantly. "The Earth Council will pay *us,* not you, Mr. Lang. To use an archaic term, we shall indulge in a little hi-jacking."

Griffin had the needle gun out of his pocket. "Sorry," he said. "I'll have to take command, in that case. We're going back Sunward—*muy pronto!* The Lifestone's travels are over. From now on it's taking the quickest road home."

Abruptly a glimmer of light blinded Griffin. He cursed pulled the trigger—and saw the needle projectile fall, flattened against a transparent wall that had suddenly materialized between him and the Lunarians.

"Flexible glass," Thurm said, his voice muffled. "And the liquor is drugged. In a few moments you'll both be unconscious, and we can search you for the gem."

"Lang," Griffin snapped. "Come on! The lifeboat—" He sprang to the door by which they had entered. But it was locked.

The Selenites watched silently, Griffin turned, drove his shoulder against the transparent barrier. It gave slightly, but the tough resilience of the material checked him.

"Why waste your strength?" Lang asked. He was still sitting cross-legged on the cushions, sipping at a drink. "This liquor's good, if it *is* drugged. Wait till they're off their guard—wait, Mister! Don't forget. . . . I'm a clever little fellow. . . . The Venusians have a . . . proverb. . . ."

His eyes glazed. He collapsed in a limp heap. Griffin's muscles were watery; he made a futile effort to stay erect and failed. He went down into velvety blackness.

GRIFFIN woke up to find himself prone in a bunk, with the star-misted depths of space visible through a porthole in the further wall. The ringed splendor of Saturn shone coldly.

Flat on his back in a bunk across the room was Lang, painfully manipulating his shoulder. He smiled wryly as he saw Griffin's eyes fixed on him.

"Awake, Mister?"

"Yeah," Griffin said. "How'd you sleep?"

"Not for long," Lang smiled crookedly. "They woke me up and took the Lifestone. It was—"

"I know. In your armpit, under the skin."

The other's eyes widened. "Oh, you knew? You're pretty smart, too."

"Thanks. But what are they going to do with us?"

"I have found out—a little. Very little. There are only two men on the ship besides Elander and Thurm. Robot control, mostly. What they intend to do with us—I'm not sure. I tried to induce 'em to let me join their party, but only succeeded in giving them a new idea. You know Selenites—gamblers."

"They'd bet their last cup of water on the flip of a coin," Griffin said. "Yeah, I know. So what?"

"So they don't want to split the money they can get for the Lifestone's return. The fat lad said, 'One of us can handle this as easily as two. And the profit will be twice as big for that one.' That got their gambling blood up—jumping Jupiter, Mister, imagine it! Staking a fortune like that on a chess game."

"They always do it," Griffin declared. "They'll never take a dare. I remember—"

The door opened; a Selenite stood on

the threshold, his drab coat of feathers showing that he was a worker. In his hand he gripped a needle gun. He jerked it commandingly.

Under the weapon's menace Lang and Griffin preceded the Selenite back to the violet-draped room where they had first encountered Thurm and Elander. The two were relaxed on cushions, an intricate three-dimensional chessboard between them.

"Who won?" Lang asked.

"A draw game," Thurm informed him, his fat face alight with keen interest. "Elander and I have devised a new contest. Another kind of chess—with human pawns."

COLD foreboding gripped Griffin—a premonition of what was to come. Elander said, "Mr. Lang, I've drawn you as my pawn. Thurm sponsors Captain Griffin. You'll be set down on Titan, weaponless, and will fight a duel. The survivor will be landed safely not far from Ganymede City. If you win, Mr. Lang —if you kill Captain Griffin, I'll take the Lifestone and set you down on Ganymede. Alive, incidentally."

"How do I know you'll keep your word?" Lang asked. A mask had dropped over his round, youthful face; the brown eyes were hawk-watchful.

"You don't. You'll have to take a chance. But I think you'd rather take that chance than be shot out of a torpedo tube. One dies quickly in space without armor."

"You're crazy," Griffin broke in. "This is—well, it's ridiculous. You can't—"

"But we can!" Thurm beamed with delight, ran spatulate fingers through his feathery, iridescent hair. "You have no choice, you see. We're slanting down to Titan now, and in a few minutes the game will begin."

Griffin was silent. Titan, sixth moon of Saturn, was an outpost of the system. There was life there, but not human life. The air, though thick, was breathable; yet there was no reason for men to brave the perils of this world. It was poor in minerals, possessed nothing that could not be secured more cheaply on other planets. It was unmapped, uncharted, a fantastic wilderness of teeming, alien life.

Elander turned to a port. "A valley—here. I shall land you, Captain Griffin, at one end; Mr. Lang at the other. You will be unarmed, save for a rocket flare apiece. There are no rules. The man who survives will be the one who goes back to Ganymede. As soon as your task is accomplished, fire the rocket. We shall then descend and view the result."

Thurm murmured an order; the space ship drove down. Suddenly giant, sickly yellow vegetation was all around them. The vessel grounded with a gentle jar.

The door swung open; Thurm pointed. "Here you leave us, Captain Griffin. Your rocket—" He gave it to the man. "Is everything clear?"

Griffin glanced around quickly. Thurm's finger hovered over the lever that would lift the barrier of flexible glass. The needle gun still pointed at him, held unwaveringly by the dull-feathered Selenite.

Shrugging, Griffin stepped out of the ship. The door clanged; with a scream of displaced air the vessel raced up.

Above him the gigantic ringed globe of Saturn hung ominously. The stir and rustle of alien life murmured on the hot, oppressive wind.

CHAPTER THREE

The Hunt

A STRANGE world, Titan—teeming with life, animal and vegetable, yet supplying no food fit for human consumption. Griffin wiped his face. He thrust the rocket into his belt, scanned his surroundings.

Yellow plants, gigantic, draped with long festoons of delicate tracery. A vaguely sulphurous odor crept into his nostrils. From the distance a deep, hollow boom sounded, and the rush of cleft air. The ground slanted down at his left, and he cautiously moved forward.

The first thing now was to find Lang. Not to kill him—Griffin's eyebrows drew together as he thought of the Selenites. They had overlooked the fact that their pawns were human beings, not helplessly inanimate objects to be moved at the whim of the players. Together he and Lang might be able to find some means of escape—arrange some trap for Thurm and Elander.

In the deep indigo sky Saturn swung, attended by a horde of glowing, tiny discs —the other moons. The ring was a shining, splendid setting for the jewel-like planet. Among the trees Griffin caught a flicker of movement, a vaguely-glimpsed, small shape that darted away and vanished.

He went on cautiously.

The trees thinned. At his feet a rocky plain stretched down steeply to a broad, dully shining ribbon, a river that flowed

sluggishly between steep banks. Beyond it the forest began again, sweeping toward the high cliffs that bordered the valley. There was no sign of the space ship.

A noise strangely like the blare of an automobile horn made Griffin jump.

"Phonk—phonk!"

Bright eyes peered at him from the dark recesses of the undergrowth. As he turned it resolved itself into a mass of furry green, of indeterminate shape. Griffin waited.

Very slowly the creature came forth, staring inquisitively. It was about a foot high, with a plump globe of a body surmounted by an almost wedge-shaped head. Bulbous eyes, on short stalks, watched. A growth of cilia fringed the gaping mouth, and dwarfing the little head was a long, bladder-like nose that drooped disconsolately. It padded forward on stumpy legs; the arms were apparently boneless, ending in tiny fringes which seemed to serve as hands.

"Phonk!" the thing said mournfully.

Griffin put out a tentative hand. The creature scurried back, and as the man still advanced, it indulged in a curious stunt. The elongated nose suddenly swelled to monumental proportions, inflated with air until it was much larger than the being's head. The little arms came up and began to pound against the taut skin of the nose.

Immediately a low thunder of hollow boomings sounded, so loud and unexpected that Griffin jumped. He waited a moment, but as the drumming showed no signs of ceasing, he shrugged and turned toward the river. Halfway down the slope the booming died, and a loud, triumphant *phonk* reached his ears.

"Go on, laugh," Griffin muttered "You're apt to be my dinner tomorrow if I'm still on Titan. Though how I'm going to get off this crazy world—"

The sluggishly flowing stream didn't look much like water. Occasionally inexplicable bumps would appear on its surface. Griffin hesitated, wondering how he was to cross.

AND suddenly he knew that eyes were watching him—intent, curious eyes. Lang?

He turned, looked around swiftly. The phonking animal was gone; no one else was in sight. Faintly there came a deep explosion, and something skimmed up above the trees in the distance, pale against the purple sky, glided down and vanished.

Then, across the stream, Griffin saw a little animal running toward him—a scaled and glittering thing that moved swiftly on six spidery legs. No larger than his hand, it raced forward, and behind it came a larger one of the same species. The first darted to the water's edge, leaped—and continued its flight over the surface of the water. The other hesitated, paused.

No, this wasn't H_2O—not with a surface tension that would support a such a creature. The scaled thing ran on.

Around it a group of bumps bulged the stream. Something burst up into the light, fastened on the spidery animal, and dragged it down. Almost simultaneously a dozen other creatures had leaped up from the depths, were wrestling with their prey, struggling desperately on the surface of the river. They looked like fish —but modified. The tails were muscular, shaped like those of seals. The pectoral fins were greatly elongated, the spines seemingly as flexible as fingers. The fish were jet-black, about as long as Griffin's arm.

In a moment the spider-creature was torn apart and devoured. The fish seemed to hesitate—and their heads turned toward the man. The water's surface bulged with innumerable bumps. Several more of the things popped up from the depths, and began to propel themselves shoreward

with a peculiar humping movement, their tails and pectoral fins being brought into use.

"Hi! Look out for the skippers!"

The cry came from behind him. Griffin swung around to see a slim figure at the top of the slope, waving to him. Not Lang—for red-gold hair cascaded to the girl's shoulders.

Did she mean the fish? The little things were humping toward him rapidly, like black slugs converging on a feast. Certainly they were ferocious enough, and, remembering the deadly Terrestrial piranhas of South American rivers, Griffin hastily began to climb the slope. Behind him a murmur of whistling gasps sounded.

The girl waited. She was wearing a glimmering, delicate web of some sort that billowed with each breath of wind. Tattered black leather showed beneath it.

"Lucky Jimmy brought me here," she said breathlessly. "Those skippers would have eaten you alive in another minute. Whew!"

Gray eyes examined Griffin as he sought for an answer. "Am I glad you came along! I've been here nearly three months!"

"Oh, Lord," Griffin said, his heart dropping. "Don't tell me you're a castaway."

"You guessed it. I was on the *Cyclops* when the tanks exploded. Two weeks in a lifeboat, and we never knew the pilot didn't know how to navigate till Titan caught us. The crash killed everybody but me and another chap—and he died in a week. Where's your ship?"

Griffin explained in full detail. The girl looked sick.

"My luck," she said bitterly. "The famous Kirk luck. I'm Frances Kirk."

GRIFFIN didn't answer. He was staring at the shining cloak the girl wore. It wasn't a garment, and the slow, ceaseless ripple of movement that shook it spoke of life. And it seemed to grow from the back of the girl's neck.

"Jumping Jupiter!" he said. "What's that thing?"

She chuckled, touched it with slim fingers. "That's my meal-ticket. Didn't you know there's nothing to eat on Titan?"

"But it's alive!"

"Sure. It's a parasite. As near as I can figure out, it uses a little of my blood whenever it feels like it. But it feeds me, too—proteins, carbohydrates, and so forth. Not a full course dinner, but it keeps me alive. It lives on minute organisms—the air's full of 'em."

Symbiosis! The true give-and-take between parasite and host—allied to the partnership of the anemone and the hermit crab. In Terrestrial seas the anemone, with its poisonous tentacles, protects its host, and in return helps itself to the food caught by the crab. Amazing and a little horrible—but a phenomenon not unfamiliar to science. The cloak-like organism supplied the vital enzymes—but what might it not take in return?

"How long have you been using that thing?" Griffin asked.

"Since I landed here—less a week."

"And you don't feel any ill effects?"

"Not any. Why? D'you think it's dangerous?"

"Maybe not," Griffin admitted. "But there's no telling. Can you take it off?"

"Sure." She tugged at the iridescent cape; a shimmer of movement shook it, and it came free in her hand. Two tiny punctures were visible on the back of her neck—clean wounds, on which two droplets of blood appeared.

"I'd starve without it," the girl said. "So will you."

"Not if we can get off Titan *pronto,*" Griffin told her. "Right now the first thing I've got to do is find Lang."

"You'd better have a weapon. I've a revolver in the ship—shall we get it?"

Griffin nodded, and they turned back into the forest. The ground grew steeper as they proceeded, till at last they came out on a little bluff overhanging the river. The wreck of a lifeboat was there, warped and broken. Something peered out from the port and drew back hastily.

"What's that?" Griffin asked.

"It's Jimmy. He made friends with me after I'd fed him a few times. A native of Titan—come on out, fella! Come on: Want some candy?"

The furry, wedge-headed creature Griffin had already seen emerged. It jumped to the ground, stalked eyes wary.

"Phonk?"

"Candy, Jimmy! Come on." The girl gave Griffin a bit of chocolate, said, "That finishes the larder. Feed him and he'll be your friend for life. I'll get the gun."

She hurried into the ship, and Jimmy, after a tentative expansion of his balloon-like nose, hurriedly seized the candy and retreated, phonking with the air of one who has shrewdly outwitted an opponent. Griffin chuckled.

"Hi, Mister!"

It was Lang. He stood knee-deep in the underbrush a dozen feet away, his round face twisted with pain. He grinned crookedly.

"Found you at last." His gaze examined the wreck. "What's this?"

"A boat from the *Cyclops,*" Griffin said. "Where's the Selenite ship?" He watched Lang closely, but the other made no hostile move. Instead he made a tentative step forward, staggered, and nearly collapsed. A crude crutch under one arm supported him.

"Ankle's broken," he explained. "I—give me a hand, will you?"

Griffin hurried forward. Too late he saw his mistake. Jimmy phonked warning.

The crutch came up, and the lower end was sharpened. The improvised spear thrust straight at Griffin's unprotected throat. He tried to dodge, slipped and fell. Lang, no longer shamming lameness, sprang at him, the spear-point driving down.

To Griffin, flat on his back, the scene seemed to move with incredible slowness —the round face of Lang, looming against the purple sky, the sombre yellow foliage around him, the deadly weapon coming closer and closer. . . .

CHAPTER FOUR

The Cannon-Flower

A GUN barked. The spear shattered, was torn from the hand that gripped it. Lang almost overbalanced, but caught himself in time and, with a glance of startled amazement, leaped away. The underbrush swallowed him.

Quickly Griffin got to his feet, turned to see Frances Kirk standing by the ship, smoke coiling up lazily from the revolver she held. Her face was pale. Jimmy was hiding behind her ankles, his stalked eyes horrified.

"Thanks," Griffin said, and took the gun. "Brother Lang intends to play the Selenites' game, I guess."

"Looks like it," the girl whispered, her voice not quite steady.

A hollow booming explosion sounded from not far away, and a huge shadow darkened the summit of the bluff momentarily. Griffin glanced up.

"I'll have to keep my eyes open for him. It just makes things a bit harder, but—what was that noise, Miss Kirk?" A fantastic idea had suddenly flashed into his mind.

"The cannon-flowers—Captain Griffin." Her tone held amusement. "This is a swell place to be formal! Call me Fran."

"Okay. Spencer's the label . . . cannon-flowers? What—" Griffin's stare was watchful, but there was no sign of Lang. Abruptly he caught sight of the man far down the hill, near the river.

"Flowers as big as houses, almost. Those are their seeds you see flying around. They shoot 'em out, like some Earthly plants, and the seeds are built like gliders. The noise used to keep me awake till I got used to them."

"Yeah," Griffin said slowly. "That's swell. I've a hunch. . . ." He took out the rocket tube in his belt, eyeing it speculatively. "Do any of those cannon-flowers grow around here—not too close?"

"Why, yes. I'll show you—"

Frances Kirk led him down the other side of the cliff. It overhung the river at one spot, and, looking down, the girl shuddered.

"Those skippers—I'm afraid of them, Spence. They watch me whenever they can. Horrible things."

Griffin looked down. Rocks bordered the river at this point, and a horde of the tiny monsters was visible. Black dashes against the white sand, they were humping themselves along, rapidly climbing the stones, and diving head-first into the stream, where they vanished.

"Ever tried drinking that water?" Griffin asked. The girl shook her head.

"I didn't dare. Those fish were always too close for comfort."

"Just as well. There's something in it that increases the surface tension tremendously—so much that a considerable force is necessary to break it. The fish have to climb rocks to dive back in."

"I've seen things down there," Frances said somberly. "Huge shadows moving—and lights. The skippers swim in and out of the larger things. Lord knows what they are—ships, maybe, or alive for all I know."

The ground dipped, gave on to a shallow slope that led down to the river. Frances hesitated. A number of the voracious fish were humping quickly from the river. She said, "Hurry, Spence. I don't like the look of that."

The two quickened their steps. Even so, a few of the tiny monsters intercepted them, but were easily eluded. Two fish followed them for some distance, and finally a queer premonition of danger made Griffin turn. A few feet away was one of the creatures, staring at him balefully.

THE skipper seemed in distress. It was gasping and whistling; in the distance its companion was hastening back to the water. Suddenly one of the flexible pectoral fins curved, tugging at a long spine that erected itself from the black, glistening back.

Frances said, "Look out!"

The horrible little creature's gaze swung to her. It seemed to hesitate, then jerked the thorn out of its back and threw it. Javelin-like, the spine arched through the air, and Griffin jerked aside just in time to avoid it.

"So that's the idea!" he said grimly. "Well, I'll soon settle your hash." He picked up a stone.

The skipper gasped, writhed, and lay quiescent. Griffin flung the rock with accuracy. From the crushed creature's gaping mouth emerged a swarm of tiny, ameba-like organisms that oozed in a horde down the slope, back to the water. Frances shuddered; her slim fingers gripped Griffin's arm.

"Ugh! What on earth are those things?"

"I think—ever hear of the wood-roach?"

"Yes. What—"

"They eat wood. But they can't digest it directly, so they have in their alimentary tract a lot of protozoa that digest it for them. Maybe those fish can't digest their food, and keep a batch of protozoa, or something like them, to do the job. I dunno—it's just a guess."

"Ugh!" Frances said again, looking slightly green. "Come on. There's a cannon-flower near here."

It was gigantic—as large as a small room. But it grew in the shadow of a tree that dwarfed it, and was parasitic on the larger plant. The great bell-like mouth of the flower was fully twelve feet in depth, and much wider. Within it was the seed, a rod as thick as a man's body and ten feet long, with two stiff planes, vaguely reminiscent of a glider's wings, on the sides. At the base was a coil that served the purpose of a powerful spring.

"I think I get it," Griffin said. "When the seed's large enough, its weight trips the spring and it's shot out. You're right; a lot of Terrestrial plants use this trick. It may get us off Titan."

Frances stared at him. "Across space? You're crazy!"

"Well, not directly. Here's the idea." Swiftly he outlined his plan. The girl nodded dubiously.

"It's pretty dangerous. I'm not sure—"

"It's our only chance. If you'd rather stay here on Titan and dodge the skippers, okay."

"Lord, no! I'll do it, Spence—though you're the one who'll be taking the chances."

Griffin shrugged. The only part of the scheme he didn't like was the necessity for Frances returning to the lifeboat unarmed. But it was the only way.

First of all, Griffin opened his clasp-knife and tied it securely around his neck. It was necessary to search for strong, tough vines, but luckily there were plenty of these in the vicinity.

Griffin made a harness of the vines and tied it securely around his body. Then, after carefully measuring the distance, he climbed the tree that was the parasite's host and tied an end of a strong liana about one limb. The other end was knotted to his harness.

BENEATH him was the huge cup of the great flower. The seed pointed up at a slight angle—the "bullet" of the cannon-plant. A bullet that would soon be shot out to race through the thick atmosphere of Titan—with a human being riding upon it, as a man rides a glider-plane above Earth. Griffin let himself down hand over hand along the dangling liana. Presently he felt the spongy, pliant substance of the flower's rim beneath his feet. The plant bent slightly under Griffin's weight.

Very carefully he lowered himself further. Now he was within the flower's cup, the great rod of the seed spearing up beside him. The most difficult part of the task was yet to come. Griffin must bind himself securely to the seed without permitting his weight to press it down far enough to release the spring.

Without the liana Griffin would have failed, but the improvised rope held him suspended while he made himself fast to the monster seed.

At last he was ready.

"All set, Fran," he called. The girl was invisible to him now, but her anxious voice floated up.

"I'll hurry. Can you see all right?"

Griffin looked up at the sombrely dark sky, with Saturn low on the horizon. "Yeah. Good luck."

The girl raced away, carrying Griffin's rocket. The revolver was strapped securely to the man's thigh, and he settled himself to wait.

Yet when the signal came it startled him. He made a swift involuntary movement, and felt the seed stir ominously beneath him. He froze. Above him the signal rocket fled up, a blaze of red fire, a glowing path stretching down to the ground.

Would the Selenites heed it? Griffin thought they would, that their gambling-fever would make them anxious to learn the outcome of the game.

And a few minutes later the gleaming bulk of the spaceship swung into sight....

CHAPTER FIVE

The Human Projectile

GRIFFIN drew a deep breath, braced himself, and cut the vine-rope that held him suspended within the flower-cup. Simultaneously came a thunderous, deafening *boom* and a frightful shock of sudden acceleration that drove the blood from his head. Agony tore at every nerve. He fought to remain conscious.

But it was not easy—no! Griffin was, in effect, tied fast to a shell fired from a huge cannon. The shock was sickeningly intense. For a brief eternity the man felt nothing but black, horrible giddiness.

The great seed tore up through the air, at a steep angle. The stiff planes that grew from it, and the density of the air envelope, saved Griffin's life, keeping the seed from dropping too swiftly in spite of the man's additional weight.

He fought his way back to awareness. Air screamed in his ears; he caught a dizzy glimpse of the valley spread beneath him, a dim map of sulphur-colored forest, with a gleaming thread winding through it. Far in the distance Griffin caught the sheen of a broad, level expanse—a sea on this alien world? But he was never to know what lay beyond those enigmatical cliffs. For the glider dipped, fled down, and far to his left he saw the Selenite spaceship.

Griffin was bound tightly to the seed; he flung his weight desperately to one side. The weird craft swayed beneath him, arced in a long curve. There would be no means of climbing to regain lost altitude; he must gauge his distance accurately or fail. Somehow Griffin managed it, straining every muscle, sweating with the exertion Long years of experience battling air currents helped him.

The spaceship was below him now, and dead ahead. The seed would sweep over it, with ten feet or so to spare. Somehow Griffin must free himself from his harness and jump to the ship's hull—and there could be no second chance. Failure would mean certain death.

Swiftly Griffin cut most of the vines that bound him, made ready to slash the others.

The moment came; a desperate slicing of tough lianas, and he drew his knees up under him, preparing to jump. Death waited four hundred feet below. But the slight displacement of his weight brought the glider's nose lower; it dipped and raced over the ship with scarcely five feet to spare. Griffin leaped.

He slipped, fell on his side, clutching frantically at frail photo-magnetic cells, at metal rough and pitted with the heat of innumerable swift flights through atmospheres. The cells were countersunk into the hull, and on a new ship he would have inevitably slipped and fallen, but one hand slid into a hollow pocket, one foot found a niche, and he swayed and clung on the vessel's steep curve, weak with reaction.

He knew that his task had just begun. One thing was in his favor; the Selenites would not expect attack from above. If he could find and open a port . . . his calloused fingers touched the gun-butt.

The two ports on the ship's upper surface were locked. Griffin's face was grim. There was nothing to do, then, except wait until the vessel left Titan for the airless depths of space—or else jump to destruction. The bullets would not open the doors; the locks were on the inside.

VERY slowly the ship was grounding—something Griffin had not anticipated. It dropped down toward the summit of the bluff. He could make out the tiny form of Frances near the lifeboat's wreck, but soon the curve of the hull hid her from view. He hesitated, glanced around, striving to remember the positions of the side ports.

With a jar the vessel came to rest.

Crouching, Griffin waited. Frances was visible now; once her gaze flicked up to him, and then she lowered her eyes. But she moved aside several feet.

Telling him the location of the port? Griffin moved with her. Would the Selenites be curious enough to investigate?

Lang had said there were only two men in the ship, aside from Thurm and Elander. Five bullets were in the barrel of Griffin's revolver.

The back of a man's head, then his shoulders and torso, came into sight. Griffin recognized Elander's slender, feathered form. He slid down the hull's curve, trying to move silently. But the rough metal was treacherous. He dug his foot into a hollow and became motionless as his heel grated harshly, loud in the silence.

Elander had paused, staring around. One more break like that and—! Griffin forced his mind from the thought. Then he saw Jimmy.

The furry little creature was standing in the port of the wrecked lifeboat, watching him. Would the thing's stare betray him to Elander? Griffin half lifted his gun, eyes intent on the Selenite's back.

"Phonk!"

Perhaps Jimmy was more intelligent than Griffin had thought. Perhaps he was merely using his natural defence mechanism in the presence of danger. His bulbous nose swelled, obscuring the small wedge-shaped head, and the boneless hands swung up.

A bellowing thunder of boomings blasted out on the humid air. Jimmy was pounding his gourd-like proboscis like mad, emitting loud, whooping *phonks* as he drummed. With a deep breath of relief Griffin slid down the hull, the slight noise he made lost in the resounding clamor of Jimmy.

Cloth ripped from the man's back; agonizing pain knifed through him. He braced himself, fell through empty air, and dropped with a shock that brought him to his knees. But immediately he was up, facing Elander.

THE SELENITE had a needle gun. A deadly charge splintered on the hull beside Griffin as the revolver blasted. Lead, sent by a trained aim, smashed into Elander's face, blotting the faceted eyes and silvery scales with a mask of red. Before the Selenite fell Griffin wheeled and plunged into the ship.

Something burst on his chest; he held his breath as the first whiff of poisonous gas sent probing fingers into his nostrils. Fat Thurm was crouching behind a heap of cushions, a long tube leveled. Through another door came one of the crew; the faint rush of feet sounded in the distance.

Griffin leaped forward, free of the concentrated cloud of gas. With cold, deadly accuracy he shot the worker Selenite, traded bullets with Thurm and felt chill wind of death touch him as a pellet burst near his head and spattered him with flame-hot acid.

Only three more bullets.

One of them drove Thurm back against the wall, blood gushing from a gaping hole in the silvery throat, staining the varicolored plumage. The last Selenite squeezed the trigger of his weapon a half-second after Griffin's finger contracted, and the delay meant his death.

Had there been one more opponent, Griffin would have failed—that he knew. He stood swaying, the wind chilling his damp face, cheek and shoulder smarting with the pain of the acid-pellet.

Outside the ship Jimmy's drumming had died. Griffin stumbled to the door. "Okay, Fran," he said shakily. "Come on in."

She was at his side. "Spence! They're dead?"

"All of them. Yes."

The girl tried to smile. "I was afraid—look, down the slope. The skippers—"

From the river a black tide was crawling up. A dozen great tapering cylinders, with rows of whitely-shining discs along their sides, were beached on the sand. The fish were coming in a horde, thousands of them, converging on the ship.

With an inquiring *phonk* Jimmy hopped into the cabin. Griffin picked up a needle gun and, Frances at his heels, made a hasty examination of the ship. But it was empty now.

They retraced their steps. Behind them Jimmy *phonked* warningly.

"Wonder where the Lifestone is?" Griffin said. "Locked up safely, I guess. Here—"

They paused on the threshold of the room where the dead Selenites lay. The girl cried out softly. Griffin's hand flashed to his belt, froze as a cold voice murmured,

"Hold it, Mister! Careful!"

Felix Lang stood just within the port, smiling crookedly, the Lifestone a blaze of emerald flame in one hand. In the other he held a needle gun.

He said gently, "Before you can draw, I'll puncture you."

"You forgot—I'm a damn' clever little fellow. I waited my chance. I came in here, got the Lifestone from Thurm's body, and found his gun. I'll give you your choice. Do you want to die now, or shall I leave you here on Titan? Eh?"

Behind Lang Griffin saw movement outside the port. He hesitated, puzzled, and then realized what it was. Sheer reflex action made him shout:

"Look out—Lang! Behind you—"

HIS cry came too late. Lang caught his breath, cried out and whirled. The ground outside the ship was carpeted with a living blanket of the skippers. One leaped up, tried to squirm over the threshold. Lang kicked it back and slid the door shut; then he bent to extract a long, needle-like thorn from his leg.

His face was chalk-white. "Thanks," he said. "My mistake, Mister. I should have closed the port when I came in. They can't get through beryllium."

Lang dropped the gun, laid the Lifestone gently on a table. His fingers touched a key on the instrument panel, and the ship drove up with a shriek of cleft air.

He looked at the sharp, black spine. "Poisoned. It works quickly. I saw those little devils try it on some animal by the river, and death came in half a minute."

Griffin looked around, searching for medical supplies. "An antidote—permanganate—"

"No time. And you don't know what the venom is. Probably a neuropoison—" A shudder racked Lang's slight frame. He fell into a pile of cushions, and his hand went out to touch the green splendor of the Lifestone.

Griffin bent over him, vainly searching his memory for some remedy. Lang's arm dropped to his side. His lips were cyanosed and swollen.

"A smart chap like me. . . ." Suddenly the lurking devil flared up in the dulled brown eyes. The man's wry smile had in it the soul of rakehell madness that had sent Lang into the spaceways as an outlaw.

"Don't forget, Mister . . . the Venusians . . . have . . . a proverb. . . ."

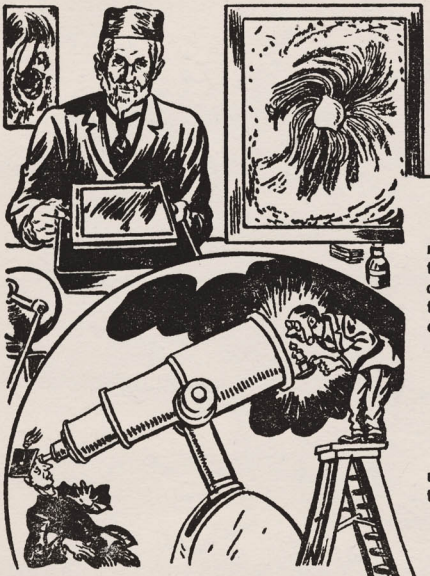
That was all. His dead stare was fixed on the Lifestone that gleamed with green fires of hell.

Griffin straightened, and his glance through a porthole showed the globe of Titan dropping away, already a tiny disk against a great Saturn.

The Sun swung into view, and Griffin headed the ship toward it. Frances came to stand beside him.

Out there, somewhere hidden in the icy splendor of the stars, was Mars, where the Desert Nations waited for their fetich. They would not have long to wait. For the Lifestone was going home.

TRUE - No Doubt!

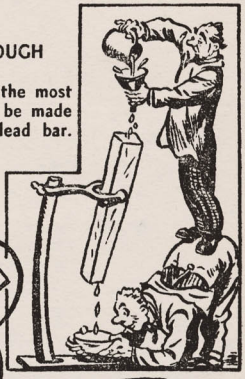


PORTRAITS OF SMELLS

Prof. Henri Devaux, a French scientist, has, through a novel technique, proved that smells are tangible quantities. By suspending the odoriferous source over a pool of talc-covered mercury the emanations, by repelling the talc and leaving clear mercury, form a pattern which is easily photographed.

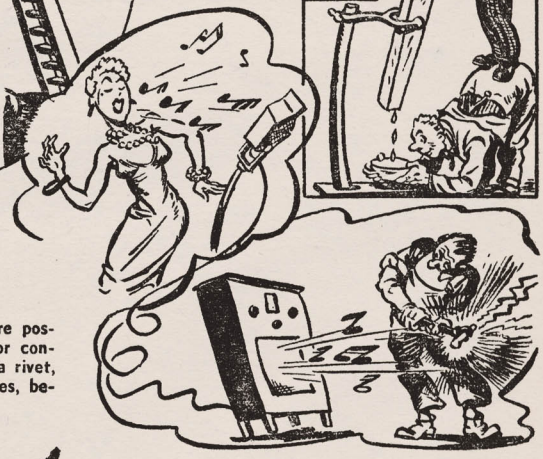
METAL FLOWS THROUGH METAL

Mercury or quicksilver, the most useful of our metals, may be made to flow through a solid lead bar.



EARTHLIGHT

An illumination, which apparently does not emanate from the sun, moon or stars, but is seen at night, varying in intensity, in all parts of the sky continues to puzzle scientists, who, for want of a more definite term call it EARTHLIGHT.



RADIO HEATS RIVET

An amazing demonstration of the future possibilities of radio as a source of power for construction work was made last year when a rivet, held in a concentrated field of radio waves, became white-hot in one minute.

PAINLESS DENTISTRY

Certain mushrooms still growing wild in Mexico furnished the anesthetic which enabled the Zapotec Indians to practice painless dentistry 1,000 years ago. The evidence, teeth beautifully inlaid with gold and other metals were recovered from ancient tombs.

Ancient Egyptians used anesthetics but produced oblivion by mechanical means.

AFTER THE PLAGUE

By Martin Vaeth

Jim Gleeson disappeared and a new man, the Titan Garth, was born. And after eleven years Jim Gleeson returned, to find a hemisphere devastated by the awful Red Plague, peopled by fugitives and savages.

A New Author to Science Fiction — With a Classic Story

JIM GLEESON, throttling the little seaplane's motor to a lazy drone, peered through his bomb-sight at the blue waters beneath. No tell-tale oil-streaks marred the sparkling sunlit waves. Jim grunted disgustedly. The chances of German subs in the Mediterranean were practically null and void, what with British destroyers keeping so close a watch at Gibraltar. This grinding back and forth between Algiers and Marseilles was worse than transport flying at home in the U. S. And he had joined the French air force for adventure! Perhaps his age was to blame. Eighteen was pretty young for a front line pilot, no matter how urgently the French needed them. When he'd been in the Mediterranean patrol long enough to prove his ability, no doubt they'd shift him to the western front. Meanwhile . . .

Jim glanced down. A strip of the Spanish coast was visible. He could make out a flat sandy beach, green fields, semi-tropical cork and olive trees. Jim swung seaward. No good violating Spanish neutrality. He'd drifted off his course while day-dreaming . . .

At that instant a sudden coughing of the motor broke into Jim's reverie. Frowning, he leaned forward to adjust the carburetor mixture. The sputter, however, grew worse, then abruptly the motor died. The

sea, five thousand feet below, rushed up to meet the plane. For perhaps thirty precious seconds Jim tried to revive the balky motor, then resigned himself to a glider landing off the Spanish coast.

A touch of the bomb release sent the four fifty pound missiles seaward, and four dull explosions churned the water. No danger of being blown to bits, now, if the landing was a crash. Jim nosed the plane down, attempting to glide, but the stubby wings gave little support. Face tense, the American watched the waves leap up toward him. And he had wanted the adventure, the excitement of the western front!

Faster and faster the plane dropped, as it lost forward momentum. Jim Gleeson unbuckled his safety belt. Too low now for a 'chute jump. But if he could make some sort of a landing near the coast, he might be able to reach the broad flat stretch of beach. In desperation, he swung the plane's nose shoreward. Groves of olive trees, grassy plains, distant villages . . . The wind was screaming through the seaplane's struts. Two hundred feet . . . a hundred . . . fifty . . . Nerves taut, Jim braced himself for the shock.

All at once there was a sickening jolt, a tearing, crunching sound, and a cloud of spray. One instant's recollection, Jim had, of trying to leap from the cockpit, then the world dissolved into wet darkness.

THE water, Jim realized dimly, was cold. Gasping, half-conscious, he struck out for shore. He had swum only a minute or so when his feet struck bottom. Dazed, he dragged himself out onto the sand, rubbed the water from his eyes.

And then Jim Gleeson had his first staggering shock. The sun-swept olive groves, the flat shore he had seen before the crash, were gone; he was standing at the base of a dark, frowning cliff . . . a cliff of gaunt, jagged rock, shadowy in the light of a pale, gibbous moon!

Like a run-down robot Jim stared up at the towering crags. Cliffs . . . moonlight . . . chilling cold . . . this was not the sunlit Spanish coast he had seen a moment before. He swung about, seaward, but there was no sign of the wrecked seaplane among the grey, dashing breakers. Had he been carried by some strange current, while unconscious, to this place? Jim swayed unsteadily. His head ached, and he could feel warm blood seeping down his face.

Still groggy, he stepped from the shadows into a patch of moonlight. He thought he heard voices . . . hoarse, inhuman voices . . . echoing from the bluff far above. But he wasn't sure. He wasn't sure of anything, except that he had miraculously survived the crash, was alive. Or, he wondered, was he?

Maybe he had been killed, and this place was . . .

"Garth! Oh, Garth! I . . . I thought they had killed you!" It was a girl's voice, vibrant with anxiety.

Jim wheeled. A lithe, slender figure was running toward him over the strip of sand at the base of the crags. A girl . . . but a girl the like of whom he had never before imagined. Slim, burnt to a golden brown, she was like some wild young Valkyr, hair streaming, a rude spear clutched in one hand. A curious garment, a sort of tunic woven from grasses, clung to her body; her legs and feet both were bare.

Jim drew a quick breath. Mad . . . he must be mad. And this must be a hallucination of his numbed mind. Then the girl's hand touched his arm in a swift possessive gesture and he knew she was flesh and blood.

"Garth! You're hurt!" Her gaze swung to the rocky crags. Red torches flickered at the top of the cliff. In their ruddy light Jim could see a horde of ungainly figures scrambling from ledge to ledge as they descended the precipitous wall of rock.

"Strang! And the rest of the Unclean Ones!" The girl cried. "Quick!"

Jim Gleeson squared his shoulders.

"I don't know which one of us is crazy," he said. "But I don't know you, my name isn't Garth, I never heard of Strang or the Unclean Ones, and I never saw this place before in my life! If you'll kindly explain just what this is all about . . ."

"Garth!" The girl's face went pale. "Oh! The blow from Strang's club, the fall from the top of the cliff, must have stunned you! Don't you remember me, Garth? I'm . . . Freya! Don't you remember we left the castle, came along the cliffs seeking game? And Strang and his men trapped us. You fought them off to give me a chance to escape. And when I reached the beach here, I saw you fall . . ." She gripped his arm, impatiently. "Hurry! They're coming! See!"

Jim followed her gaze to the cliff's face. The strange figures, torches waving, were swarming down the wall of rock. He could hear hoarse howls, furious shouts. Whoever or whatever they were, they seemed hardly pleasant company. Jim shot a glance at the strange girl, made a quick decision.

"Right!" he said. "Let's go!"

"Ah!" The girl Freya nodded. "That sounds like you once more! I was afraid perhaps . . ." She set out along the beach in a swift loping run. "We can follow the sea's edge until we reach the patch leading to the castle. Once we join the others, we'll be safe . . ."

TO JIM this was all meaningless, but he attempted to keep pace with the girl. The wound on his head, the loss of blood, however, had weakened him. After a few steps he began to stagger, gasp for breath. Behind them, the weird figures, their torches casting strange sprawling shadows, had reached the foot of the cliff, were racing across the sand with harsh cries of triumph.

"Garth!" Freya turned in time to see Jim stumble, fall. "You must go on! Must! They'll take us to the ruins, and we'll become like them . . . unclean!" She bent, tried to lift Gleeson, but his weight was too much for her.

Jim shook his head. Things got madder every instant. These dark, desolate crags, the slim, wild girl, the howling band running toward them . . .

"Thanks for trying to help me, kid," he muttered. "Whoever you are, you're tops! Better light out, save yourself. Those guys look like they mean business."

For a long moment the girl stood motionless, spear in hand, hair flowing over her shoulder, like some legendary goddess of the wood. The Unclean Ones were scarcely a hundred yards away. Suddenly Freya turned.

"I had thought to stay and fight for you, Garth," she murmured. "But it is wiser to tell the others, bring them to your aid. Remember, so long as you are in Strang's hands, eat or drink nothing! And above all, beware of the red moss! I will bring the others as soon as I can!" She bent, touched Jim's forehead with soft, caressing lips, then sprang to her feet, ran lightly, swiftly, along the beach.

As the girl took to her heels, shouts of rage broke from the advancing horde. Spears, arrows, a rain of missiles flew after her. A stone struck her shoulder; she stumbled, but kept on, heading for a break in the cliffs some distance away. Gaining the gorge-like opening in the wall of stone, she turned to the right. An instant later she had left the pale moonlight of the beach, disappeared in the darkness.

AS THE girl vanished, the crowd of wild figures gave up the pursuit, straggled back to where Jim lay. In the flickering light of the torches they seemed weird phantoms, hardly human. Tattered nondescript clothing, partly rags, partly skins of beasts; weapons ranging from

clubs to rusty knives; drawn, parchment-yellow faces obscured by beards, matted hair. Nightmare creatures, Jim thought, with their saffron-colored skins, their wild feverish eyes; their bodies, he noticed, were covered with festring, running sores.

One of the strange figures, exuding a terrible stench of decay, prodded Jim with his spear.

"Garth!" he grunted. "Garth who has cost us so many men! Let us kill, Strang! Now!" He drew back the rude weapon.

"No!" A tall, powerful man, seemingly less eaten by disease than the others, thrust the spear aside with a hairy fist. "I have other plans." He turned to Jim. "What have you to say?"

"I—I don't know what youre talking about." Jim gazed in horrified fascination at the grotesque, hideous group. "My name's Gleeson. And if you'd only tell me where I am, and why . . ."

"Hah!" Strang's yellow face broke into a savage grin. "He hopes to save himself by tricks! No use, Garth. We know you. Many of us bear the scars of your arrows. And now you are ours!"

A murmur went up from the others, standing like shaggy apes in the moonlight.

"Let us kill! Kill!"

"Listen first to my plan." Strang laughed harshly. "Garth is a great hunter and finds much game. Let us take him to the ruins, inland where the red moss grows. Soon, then, he will become like us, unclean, and his own people will not allow him to return to them, for he woud bring the slow death to their highlands. He will be forced to join us, hunt with us, and his cunning will bring us much food."

At mention of food a low growl of assent went round the circle of wild faces.

"Strang is right! He is wise! Let us take Garth to the ruins!"

Jim shook a dazed head, wondering when he would wake up. But roughened hands, dragging him erect, told him that this was no dream. Prodded forward by spears, he stumbled along with his captors.

The mad band followed the beach for a short distance, then turned into the break in the cliffs that the girl had entered. Here was a deep gully, the bed of an ancient river, leading inland. As the sea disappeared behind them, the country became rolling, fertile, dotted by clumps of trees, small streams. Traces of human life were evident . . . hedge rows, all but buried beneath weeds and vines; cleared fields, where in times past crops must have been planted; crumbling, blackened walls, that marked some ruined cottage. Jim stared, wondering. The lush new masses of vegetation, the growth of young saplings, showed that no great length of time had elapsed since this was peaceful farm land.

Strang and his nightmare band had extinguished their torches, were glancing warily from side to side as they advanced. In spite of their sore-ridden yellowish skins, their matted hair and beards, Jim could see that they were of every European type. Here a broad-faced Slav, here a sharp Latin profile, here stolid Teuton features. Yet all seemed bound together by a common bond of disease and savagery. Again he went back in his mind to the seaplane crash, but it offered no explanation. If he only knew where he was, who these people were! And this Garth, for whom they had mistaken him . . . and then there was the girl, Freya . . .

A shout of excitement from the Unclean Ones interrupted Jim's reflections. They had quickened their stride, were pointing ahead. Jim followed their gaze. Before them, in the moonlight, lay a great mound, a heap of rubble. As they drew nearer, Jim drew a quick breath. The great mound was the ruins of a city!

AS AN aviator Jim Gleeson was not entirely unfamiliar with ruined cities . . . but he had never even imagined such destruction as this. It seemed as though

the city had been picked up and then thrown down again. Piles of brick-dust, splintered wooden beams, fragments of glass and slate, bit of plaster and iron. Streets, homes, public buildings . . . all were obliterated. Nothing remained but pulverized wreckage.

Stranger even than the desolated city was the growth that covered the debris. From a distance it seemed almost as though the city had been drenched in blood. On closer inspection, however, it proved to be a fine, fungus-like stuff, brilliant crimson in the moonlight, that clung in great patches to the ruins. Suddenly the unknown girl's words crossed Jim's mind. "So long as you are in Strang's hands, eat and drink nothing. And above all, beware of the red moss!" The red moss! Jim glanced at the patches of crimson fungus, began to walk warily, avoid touching the queer growth.

His captors seemed heedless of the stuff, trampling through it with bare feet, disregarding the crimson clouds they stirred up with every step. After perhaps ten minutes clambering over the heaps of rubble, firelight gleamed ahead. Jim could see a cleared space in the ruins. Before the fire were wild figures, women for the most part, as parchment-skinned and sore-ridden as the men. At Strang's call they ran forward.

"Garth!" they whispered. "Garth the great hunter! Captured!" Hatred and triumph gleamed in their sunken eyes.

Strang turned to his captive.

"Listen to me, Garth," he said. "For years you and your band have despised us because we were unclean, while on your highlands the strong winds from the sea keep the red spores from reaching you. Now you shall become one of us, and your own people, even Freya herself, will fear you, make you an outcast. Sooner or later hunger and thirst will force you to eat and drink! And when you do, Garth, you will be our comrade!"

Strang laughed, waved Jim away.

Two of the wild creatures stepped forward, led their captive toward the ruins of a house. Completely gutted, four ragged walls remained upright to form a rude enclosure. Its door had been destroyed, but the guards drew a battered metal grating across the opening, lashed it into place with strips of rawhide. Head aching, stunned by the strangeness of it all, Jim Gleeson crouched upon the ground, peered through the grating at his savage captors. He could see them, men and women, grouped about the fire, roasting squirrels, birds, on sticks. Jim shook a weary head. There had to be an answer to all this. Had to be! What had Strang meant by saying he would soon be their comrade? Jim studied their yellow skins, their leprous bodies, uneasily. Could it be that he, Jim Gleeson, was to become like that?

One of his captors was approaching the ruined house, carrying a rusty pan filled with water, two partly-cooked pheasants. These he thrust beneath the grating. Jim eyed the food and water ravenously. The girl had warned him not to eat or drink. Tiny flecks of the everpresent red fungus were visible on the meat and on the surface of the water. But what difference did it make? In the end hunger and thirst would drive him to taste the food and drink. Why torture himself when he was bound to yield in the end? Jim lifted the pan of water . . . and then almost dropped it in amazement. Brilliant moonlight poured through the open roof of his prison, making a mirror of the water. And the face reflected in the water was not his own! The rounded, rosy face that had peered back at him from the shaving glass in the barracks at Marseilles was gone . . . in its place was a strong, bronzed countenance, with hair and beard almost equalling that of Strang's followers. The features of a man of twenty-eight or thirty, rugged, determined, with no hint of Jim Gleeson about them.

"Good God!" Jim whispered. For the

first time since emerging from the waves, he glanced at his clothing. Rags, pieced together by woven grass, similar to that which Freya had worn. All desire for food and drink suddenly left Jim. He slumped to the floor, head between his hands. One question kept hammering through his brain. Who was he? Was he Jim Gleeson, American aviator in the service of France? Or was he the mysterious Garth, mighty warrior in this mad, desolate land? For long minutes he sat there, stunned, trying in vain to piece together this insane tangle of thoughts.

Outside he could hear the Unclean Ones talking, in a series of grunts and slurred monosyllables. Now and then he thought he could make out words of French, German, and what sounded like Russian. Strang alone seemed familiar with English; the others communicated by means of gestures and a few simple words in the language of their leader.

ABRUPTLY Jim stood up, began to poke about the heaps of rotting wood and plaster that lay upon the floor, in hopes of finding something that might serve as a weapon. If he could get free of this place, find the girl Freya, who seemed so devoted to him, he might learn something that would explain this crazy nightmare.

All at once Jim noticed a dark object in the wreckage. Clearing away the dust, he saw that it was a worm-eaten wooden box. As he lifted it, the box fell apart, and a mass of mouldering paper fell out. A book . . . a diary! Brown, stained, hopelessly obliterated in spots, parts of the writing were nevertheless legible. Fingers trembling, Jim picked up the papers, began to decipher their blurred script.

". . . end of civilization," he read. "But how could we have known? How? We'd been through the war of 1914. That had been a terrible barrier, but we'd hurdled it. This one of 1939 seemed a higher barrier, but we didn't dream of falling. Now, as I crouch here in the ruins of Perth, my body a mass of sores, half-starved, I can see nature triumphing over all our great works. Weeds covering the rubbish, earth returning to earth."

"I do not know why I write all this. The last defiant gesture of a civilized mind, perhaps, before I become a savage, hunting, fishing, for my food. Some archaeologist of the future may discover this record, learn our history. And to think I can remember cinemas, radios, automobiles . . . it seems ages ago. I can even remember the cause of the war. Most of the others have forgotten that. I recall how the madness spread to engulf four continents . . . Europe, Asia, Africa, Australia. Spreading, spreading, like a disease. Mary and the boys, gone . . ." Mildew blotted out the rest of the paragraph like a shroud.

". . . from Germany the first of the terrible inventions that ravaged the world—the so-called neutron rockets. Rockets with a range of a thousand miles, carrying great loads of uranium, which, touched off by a stream of slow neutrons, disintegrated. The breakdown of the atoms of uranium released forces the like of which the world had never conceived. The first day thousands of them fell on Scotland alone. Cities levelled, millions killed, entire areas devastated. Whoe rows of buildings flying apart, raid shelters turned into slaughter houses . . . And we who fled to the hills could see it before our eyes. Watched, stunned, deafened, helpless, as our world fell victim of the science which had made it great.

"We became furious beasts, mad for revenge. And when we found one of their rockets, a dud, learned the secret, we had vengeance. How we manufactured them under the rain of death, I do not see. Then came our own rain of rockets, released on the enemy. I saw the soldiers carrying them to the cliffs—long cylindrical things, big as airplanes—firing them in a burst of

flame toward Germany. And I cheered! Cheered, hoping the family of the man who had fired the rocket that killed Mary and the boys, would also be killed. Beasts—that's what war made of us. Perhaps it is only right we should now be reduced to the level of beasts. But even beasts only to kill to eat.

"Then the enemy, madder even than we, sent over rockets filled with the red spores; the fungus spread like wildfire, entering the human system, inducing insanity, slow, revolting death. Even in peacetime the plague would have been difficult, perhaps impossible, to check; all that's deadly in the microbe world was in that one terrible culture. With our hospitals blown to bits, our civilization broken down, what chance had we? At Inverness I saw three hundred corpses, soaked with gasoline, burned. It did not shock me. I have felt nothing these past years."

"Such folly! They must have known we would fire the red spores back at them. The funeral pyres at Berlin and Vienna were even higher than ours. And men were praying, praying before the Prince of Peace, for victory! How could there have been victory? Civilization caught in its own machines, destroyed by its own inventions. Cities, factories, mines . . . all the works of man, wiped out by the neutron bombs. Engineers, doctors, scientists, killed or scattered about the wilderness of four continents."

"We know now that the war stopped months ago. There are only armed bands, mad from starvation and disease, ravaging, pillaging. No one won—everyone lost. There is nothing left—nothing. Ruins and unburned corpses. Groups of men Teutons, Slavs, Mongols, all races—wander about the barren wastes. Some have crossed the channel in fishing boats, seeking food. Europe, Asia, Africa, Australia are all the same. Savage, bestial, scraps of humanity, rotten with disease, roaming the ruins. We few scattered survivors of the civilian populace can offer no resistance to them. In a year or so all life will have yielded to the plague, and there will be only forests, wilderness."

"There were rumors, months ago, that the Americas still survived, untouched by this horror. When the red spores first appeared, many persons seized such ships as remained, tried to reach the western hemisphere. But the Americans had heard of the plague, and their fleet, 300 miles off shore, intercepted all refugee ships, warning them to turn back or be sunk. Heartless! But necessary if civilization as we knew it is to survive."

"As I write, I can see the ruins of Perth, fires still raging among the debris. The earth seems to have been razed, swept clean. The red fungus lies like great splotches of blood upon the rubble. The smell of decay is unbearable. A few half-starved, plague-eaten figures paw hopelessly among the wreckage, just as I do, in search of food. This is civilization in 1948. What might it have been if science had worked to create, rather than destroy? God grant that America . . ."

THE diary fell from Jim Gleeson's nerveless fingers. Nineteen-forty-eight! And the book, from its appearance, must be at least two years old! Which would make this the year 1950! Somehow he, Jim, had gone forward in time? Or had he? Memory of that bronzed, bearded face reflected in the water-bowl assailed him. The face of a man of twenty-nine, rather than that of a boy of eighteen. Eleven years . . . ! To have gone forward in time would have brought no such changes . . .

Again Jim's eyes turned to the faded papers. Bands of soldiers of all nations, reverting to barbarism . . . that would account for Strang and his followers. And the plague, the deadly culture of the totalitarian laboratories! Yellow skin, crazed minds, rotting flesh! When hunger and

thirst had become too strong for him, and he partook of the spore-laden food and water, he, Jim Gleeson, would become one with those leprous, mad creatures!

In desperation Jim hurled himself against the grating. The rawhide that held it in place did not give, while the stolid guard, leaning on his spear, gave only a grunt of derision. The ruined city was pallid in the moonlight; the Unclean Ones, having eaten, now lay before the fire, asleep. Jim clung hopelessly to the grating. Already, perhaps, he had breathed in the deadly spores . . .

A swift hissing sound brought Jim to his feet. The guard, an arrow projecting from between his shoulder blades, toppled silently to the ground. A moment later a slim, dark-haired figure had emerged from behind a pile of rubble, ran softly toward his prison.

"Garth!" she whispered. "Fear of the red moss keeps the others from entering the city! They wait beyond the edge of the ruins! If we can reach them, we will be safe!" She drew a knife-like fragment of glass from her belt, began to saw away at the rawhide that held the grating in place. Jim, watching her, suddenly squared his shoulders.

"You're crazy!" he muttered. "Any minute now you'll breathe in the spores, swallow them! I'm probably infected with the plague already. Beat it, kid, while you can! I'm not worth all this!"

The girl paused a moment, looked long at him.

"Have you forgotten, Garth?" she murmured. "Forgotten that I have promised to be your mate?"

Jim stared at her hopelessly. This girl—promised to be his mate! He shot a glance at the fallen guard, the snorring figures about the dying fire, then returned his gaze to Freya once more. Sight of her slender body, etched in moonlight as she bent over the fastenings of the rude door, set his heart leaping. Why try to be Jim Gleeson, quiet young aviator of 1939? Why not be the Garth of this primitive, war-ruined land—Garth, the great hunter, the mate of Freya, the enemy of Strang? A swift exultation swept over him. He watched the severed strands of rawhide part, thrust the heavy grating aside with his shoulder. With a clang it fell to the ground. At once the figures about the fire sprang to their feet, Strang's voice, thick with sleep, roared angry questions.

Jim snatched up the fallen sentry's spear. A deep-throated shout of defiance broke from his lips. Freya, glancing at him, smiled.

"It is again Garth who speaks," she exclaimed. "Garth the warrior! Before this, I was afraid . . ."

THREE of the wild-eyed figures had hurled themselves upon Jim, clubs raised. He drew back the spear, surprised to find that he handled it with the ease of long experience. Like a striking snake it licked out, and one of his enemies fell, transfixed. In almost the same instant Jim had wrenched the spear free, lunged at the second of his opponents, ripping up the man's yellowed arm. Quick as he had been, however, the third of the Unclean Ones had had time to aim a murderous blow at his head. Just as the club was about to descend, Freya's bow twanged, and the hideous figure slumped to the ground, clawing with blood-stained fingers at the arrow that projected from his chest.

"So," the girl murmured, "they will hesitate before they attack again. Quick, Garth! Follow me!"

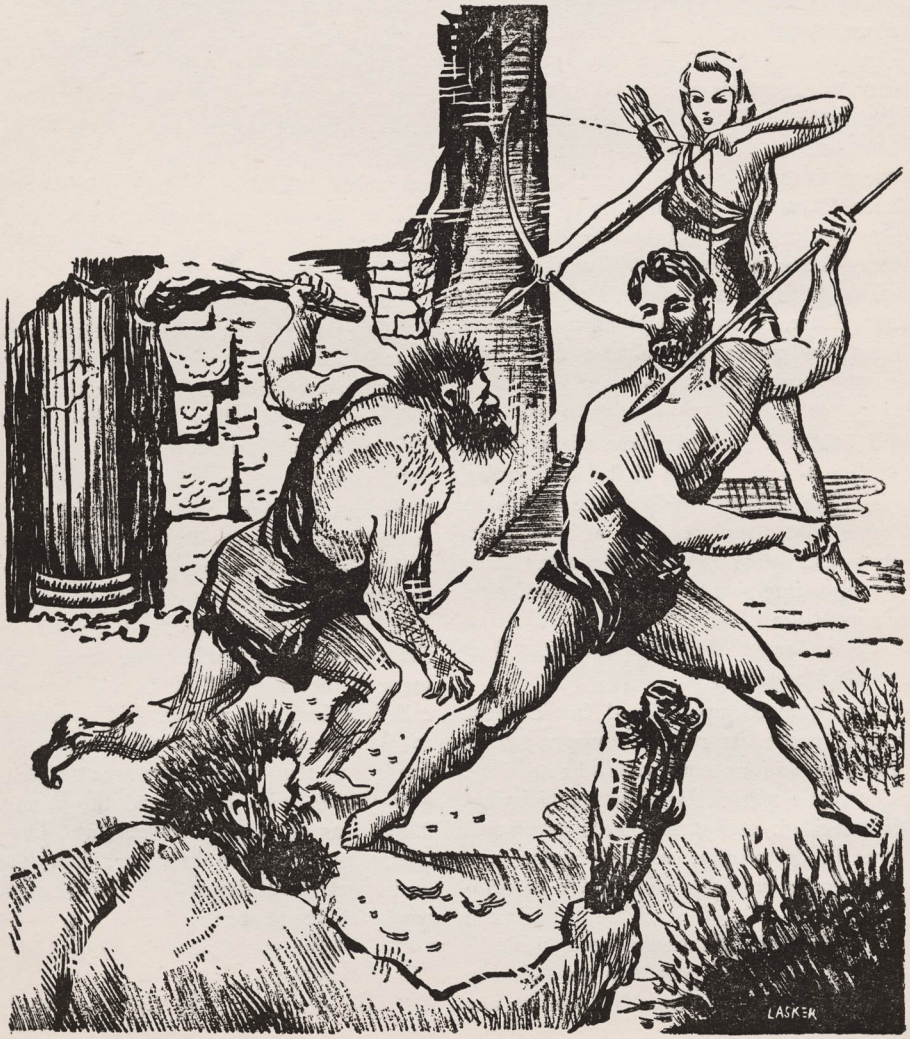
Then they were running over the heaps of debris that made up the ruined city. In the brilliant moonlight Jim could see pathetic reminders of the past scattered among the mounds of shattered stone. Here a pair of spectacles, miraculously unbroken, here a smashed doll, here a skeleton fist, still clutching a faded banknote. No chance, now, to study the ruins of Perth.

Strang's men were racing furiously in pursuit. From time to time Freya turned, sped an arrow at the Unclean Ones, and in most instances her shots were greeted by renewed shouts of rage. Desperately the fugitives ran onward, avoiding the patches of red fungus, keeping as much as possible in the shadows.

Jim's momentary burst of strength, however, faded fast as the effects of the past few hours began to take their toll. Strang and his motley crew were gaining rapidly. Freya, her supply of arrows exhausted, called words of encouragement, but the rough going over the litter of stones and rubble, the eternal side-stepping to avoid the omnipresent red spores, slowed their flight. As they reached the outskirts of the ruined city, the Unclean Ones were scarcely a dozen yards behind. Jim could hear their heavy breathing, the thud of their feet. He felt himself stagger.

"Only a little further!" Freya panted. "In the darkness beyond the city . . ."

Jim shook a hopeless head. They'd never make it. In another moment . . .



But at that instant something happened. Shadows flickered in the underbrush ahead, bows hummed. Two of their pursuers fell, wounded, the rest dove for shelter in the ruins. Stumbling onward, Jim and Freya reached the grove of trees beyond the ruins. Four figures ran forward to meet them.

"Garth!" A lean bronzed youth, clad in woven grass, seized his arm. "Safe! Help him, there, you women! We must reach the castle under cover of darkness!"

Freya and a sturdy, yellow-haired girl ran to help Jim, while a third girl, a slim, tanned dryad, led the way. The two men, hardly more than boys, brought up the rear, spears ready in case of an attack by the dwellers of the ruins. Jim studied his companions. None of them seemed to be over nineteen, yet all were muscular, burned brown as though from a life of constant exposure. Both of the boys bore scars from old battles and carried their spears with the unconscious ease of long experience. Silent, treading carefully to leave no prints, they made their way through the thick woods.

IT WAS almost two hours later when Jim felt the salt air of the sea fanning his cheek. Emerging from the woods he found that they were on a high rock-strewn moor overlooking the ocean. For the first time since leaving the razed city, Freya spoke.

"See, Garth!" she said, pointing. "Now we shall be safe!"

Jim glanced up. Ahead lay a great ruined castle, its roof and upper towers gone, but its four stout walls still standing. The castle of some ancient feudal baron, Jim decided, eyeing the grey, hoary walls. Yet its destruction seemed recent, and there were evidences of modern furnishings.

Jim followed the others across the half-filled moat, found himself in an enclosure of four fire-blackened walls. Against one of the walls a rough lean-to of charred beams had been constructed, under which several heaps of straw and a few battered pieces of crockery, lay.

"Safe!" One of the bronzed youths swung a rude timber barrier across the entrance. "Now let Strang come! How do you feel, Garth? We'd given you up for lost until Freya brought us the news."

Jim stared at the speaker. Somehow they seemed to know him. Once again the feeling of living a dream gripped him. Who were these lithe young pagans? And why did they insist on calling him Garth?

"I . . . I'm very grateful to you all," he said. "But if you'd only tell me who you are . . ."

Freya's face went white.

"Don't you remember, Garth?" she whispered. "Eric and Paul. And Mary, Elaine. Don't you remember nicknaming me Freya because, you said, I was like a goddess of the woods?"

Jim shook a hopeless head.

"I'm sorry," he said. "But it's all new to me. Tell me about it . . . tell me everything you can remember. Maybe then. . ."

The dark boy whom Freya had called Eric, frowned thoughtfully.

"I was the oldest," he murmured. "I remember big cities, and automobiles, and so many little things, like books, and toys, and tools, and ornaments. So many little things and different words for each, that I've forgotten most of them. Then one day there was a lot of excitement, people crying and cheering. All about a thing they called Hitler. And mother said I must go to the country because there might be 'raids'. So they brought me here to Lochgair Castle, with Freya and the others. There was old Lord Lochgair, and Jane, the cook, Martin, the chauffeur, Knott, the butler, and you. Remember, Garth? You worked in the garden . . ."

"Me?" Jim stared at the circle of faces. "But . . . but . . ."

"Jane, the cook, told us about you,"

Freya interrupted. "She said the people in Spain sent you here because you spoke English. And Lord Lochgair took you on because able-bodied men were scarce, with so many away at the place they called 'The Front'. They talked a lot about the 'Front'. Jane said you would be sent there, too, only you had something they called annesia."

"Amnesia!" Jim straightened up. So that was it! The crash off Spain had wiped out his memory—and the blow from Strang's club, knocking him into the water at the foot of the cliffs, had restored it! Eleven years of his life blotted out! What had he done in that time?

"What . . . what happened next?" he muttered.

"We called you Garth because there was a 'G' on your belt buckle," the girl went on. "They said no one knew your real name, but Garth sounded sort of strong and rugged. Sometimes old Lord Lochgair blew a whistle and we put things over our faces and ran into the cellar, where the workmen were building a big cave. Jane said that was raid-practice. I was seven years old then, I remember, and the others, six. Except Eric. He was eight. Then one day Lord Lochgair blew the whistle and nobody laughed about it like they did before. That was the first time we heard the 'bangs'. But after that there were 'bangs' every day, sometimes loud, sometimes faint. We got used to them. Sometimes we would come out of the cellar and find big holes in the lawn that made fine wading pools when it rained. But we didn't get out much because there were 'bangs' every day. Then Martin, the chauffeur, and Lord Lochgair, left for town to buy food, and they never came back. A few nights later there was a 'bang' . . . an awful loud one . . . and the castle caught on fire. You got us out in time, Garth, but we never saw Jane or Knott, the butler, any more. And that left just the six of us."

"Good God!" Jim shook an unbelieving head. Air-raids, neutron rockets . . . and five children left in his care! "What next?"

"I . . . I'm not sure." Freya glanced appealingly at the others. "Sometimes there were a lot of 'bangs' and we stayed in the cellar and you told us stories. And once you tried to reach Perth, but found that the red moss was there. And you told us always to stay here on the highlands, where the wind from the ocean kept the spores from drifting. You hunted, set traps, fished, and taught us how to do the same. We managed to live well enough that way."

"Yes," the boy Paul interrupted. "They were good times. We made bows and spears, hunted about the ashes here for knives. You taught us how to swim in the sea. There was always plenty of nuts and berries when we couldn't get fish or game. And we never left the cliffs because of the red moss. At last even the 'bangs' stopped, and we had nothing to worry us. Then one day Strang and the Unclean Ones came. They fought with us when we went out to hunt. So we stayed close to the castle here and ran for shelter when there were too many of them. But yesterday when you and Freya were out hunting, Strang surprised you, made you a prisoner. That was the first time in eleven winters that we did not have you to guide us. It is good to have you back."

WHEN they had finished speaking, Jim Gleeson stared with brooding eyes into the fire. Eleven years! He was now twenty-nine! And these youngsters . . . eighteen or nineteen. They had spent eleven years on this desolate Scottish headland, living like savages, under the tutelage of a man whose memory had been wiped clear. Europe, devastated by neutron bombs, sown with the deadly red spores, was a wilderness. Crops overgrown, buildings bombed or falling into

decay, all of man's proud inventions lost. The great war to give the world the blessings of totalitarian culture, or democratic teachings. And this was the result! In his imagination Jim could see the rich fields of Europe, the vast plains of Asia, desolate, except for a few disease-ridden nomad bands, more savage than the beasts. Africa in the hands of the fierce natives once more . . . Japan, Australia, devastated wastes where the red spores preyed upon the handful of barbarous survivors. Only the Americas, strictly protected by their cordon of ships, remained untouched. He, Jim Gleeson, the leader of this 'tribe'! What escape was possible for them? Sooner or later they must fall prey to Strang, or the terrible red fungus. Even should they escape death, they would be doomed to savagery . . .

A hoarse shout from outside the ruined castle broke into Jim's thoughts. The five refugees sprang to their feet, grasping bows, spears.

"Strang and the Unclean Ones!" Freya cried, running to the gate. Out on the moor, shadowy in the pallid light of dawn, stood a score of shaggy figures!

"Garth!" Their huge leader cried. "Let me speak with Garth!"

Jim mounted a heap of shattered stone, stood there, spear in hand. Eric and Paul, arrows fitted to their bows, stood beside him.

"What do you want, Strang?"

The leader of the renegade band raised his hand.

"Our women are old, eaten by the plague," he cried. "Give us Freya and the other two, and you'll not be harmed."

Jim stared at the yellowed, sore-ridden figures. Freya and the other two girls to become the mates of these spectres! He laughed harshly.

"Come and take them!" he cried.

A flight of missiles from Strang's followers was his answer. Jim leaped down just in time to avoid being hit.

"Let them waste their arrows!" Eric said scornfully. "These walls are strong enough . . ." He wheeled, staring.

An arrow had looped high over the wall, rattled upon the flags. Attached to it was a rude leather bag . . . a bag which, on landing, disgorged a cloud of red, feathery particles.

"The plague spores!" Jim cried, dragging Freya back.

AT THAT instant another of the queer "bombs" dropped into the castle, followed by another, and another. The high walls, their protection against Strang and his men, were fatal now, for they cut off the strong sea breeze which would have blown the spores away. A cloud of the crimson lint was rising, while swift-growing patches of it began to form on the damp stones. Jim glanced at Freya's vibrant young form, shuddered at recollection of those terrible, decaying women at Strang's camp.

They also might have been young and beautiful, before the red spores claimed them.

"Better to go out, die fighting," he exclaimed, moving toward the gate, "than to rot slowly away with the plague!"

"No!" Freya and Elaine were tugging at a ring set in the floor. "Have you forgotten the raid shelter, Garth?"

Under their efforts a square trap-door of massive oak beams swung open, revealing a flight of stone steps.

"Quick!" Eric dodged one of the spore-laden missles, leaped for the opening. "Down!"

Blindly Jim followed the others down the stairs, lowered the trap door into place, slid home its massive bolt. Hardly had he done so when there were faint shouts above, a rain of blows upon the door. Then the six fugitives were racing downward, descending interminable stone steps.

Jim, groping through the darkness,

swore softly. These orphans of the war seemed to look to him for leadership. If he had remained Garth the primitive warrior of this blighted land, he might have had some plan to save them. But now, amnesia gone, he was only a bewildered aviator, with no knowledge of cave-man tactics of fighting. And the oaken trap-door must yield in time before Strang's assaults . . .

Suddenly Jim saw light ahead . . . pale, dawn-light. In the distance he could hear the slap of waves. Emerging from the corridor, he gave a sudden gasp of amazement. They were standing on a sort of rocky ledge at one end of a huge cave in the face of the cliffs. Except for the ledge, the entire floor of the cave was water, rolling through a broad, low opening from the sea beyond. The cave was thus a sort of covered harbor cut into the wall of rock.

STRIKING as this grotto was, it received only the briefest attention from Jim Gleeson. His gaze was fixed on a sleek, graceful shape moored against the ledge . . . a big, sports model seaplane!

"A plane!" he exclaimed. "How on earth . . ."

"Don't you remember, Garth?" Freya said. "This was the machine Lord Lochgair had in case things got too bad and we had to leave. Martin, the chauffeur, ran it, but Martin was lost along with Lord Lochgair. And you didn't know how it worked . . ."

"Didn't know how it worked?" Jim cried. "But . . . I . . . I'm an aviator." Realization swept over him. The blow on the head, the amnesia, had knocked all knowledge of aviation out of him! Eleven years, with a plane at his disposal, and he'd forgotten how to fly! And now, his memory restored, it was doubtless too late . . . A burst of triumphant shouting echoed along the corridor.

"Strang! The Unclean Ones!" Eric shouted. "They've forced the door!"

"Quick!" Jim motioned to the entrance of the corridor. "See if you can hold them back! There's a chance . . ." He ran toward the bobbing seaplane.

Eric, Paul, and the three girls took up positions at either side of the doorway. Jim, climbing onto the seaplane, saw a yellow-skinned, wide-eyed figure dash forward, club raised, saw him fall before a spear-thrust. Another, following at his heels, met the same fate. Eric and Paul brandished their reddened spears with shouts of triumph.

Jim tore at the plane's motor cover, opened it. A heavy layer of grease had protected the engine; the wiring was badly corroded, the plugs fouled. There were rusty tools in the cabin, but the job promised to be a lengthy one. With a shout of encouragement to the defenders of the door, he commenced work. Plugs to be cleaned, fuel lines blown open, wiring checked. On the ledge beside the plane were several sealed drums of oil, gasoline. He opened one of the latter, used the gas to dissolve long-dried grease.

As Jim worked with franzied haste, Strang's men tried two more rushes to force the doorway, both of which were in vain. The girls, fierce young Amazons, ran to the aid of the men, hurling stones at the attackers. Once, too, Strang had tried the trick of throwing the deadly spores, but Freya, scooping up handsful of water, had washed the stuff into the rocky basin. Smeared with grease, fingers torn, Jim labored over the ancient motor.

After the attempt to force the entrance to the grotto by means of the fungus, the Unclean Ones had been quiet. Minute after minute slipped by and Jim began to see hope ahead. The wiring system was completed, most of the dried grease cleaned away. There remained only a half-hour's work. If they could hold off Strang that long . . .

A sudden cry from the passageway drew Jim's gaze. The Unclean Ones had re-

turned to the attack. And this time they were carrying before them rude shields of branches bound together by rawhide, each as tall as a man's head. In vain Paul and Eric stabbed at the shields; secure behind their bucklers, the attackers pushed out onto the ledge.

Shouts, cries of exultation, filled the grotto. Eric fell back, a gash across his shoulder. Elaine dropped as a stone struck her forehead. Jim could see Strang's leprous, brutal countenance peering above his shield. Stabbing, hacking, from behind their protective wall, the Unclean Ones crowded into the cavern.

"Garth!" Freya, retreating in desperation, shot a glance toward him. "Garth!"

Jim groaned. The defenders, falling back along the ledge, were now only a few feet from the plane. Even should be join them, his spear would be of no use against the shields. And before he could get the motor started, Strang's men would have followed them aboard. Paul was wounded, now, while the invaders, roaring in triumph, pressed along the stone causeway. Several of them, he noticed, emerging from the dark passage, carried torches. Jim stared. Torches . . .

IN ONE frantic moment he had snatched up a tin of gasoline, unscrewed its cap. Then, with all his strength, he hurled it at the attackers. Spouting gasoline, drenching the wild figures, it landed fairly among the torchbearers. A flash of light, howls of pain, of fear, and the Unclean Ones were hurling themselves into the water in a frenzied effort to quench the flame.

"Freya! Paul!" Jim sprang onto the causeway, dragged his companions aboard the plane. A moment later he had cut the cable, pushed the craft out into the grotto.

Strang and his men, the blazing gasoline smothered in the water, were striking out toward the plane. Jim set the controls, then, with a prayer, ran forward to spin the prop, for he had not had time to go over the starter. Three times he spun the propellor; at the fourth try, just as Strang's followers grasped the tail assembly, the motor broke into a roar. Jim swung into the cabin.

"Garth!" Eric burst out. "What is it? That noise . . . and the machine, moving . . ."

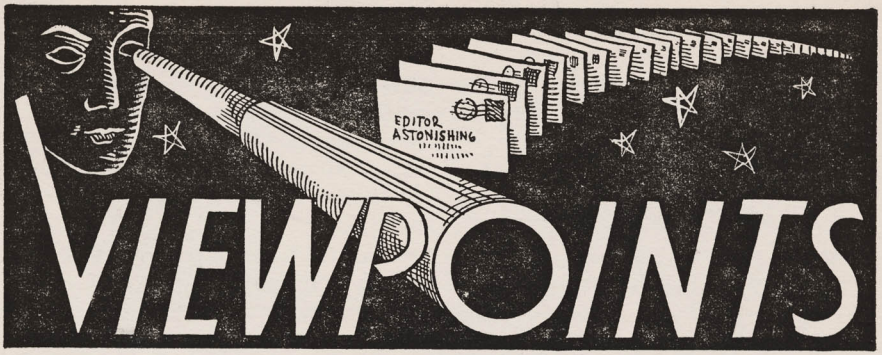
Jim slid under the controls.

"Don't worry," he chuckled. "Where we're going there's a lot of noise . . . and movement!"

He stepped up the motor. With cries of rage and terror, the Unclean Ones released their grip on the rudders. The plane roared from the cave, swept skyward.

"Garth!" Freya whispered. "We're in the air . . . like a great bird . . ."

"Flying, beautiful," he grinned. "You've a lot to learn! Wait'll you see New York!" He swung the seaplane to the west. "The U. S. patrol boats'll stop us three hundred miles off shore. But when they find out we haven't got the plague, they'll let us land. And maybe"—Jim glanced down at the ruined city and weed-grown fields, below—"maybe someday when American scientists have developed a way to defeat the red spores, we'll come back. Colonists, to the Old World, just as they came to the New. Colonists without the ancient hates, suspicions, and insane nationalism . . . to make a new and peaceful world in the American way!"



"The Door to the Future"

Editor, *Astonishing Stories:*

I have been for many years a devoté of science fiction, and having learned of your forthcoming publication, I want to extend my wishes for all success.

It has long been my contention that science fiction opens the door to the future, expressing those dreams of man which become tomorrow's realities. Until man has implanted within him the hope, the desire, for such things as atomic power, or interplanetary travel, he cannot hope to accomplish them. And through science fiction we are beginning to dream of those things. And as witness the airplane, the radio, the automobile—whatever man wants badly enough, he accomplishes.

So while I am not a scientist, I feel that in believing, and spreading the belief, that the future triumphs of man are limited only by his dreams, I am doing my share, however small, in bringing us nearer to a greater and more wonderful world. Surely it is better to look to the future with its tremendous prospects than to view the past and present with their hates and wars and barbarism.

I am grateful, therefore, to see a new publication devoted to the future, and wish you all luck,—Jack Standley, Baltimore, Maryland.

From "4E"

Dear Mr. Pohl:

I hear from the head of the Literart Agency that U're putting out a new science fiction magazine with a policy of "no prejudice in favor of big names." That is good. More power to U! As I recall, I read or heard about some stf editor, once, who had a secretary or someone conceal all authors' names on mss bfor bringing them to him for first reading. I spose after a time if the ed's memory was averagely retentive he'd come to recognize a writer's particular setup on a story (i.e., typryter, indentation, accuracy etc); but the idea behind it was a worthy one, I thot. An amateur English fanmag, *Fantast,* even goes one better, publishing the author's name at the *end* of the story or article, so the reader is not influenced by the name. All the same, I spose U have to have a name or 2 to attract attention on the cover; in that case, I'd like to see SCHACHNER—COBLENTZ—DE CAMP, frinstance. The policy of purchasing mss on merit alone might be extended to illustrations, giving some of the comers like Leslie Perri, Hannes Bok, Walter Earl Marconette & Jno V Baltadonis a crack at a cover, or interior art.

Incidently, I am wondering what on earth U'll name your new mag? (Or maybe U'll go "out of the world?") With the million & one titles on the market & in the fan field, it will be miraculous if U

can find a new tag. It will be ASTONISHING! Sciencerely, "4SJ" Ackerman, 236½ N New Hampshire, Hollywood, Calif.

Some Like It Hot—

Editor, *Astonishing Stories:*

We of the Baltimore Science Fiction League have heard of your new magazine, and want to take this opportunity to wish you all possible success. It should become a permanent addition to the ever-growing field of science stories.

It is our belief that a popular-priced science magazine has been for a long time a necessity, in order to promote this type of fiction and make it available to more readers.

We make the following suggestions, which we think might aid your magazine: 1. The printing of full-length novels as soon as is feasible. 2. A feature column describing in non-technical terms the latest discoveries in science, and the effects they may have upon our lives within the next few years. 3. Appropriate but dignified covers, with none of the sensational garishness that all too often demeans the covers of science fiction magazines. 4. An occasional off-trail story, bordering perhaps on fantasy, by way of variety.

It is quite possible that you may have anticipated some or all of these suggestions, but we thought we'd send them along just as an idea of what we'd like to see in your forthcoming issues. Meanwhile, we await your initial issue with the greatest interest.—Frederic Arnold Kummer, Jr., for the Baltimore Science Fiction League, 224 West LaFayette Avenue, Baltimore, Maryland.

—Some Like It Cold

Editor, *Astonishing Stories:*

Despite the welter of science fictional and fantastic magazines now cluttering up the stands, I can still welcome this new arrival; there are still mighty few good science fiction magazines in existence, and, since you are just starting, we can always hope that you will provide an increase in the type of magazine we want.

Since the trend in science-fiction these days is more and more toward fiction, and swift-moving fiction at that, one suspects that the general motif of your offering will be somewhat similar to the original Astounding. Which brings up the first point I have in mind to suggest: swift-moving, light, adventurous fantastics do not necessarily have to be back. Look at some of the most popular stf tales of the old days, long before Hugo Gernsback first blossomed out with Amazing Stories: they are nearly all action stories. But they're well-written, soundly characterized, and contain any amount of ideas which, for their time, are new. Thus, may I suggest that you need not present stories written down to readers, or distorted around tripish themes in order to be up to the very minute in stf and general pulp-fiction trends.

There are a few chronic irritations to to the discriminating reader: one wonders hopefully if you can put over the necessary appeal to the browser and non-stf enthusiast without resorting to some of the nauseatingly cheap lines that other very low-grade stf mags have used. Can you arouse interest in your blurbs without calling the particular story a "great story", give the impression of having your journal well-fitted without terming 15,000 word novelettes as "novels", give precis of forthcoming tales or given stories in an issue without the too well-known cliches in pulps? Briefly: can't you get all the effects that this blatant cheapness is supposed to bring by using slightly more refined methods of approach to the general public?

On the subject of ads, if you must run "I Talked With God—Honest!" ads can't

you have them put elsewhere than at the close of, or in the middle of, your better presentations? Perhaps they could be eliminated entirely—this type of ad, I mean.

A few definite suggestions:

(1) How about answering letters in the readers' column? Perhaps just a few lines on some; but an answer anyway. I know that most editors since Hornig have refused to do so—and paid the price. No readers' column in any stf magazine has come up to the one that Hornig ran in the old Wonder Stories, even if he did overdo the whimsy at times. One other thing: I trust that you will publish letters completely or not at all.

(2) How about fan-fillers at the end of stories, rather than the conventional science tidbit fillers? They (these science fillers) smack of the old days when stf was supposed to be an education on choc-colate-lacquered tablets and science facts were always presented in such a way as to clutch the reader by the throat and hiss their amazing messages at him menacingly. Away with them, say I. Why not, in their place, have little items of an interest to fans and imaginative enthusiasts—they might deal with little-known things about pre-pro magazine stf, with some of the earlier imaginative fiction writers, with some of the interesting things that have happened in "active" fandom—almost anything that is not a slam at personalities. Or perhaps "quotable quotes" from various fans and/or authors, fanmags, etc.

(3) How about forgetting about "scientifact" and "whaddayaknow" columns? And instead reviewing some of the better fan-publications and giving data on organizations? And, particularly, should you have a good book-reviewer. Any number of stfal books are coming out, and any number of ditto are still in print both of which ditto have not had mention, or adequate reviewing, in the pro stf mags. Suggest you select some real oldtime fan for this important task.

Until I see your first issue, then: here's to you!—Robert W. Lowndes, Futurian, 2574 Bedford Avenue, Brookyn, N. Y.

We Hope So, Too

Dear Mr. Pohl,

There is something unique about the first issue of any magazine. This first issue may not be the best of all; it should be the poorest if the editor can keep up the almost impossible standard of continual improvement—and may you approach that ideal more and more nearly as time goes on.

That first issue is always that copy that lies nearest the editor's heart—for all subsequent issues are merely continuations, so to speak, of this first. Furthermore, since the initial issue is the jumping-off place, the basis and foundation of all future efforts, it assumes an importance out of all proportion to its intrinsic value.

For these reasons, a first issue should be scrutinized twice as closely as an ordinary one should. The fact that one of my own stories appears in the first issue of *Astonishing Stories* worries me a bit because of this. In my short and, hitherto, not very extraordinary career as an author, nothing of this sort has happened before and the sense of responsibility upon me is burdensome.

However, the sense of satisfaction and pride at being able to contribute to a first issue outweighs this sense of responsibility. I earnestly hope that "Half-Breed" is liked by the readers; I hope even more earnestly that *Astonishing Stories* is liked even more, and that this first issue will be the prelude to several million others.—Isaac Asimov, 174 Windsor Place, Brooklyn, New York.

If Enough Want It

Dear Mr. Pohl:

I remember a story a long, long time ago, which came to my mind when I heard that you were putting out a new magazine

without kowtowing to big names. The connection—or "Mental Point of Contact" as they say over the radio—was that this story was by an unknown writer, who, I think, never produced another.

But it was a honey of a story. It was a slight twist on the recognized go-back-and-kill your grandfather idea, because the hero didn't kill anybody. Instead, he married a girl—and had a son who was his own father.

If you can identify the story I mean, I think you'd do a lot worse than to reprint it.

And how about running a regular reprint column, incidentally? If nothing else, it would enable me to refresh my memories of the stories of twenty and more years ago.—Leon Coles, 175 East 127th Street, New York City.

Thanks!

Dear Editor:

Science fiction is the damnedest thing. I thought I'd outgrown it, along with the other relics of high school, but it seems not. The stories are generally rotten, mawkish things, and the authors seem to prefer to fill the gaps in their writing ability with hunks of chemistry or astrophysics that would look better in a textbook, but it's got something.

Something—I don't know what.

But, whatever it is, it's got me. So that makes one more person you can count upon to buy your new rag.—Harry Dockweiler, 89-17 215 St., Queens Village., New York.

Surprising

Editor, *Astonishing Stories:*

I think you ought to use book reviews in your magazine. There are a lot of good science fiction books that the fans miss simply because they don't know about them. Also motion pictures, and even music, of which there is some.—Donald A. Wollheim, 2574 Bedford Avenue, Brooklyn, New York.

Unanimity

Editor, *Astonishing Stories:*

How about dressing up your new stf book a little with some good review columns, something which there haven't been enough of for too long. Motion pictures, books, music—they all ought to be noted, if only briefly.—Dick Wilson, 2574 Bedford Avenue, Brooklyn, New York.

Of Opinion

Editor, *Astonishing Stories:*

I urge upon you most strongly, Mr. Pohl, that you take the advice of a seasoned fan and run critical columns on fantasy music, books, and films.—John B. Michel, 2574 Bedford Avenue, Brooklyn, New York.

Something New?

Editor, *Astonishing Stories:*

They tell me you're putting out a new science fiction magazine. May I ask why? After all, there are better things to be done than to add another magazine to a market which is already overcrowded. I began reading stf in 1933, when there were only two magazines on the market, and it's my candid opinion that the fans and the poor long-suffering newsdealers were a lot better off then, because what was lacking in quantity was more than made up in quality.

If you had something new to offer—but you haven't, any more than any of the other mushroom magazines have.

Of course, I am not adamant. I offer you one chance to redeem yourself with me. You can do that perfectly well—I'll buy five copies of your magazine every issue—if you'll install two features which have either been omitted or sadly maltreated in all previous magazines. The first and most important is a cartoon strip, the second is a poetry page.

But of course you won't do it. Will you?—M. Smith, 329 N. Chapel Street, Catasauqua, Pennsylvania.

Fantasy Books

ASLEEP IN THE AFTERNOON by E. C. Large. Published by Henry Holt & Co., New York. $2.50.

Mr. Large has written one other work of science-fiction *"Sugar in the Air"* with the same central character, Charles Pry. But that is the only relation between this book and the first. *"Asleep in the Afternoon"* is really two stories, alternately told. One is the story of Charles Pry, an unemployed chemist, who whiles away his time daydreaming and during his reveries works up the parallel story of Hugo Boom. Boom is a mathematician strangely addicted to sleeping in the afternoons. His wife, Agatha, finally uncovers the secret of the mysterious sleeps—a little ear gadget which is really a device for inducing sleep and amplifying any dreams the sleeper wishes to have. The story rolls its satirical and entertaining way on from there, through the commercialization of "Boom Sleep," its popularization and its odd consequences to humanity. Simultaneously we learn of the fate of the story of Hugo Boom as written by Pry, its appearance as a book, and its reception by the world of art and letters. *"Asleep in the Afternoon"* is well written, the author having mastered the unusual method of recital capably. The comments occasioned by the story and the invention make it a clever satire on the foibles of our present age.

TARZAN THE MAGNIFICENT by Edgar Rice Burroughs. Published by Edgar Rice Burroughs, Inc., Tarzana, California. $2.00.

Edgar Rice Burroughs can always be depended upon for a thrilling adventure yarn and this, his latest, comes up to his usual standard. Two giant gems possessing strange powers over the minds of men, a tribe of warrior women, two evil old men

aspiring to power, a beautiful white priestess, a party of white men lost in the jungle, and Tarzan—all mixed together as Burroughs can. It is a tale that will keep any fantastic adventure fan engrossed.

LOST HORIZON by James Hilton. Published by Pocket Books. 25 cents.

A new edition of this famous work is now available at a popular price. If you have not read this enthralling tale of a hidden valley in the Himalayas, and the Utopia that is hiding there until the world is ready for it, you certainly should do so.

THE INVISIBLE MAN by H. G. Wells. Published by Penguin Books, New York. 25 cents.

Penguin Books, another series of popularly-priced reprints, has reissued this fantastic classic, popular a few years ago as a motion picture. Wells' treatment of the story of the man who learned how to become invisible and tried thereby to amass a fortune is always worth another reading.

—D. A. Wollheim.

Fantasy Films

BOMBS OVER LONDON. Film Alliance of the U. S. Production.

A certain Mr. Peters is not only the foreign minister of Grovnia, but a gentleman whose daughter has been wronged during the last (1914-18) war. For that he seeks vengeance by embroiling the two nations he considers responsible in a modern conflict. Aided and abetted by a group of munitions makers, an impersonal scientist, a batch of international thugs and some radio-television controlled planes, he proceeds to "raise Hell" (in the picture's own words) by bombing London. The villainous Mr. Peters is finally brought to bay by Brian Gaunt (Charles Farrell),

BOOK AND FILM REVIEWS

a political cartoonist, and the ever-present Scotland Yard.

THE MAN THEY COULD NOT HANG. A Columbia Picture.

Boris Karloff returns to the type of role in which he made his reputation in this story of the doctor-inventor of an artificial heart which will bring the dead to life. Karloff, the doctor, is arrested by the police before he has a chance to try his discovery on a volunteer who has given his life for the experiment. Found guilty and executed, the doctor is brought back from the grave by his faithful assistant.

THE WIZARD OF OZ. A Metro-Goldwyn-Mayer Picture.

Hollywood has taken the L. Frank Baum fantasy that has delighted children, and adults, for forty years and made a thoroughly entertaining movie of it. Brought to vibrant Technicolor life by make-up magicians are the Cowardly Lion (Bert Lahr), the Scarecrow (Ray Bolger), and the Tin Woodman (Jack Haley), who become the companions of Dorothy (Judy Garland) when a tornado sweeps her from a Kansas dust-bowl to the amazing and gay land of Oz. Here Dorothy meets the Munchkins, the good fairy Glinda, the Winged Monkeys, the Wicked Witch of the East and, finally, the fabulous Wizard.

This is a picture not to be missed.

—Richard Wilson.

Classified Advertising

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AVIATION APPRENTICES—Training for entering Aviation as Apprentices. Write immediately enclosing stamp. Mechanix Universal Aviation Service. Wayne County Airport, Dept. U21, Detroit, Michigan.

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Correspondence courses and educational books, slightly used. Sold. Rented. Exchanged. All subjects. Satisfaction guaranteed. Cash paid for used courses. Complete details and bargain catalog FREE. Send name. NELSON COMPANY, B-218 Manhattan Building, Chicago.

Female Help Wanted

SPECIAL WORK FOR MARRIED WOMEN. Earn to $23 weekly and your own dresses Free. No canvassing, no investment. Write fully giving age, dress size. Fashion Frocks, Dept. B-1026, Cincinnati, O.

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"MAKING INVENTIONS PAY" with good demonstrating models and quantity production at low cost. Our thirty-two page book mailed upon receipt of 3c postage. CRESCENT TOOL COMPANY, Dept. 4, Cincinnati, Ohio.

INVENTORS:—HAVE YOU a sound, practical invention for sale, patented or unpatented? If so, write Chartered Institute of American Inventors, Dept. 31, Washington, D. C.

Help Wanted—Male

EVERY EMPLOYED PERSON YOUR CUSTOMER! Rare opportunity for CLERKS, FACTORY, MILL or OFFICE WORKERS to earn EXTRA MONEY! 50% Commission selling SOCIAL-SECURITY, LIFE-TIME PLATES and CASES. Send 10c with your Social Security Number. WM. HAMENT, 665 W. Lexington Street, Baltimore, Maryland.

Male and Female Help Wanted

M. M. earned $267, three weeks, raising mushrooms in cellar! Exceptional, but your cellar, shed perhaps suitable. We buy crops. Book free. United, 3848 Lincoln Ave., Dept. 553, Chicago.

Old Money Wanted

Quick Cash For Your Old Coins: We pay big prices for wanted coins; certain 1909 cent $10; Liberty Head nickels before 1914 $500; 1864, 1865 Indian Head cents $100 each; Dimes before 1895 $600; Some worth $6,000 each. Have you valuable coins in your possession? It will pay you to be posted—Send 15c for our illustrated coin catalog. National Coin Corporation (Unine) Daytona Beach, Florida (10).

Certain Large Cents worth $750.00; Small Cents $12.00; Nickels $250.00; Dimes $300.00. Send 15c for newest 1940 complete 36 page illustrated buying book. AMERICAN COINS, Box 3507-T, Cleveland, Ohio.

Patents

PATENTS SECURED. Low cost. Book and advice free. L. F. Randolph, Dept. 573, Washington, D. C.

Fantasy Music

Since the picture "Things to Come" first appeared several years ago, science fiction fans who possess phonographs welcome visiting fans with the recordings of its theme music.

Those who have heard them have had high praise for the work of the Composer, Arthur Bliss. Highly stimulating, his work forms a perfect accompaniment to the dynamic sequences of the film. The recordings contain a good deal more composition that was originally played with the picture and compare favorably with the output of any of the better known symphonic composers. By utilizing every known trick of the trade, inserting oddly assorted bits of rhythm into standardized march, symphonic and fugue themes, Bliss has created what will be in the minds of many fans a lasting contribution to the world of music.—John B. Michel.

Classified Advertising

Continued

Patent Attorneys

INVENTORS—Time Counts—Don't risk delay in patenting your invention. Write for new 48-Page Free book. No charge for preliminary information. Clarence A. O'Brien, Registered Patent Attorney, Dept. OB26, Adams Building, Washington, D. C.

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SONGS, POEMS, bought, published. FREE Advice. Metro Music Publishers, San Francisco.

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WANTED: ORIGINAL POEMS, LYRICS, SONGS by a recognized Music Organization. Our contracts GUARANTEE PUBLICATION, marketing; include expert collaboration where required. WE GIVE YOU ADVANTAGES NOT OBTAINABLE ELSEWHERE. Send your material today. MUSIC PUBLISHERS AGENCY, Dept. X14, Portland, Oregon.

Songwriters. Interesting Proposition. Write PARAMOUNT SONG-RECORDING STUDIO, L-42, Box 190, Hollywood, Calif.

SONGWRITERS: Send your poem today for immediate consideration. RICHARD BROTHERS, 30 Woods Building, Chicago.

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A MYSTERIOUS DISCOVERY SAVES UP TO 30% on GASOLINE!

OR COSTS NOTHING TO TRY

Answer this call! Investigate this remarkable discovery that trims dollars off gasoline bills —gives you worthwhile gas savings—more power — greater speed — quicker pickup — faster acceleration. Proven so efficient, it is guaranteed to save up to 30% and give better performance or the trial costs you nothing.

Automatic Supercharge Principle

Vacu-matic is *entirely different!* It operates on the supercharge principle by automatically adding a charge of extra oxygen, drawn free from the outer air, into the heart of the gas mixture. It is entirely automatic and allows the motor to "breathe" at the correct time, opening and closing *automatically* as required to save dollars on gas costs.

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SETS NEW COAST-TO-CHICAGO RECORD

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Vacu-matic Carburetor Co.
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Dear Sirs:

Having just completed a new speed record between Los Angeles and Chicago, driving a Chevrolet equipped with a Vacu-matic carburetor for control, I thought you might be interested in knowing some of the facts and the important part Vacu-matic played in the success of the run.

The distance covered was 2322 miles in thirty-nine hours and forty-two minutes, officially timed by Western Union, which gave me an average speed of 59.7 M.P.H. based on elapsed time and with the Vacu-matic averaged 18-1/2 miles per gallon on gasoline.

Before leaving Los Angeles, we made several test runs both with and without the Vacu-matic, and the tests proved that Vacu-matic increased my gas mileage 3-1/2 miles per gallon at the driving speed of 60 M.P.H. and also very noticeable increase in both acceleration and power.

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In addition to establishing new mileage records on cars in all sections of the country, the Vacu-matic has proven itself on thousands of road tests and on dynamometer tests which duplicate road conditions and record accurate mileage and horse power increases.

You, too, can make a road test with Vacu-matic on your car and prove its worthwhile gas savings to your entire satisfaction.

Learn all about this remarkable discovery. Get the facts NOW!

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The Vacu-matic Co. **Wauwatosa, Wis.**

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This certifies that I have carefully read 300 original letters received from Vacu-matic users testifying to gas savings up to 30%, many reporting added power, smoother running, and quicker pick-up. These letters are just a small part of the larger file of enthusiastic user letters that I saw at the company offices.

Signed Marcus J. Clancy
Notary Public

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"Uncle Sam Helped make tobacco better than ever!

...and Luckies have bought the 'cream' of the better-than-ever crops!" says Billie L. Branch, a tobacco auctioneer for 21 years

Ollie Mangum of Rougemont, N. C., proudly shows Mr. Branch his new tobacco seedlings, raised with the help of U. S. Government experts.

Suppose you talked with this independent expert about Luckies:

You: "In recent years, you say, tobacco crops have been better than ever?"

Mr. Branch: "Yes, even though crops vary with weather conditions, new U. S. Government methods have worked wonders for farmers."

You: "Do Luckies buy this better kind of tobacco?"

Mr. B: "Yes, and they always *have* bought the choicer grades. That's why I've smoked Lucky Strikes for the last 15 years."

You: "What do the other independent experts like you smoke?"

Mr. B: "Among the tobacco men I know, Luckies are by far the favorite!"

Try Luckies for a week. You'll find that the "Toasting" process makes them easy on your throat—because it takes out certain harsh throat irritants that are found in all tobacco.

You'll also find out why—**WITH MEN WHO KNOW TOBACCO BEST—IT'S LUCKIES 2 TO 1!**