A NOVEL OF THE FUTURE COMPLETE IN THIS ISSUE!

STARTLING STORIES

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MAY

A THRILLING PUBLICATION

FEATURING

THE WATER WORLD

An Amazing Book-Length Scientifiction Novel

By OSCAR J. FRIEND

THE LITERARY CORKSCREW

A Hall of Fame Story

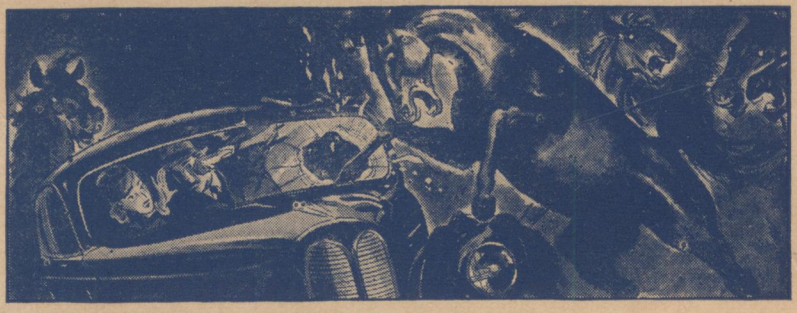
By DR. DAVID H. KELLER

"THE ENRAGED BEASTS REARED TO CRUSH OUT OUR LIVES!"

A true experience of JACK STAR, *Loreto, California*

"A HERD OF WILD HORSES galloped into our path as we were speeding across the New Mexican desert one pitch-dark night," writes Mr. Star. "Instantly, I jammed on the brakes! The lights went out as the car struck and careened off the nearest horses.

"PANDEMONIUM BROKE as the bewildered, enraged animals tried to kick the car to pieces! We cowered inside as their thudding hooves smashed lights, hood and windshield! It looked as if we were as good as dead!



"THEN, GROPING FRANTICALLY, I found our flashlight, flashed its brilliant beam into the eyes of the nearest horses. Blinded, they hesitated... then retreated in a rout. Thanks to dependable 'Eveready' *fresh* DATED batteries, we came out of our adventure alive.

(*Signed*) *Jack Star*"

The word "Eveready" is a registered trade-mark of National Carbon Company, Inc.

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Music Lessons for less than 7¢ a day

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YOU thought it was *expensive* to learn music? That it took lots of money to pay for a private teacher, sheet music and all the other essentials? That it required years of study?

Then here's grand news for you! You can learn to play your favorite musical instrument, *any* instrument, for less than SEVEN CENTS a day! That's ALL it costs. Not a penny extra for sheet music or anything else. And it doesn't take years, either.

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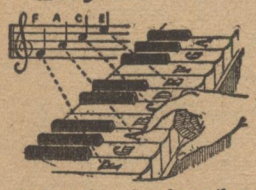
You learn by a remarkable short-cut method! A modern, simplified method that skips all the tedious, old-fashioned study and practice. A method that has literally swept the world, enrolling over 700,000 pupils. It's actually FUN to learn music this easy way.

Easy as A-B-C



Look at the notes above—they are F-A-C-E. Could anything be simpler? You are already learning to read music. And it's easy to play, too, for a remarkable invention, the "Note-Finder," tells you just where each note is located on the keyboard.

**Actual pupils' names on request. Pictures by Professional Models.*

Here's the Secret

"A picture is worth a thousand words," says the ancient Chinese proverb. And that is the secret of this easy and fascinating way to learn music at home in spare time. Your lessons come to you in print and picture form. Large, clear illustrations show you every position, every move. And the accompanying text is like the voice of your teacher at your shoulder, explaining, coaching and encouraging you. You *can't* go wrong.

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Have you instrument?.....

Name .....

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City..... State.....

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STARTLING STORIES

Vol. 5, No. 3 CONTENTS May, 1941

A Complete Book-Length Scientifiction Novel

THE WATER WORLD

By OSCAR J. FRIEND

Fate Casts Up Orphans of an Ancient Storm on a Shoreless Earth, Where Deluge Drowns the Continents on a Single Sea—and Men Dredge Food and Clothing from the Depths! 14

Other Unusual Stories

Special Features

Cover Painting by Rudolph Belarski—Illustrating THE WATER WORLD

STARTLING STORIES, published bi-monthly by Better Publications, Inc., N. L. Pines, President, at 4600 Diversey Ave., Chicago, Ill. Editorial and executive offices, 10 East 40th St., New York, N. Y. Entered as second class matter September 20, 1938, at the post office at Chicago, Illinois, under the act of March 3, 1879. Yearly $.90, single copies $.15; foreign and Canadian postage extra. Manuscripts will not be returned unless accompanied by self-addressed stamped envelope and are submitted at the author's risk. Names of all characters used in stories and semi-fiction articles are fictitious. If a name of any living person or existing institution is used, it is a coincidence.

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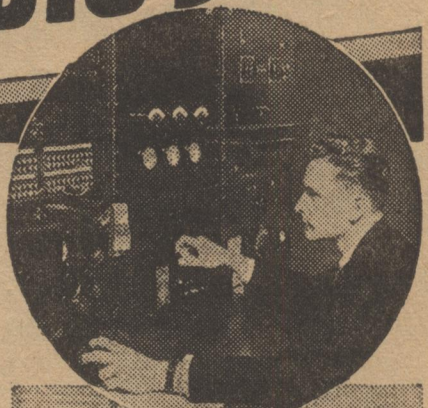
GOOD RADIO JOBS



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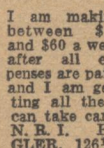

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I am now making from $10 to $25 a week in spare time while still holding my regular job as a machinist. I owe my success to N. R. I. WM. F. RUPP, 611 Green Street, Bridgeport, Pa.

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Hundreds of millions of dollars in defense orders on top of a record business year are opening new opportunities for Radio Technicians. What's more — Radio Technicians, if selected for military service, can get in line quickly for better ratings with more pay, more prestige. Technicians in the Army and Navy earn up to 6 times a private's base pay. Radio Technicians are well paid because they use their minds as well as their hands. It takes both to repair a home or auto Radio set; to operate and maintain a Broadcast or Commercial transmitting station; to install, operate and repair Police, Aviation, Television and Public Address equipment. That's why so many beginners who become Radio Technicians jump their pay, get better jobs, steady work. That's why, too, many Radio Technicians operate their own profitable full time Radio Service businesses; and others make extra money fixing Radios in spare time while holding other jobs.

BEGINNERS QUICKLY LEARN TO EARN $5 TO $10 A WEEK EXTRA IN SPARE TIME

When N. R. I. trains you to be a Radio Technician, you learn to make extra money quickly. Many students report making extra money in spare time within a few months; others tell how they paid for their entire Course with extra money made in spare time while learning.

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Mail the coupon today for SAMPLE LESSON and FREE copy of "Rich Rewards in Radio." You'll see letters from men who got into Radio this way, telling what knowing Radio means to them; what they are doing and earning. You'll see why the N. R. I. Course is easy to study, fascinating to learn, practical to use. You'll get facts on Television and other fast-growing branches of Radio. Act NOW. Write your name and address on the coupon below. Paste it on a penny postcard or mail it in an envelope — RIGHT NOW.

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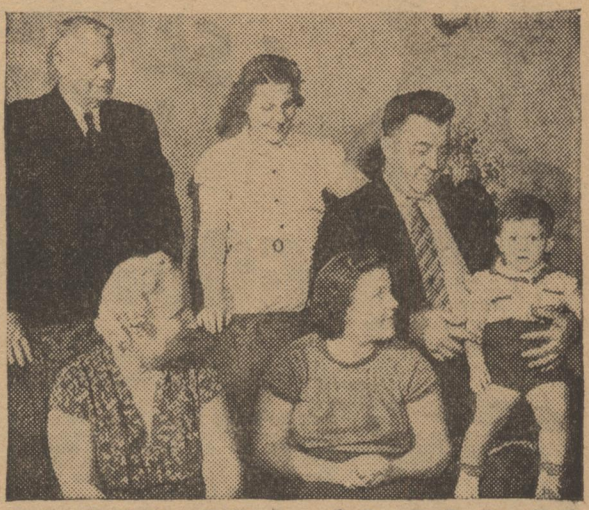

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Don't send money! Just fill out the coupon and get the details now, without a single penny of expense to you. Learn all about the free 10-day inspection offer.

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Table of amount of insurance purchased by a monthly payment of one dollar.

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1-40	$1000.00	$2000.00	$3000.00
41-50	750.00	1500.00	2250.00
51-56	500.00	1000.00	1500.00
57-62	300.00	600.00	900.00
63-68	200.00	400.00	600.00
69-75	100.00	200.00	300.00

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City ---------- *State* ----------

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Give me just this and I'll prove I can make you

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Only 15 Minutes a Day

Are you ALL MAN—tough-muscled, on your toes every minute, with all the up-and-at-'em that can lick your weight in wildcats? *Or do you want the help I can give you*—the help that has already worked such wonders for other fellows, everywhere?

All the world knows I was ONCE a skinny, scrawny 97-pound, weakling. And NOW it knows that I won the title, "The World's Most Perfectly Developed Man." Against all comers! How did I do it? How do I work miracles in the bodies of other men in only 15 minutes a day. The answer is *Dynamic Tension*, the amazing method I discovered and which changed me from a 97-pound weakling into the champion you see here!

In just 15 minutes a day, right in the privacy of your own home, I'm ready to prove that *Dynamic Tension* can lay a new outfit of solid muscle over every inch of your body. Let me put new, smashing power into your arms and shoulders—give you an armor-shield of stomach muscle that laughs at punches—strengthen your legs into real columns of surging stamina. If lack of exercise or wrong living has weakened you *inside*, I'll get after that condition, too, and show you how it feels to LIVE!

Charles Atlas

—actual photo of the man who holds the title, "The World's Most Perfectly Developed Man."

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Among all the physical instructors and "conditioners of men" ONLY ONE NAME STANDS OUT. That name is Charles Atlas!

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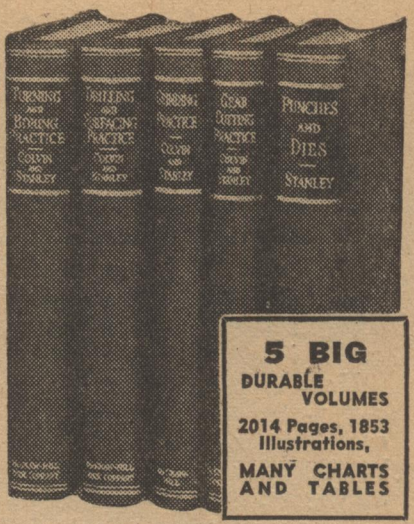

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WITHIN the covers of these five books are to be found all the facts that you will want to increase your practical knowledge of machine shop work and to give you the ability to handle all kinds of jobs swiftly, smoothly, correctly. Each of the five volumes contains a complete record of work as it is done today in America's most progressive and efficient shops. The books answer your questions on methods and machines—tell what you need to know about the operation of machines of all types and sizes for the whole range of metal cutting, forming, and finishing operations — show by text, diagram and illustration the essential points of setting up work.

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YOU'VE read Oscar J. Friend's amazing drama of a water world in this issue . . . of a time in Earth's history when the surface of the planet is all one Great Sea . . . and land is merely a legend.

Now look forward to Jack Williamson's smashing novel of a world *without* water—to be published complete in our next issue! Here's the incredible chronicle of a planet—Earth—gone dry. A story of human ingenuity battling for centuries to wring the last drop of water from a sphere that is all desert.

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The wonders of the waterless world will take your breath away. Imagine the Atlantic Ocean, its tons of liquid vanished! The gulf between two continents a gleaming-white, salt-caked desert. And everywhere, dotting the dried-up sea-bed, the vestiges of ancient vessels. Cruisers, battleships, and other craft whose steel armour has defied the passage of time, all grim specters of an age when Earth was two-thirds liquid.

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And in all the world only one oasis exists —the United States of America. For with the coming of the dark sun that wrested away Earth's waters, American scientists built—the Ring. The Ring—a mighty zone of force that shielded the land, prevented the pirate from outer space from stripping America of its waters.

For several centuries no man has broken through the Ring and stepped—Outside. Then one day a young man defies tradition and hurls himself through the Ring—to find THE GATEWAY TO PARADISE!

Through THE GATEWAY TO PARADISE pass the most thrilling episodes ever recorded in fantasy fiction. It is your entrance to a wonder-world of tomorrow! Read it in the next issue of STARTLING STORIES.

THE ETHER VIBRATES—with the letters sent in by loyal followers of science fiction. Add your voice! This department is a public forum devoted to your opinions, suggestions and comments — and we're anxious to hear from you. Remember, this is YOUR magazine and is planned to fulfill all your requirements. Let us know which stories and departments you like — and which fail to click with you. A knock's as welcome as a boost—speak right up and we'll print as many of your letters as possible. We cannot undertake to enter into private correspondence. Address THE ETHER VIBRATES, STARTLING STORIES, 10 East 40th St., New York, N. Y.

Hall of Fame Novelet

Prepare for Number Five in our fantasy hit parade, as selected by Fantasy Follower James V. Taurasi.

Taurasi's choice for the July issue's HALL OF FAME selection is THE MAN-BEAST OF TOREE, by Ralph T. Jones. It's the astounding story of a world where man is not the superior of the species—because he has no thumbs! It's an old tale—but a new treat for readers of S.S.!

Extra short stories in the big July issue of STARTLING STORIES, plus all our regular features. More highlights of science and invention in THRILLS IN SCIENCE, a new mental work-out for devotees of the SCIENTIFIC CROSSWORD PUZZLE, and many other famous fantasy features.

Letters From Readers

The top of the spectrum to you, space rangers! Everything looks super-fine right now, looking at the Solar System through my ultra-violet glasses. All's clear from the Red Spot of Jupiter to the black shores of infinity, so it's time to blast off on our regular cosmic jaunt.

Gyrating nebulae, pilots, but the mail compartment's bulging wider than a B.E. M.'s orbs with cyclotron salutes for Ed Hamilton's novel, "A Yank at Valhalla." It was the best novel we're published in a light-year, take it from Rocketeer Billy Homes:

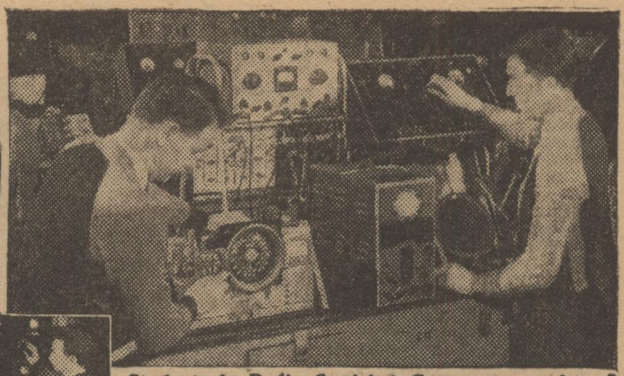
HURRAY FOR HAMILTON

By Billy Homes

I have just finished "A Yank at Valhalla," and may I give a yelp and three cheers for Edmond Hamilton? He deserves them, believe me. His story held me from the first moment

(Continued on page 12)

Learn RADIO



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COYNE'S streamlined, practical training methods have been developed from over 41 years' experience in training men and young men. You don't need any previous experience or advanced education to master my training. For my Radio Servicing Course you need only a common school education; for my Master Radio Operating Course, we require only two years of high school or its equivalent.

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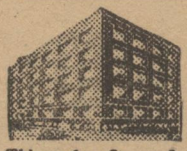
My Master Radio Operating Course is designed to prepare you for Government Radio Operator's License exams. The course includes everything covered in our 8 weeks' course, plus the training on real equipment and the technical knowledge you will need for Radio Operating at sea, Police and Aircraft Radio Operating, Broadcast and Short Wave Operating and Service work, handling studio programs, etc.



This modern fireproof building is occupied entirely by the Coyne Electrical School.

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If you are looking for a field that offers you a better job and a real future, prepare to get into the Radio field.

Opportunities for trained men in Radio are greater today than ever before. The future looks even brighter.

Many are now making $35-$40-$50 a week or more, at steady work and have a real future ahead.

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THE ETHER VIBRATES

(Continued from page 10)

until the last word, and was as thrilling a story as could be found in any science fiction magazine.

I haven't yet disliked any story by Edmond Hamilton, and he has turned out plenty. How does he do it? I saw four stories by him this month. I consider myself one of his most ardent fans, so long live Hamilton. Keep up the excellent work. Now that I think about it, these guys who keep slamming "The Prisoner of Mars," just don't know a good story when they see it. Homes challenges them them to a duel.

The cover this month was fine. Bergey illustrated the scene exactly and it was a grand painting. More from him, and why not try him on the interior?

"The Hyper Sense" was all right, but not the best that Eshbach has turned out. The illustration, however, was excellent. Please give us more of Wallace Saaty.

As for the "City of the Singing Flame," Harry Warner, Jr. summed it all up when he said, "It's one of the greatest fantasies ever written." Many, many thanks for it, and I'm glad to see Weinbaum coming up next issue.

"The Demons of Darkside" was very good, getting better toward the latter part of the story.

I like the idea of having famous fantasy fans choosing the reprint stories each month. I'm anxious to see what Bob Tucker will choose. Although I've never met him, I like Mr. Tucker—just by his breezy letters. I've laughed at more than one.—1633 Dunlavy St., Houston, Texas.

Thanks for the crate of moon orchids, Pilot Homes. Remind me to pick you a dozen rainbow roses when we pass Venus. But you're not alone when it comes to tossing floral offerings at five-star writers. Pilot Eleanor Nichols echoes your sentiments—if you can hear her above the noise of our jets—and hurls her bouquet into the ring. Cut in your radiophones on her wave, mates.

BOUQUET, AMERICA

By Eleanor Nichols

I have long been an ardent and vociferous fan of STARTLING STORIES but never before have I felt impelled to place my admiration upon record for posterity. The reason? "A Yank at Valhalla," of course! The best story which has ever appeared between a lurid and graphic front cover and a back cover embellished by an impressive and convincing advertisement for super-store teeth.

And so (a la Winchell) orchids to you, Edmond Hamilton, and please give us much, MUCH of the same—67 Bedford St., New York, N. Y.

That was short and sweet, lass. You're welcome to passage on your old Sarge's battered space-crate any time you have anything else to say. So drop me a space-gram every perihelion.

Now what in all combustion is this—another society? Jumping Jupiter, but those protruding peepers on our covers are a sight for sore eyes, according to these buckaroos.

SFTPACOBEMOCSFP

By Messrs. Sawyer and Long

Let it henceforth be known through the land that a new society is hereby formed . . . SFTPACOBEMOCOSFP (Society For the Protection And Continuation of Bug-Eyed Monsters on Covers of Science Fiction Publications). This honorable society hereby declares that a state of war exists between itself and the SFTPOBEMOTCOSFP. In conformity with our platform we ask for more BEMs and covers by the marvelous H. V. Brown. We dedicate, to those poor, innocent BEMs who have been horribly mistreated and abused, this organization.

May the ensuing year bring us five more novels to equal or surpass "A Yank At Val-

(Continued on page 125)

The Water

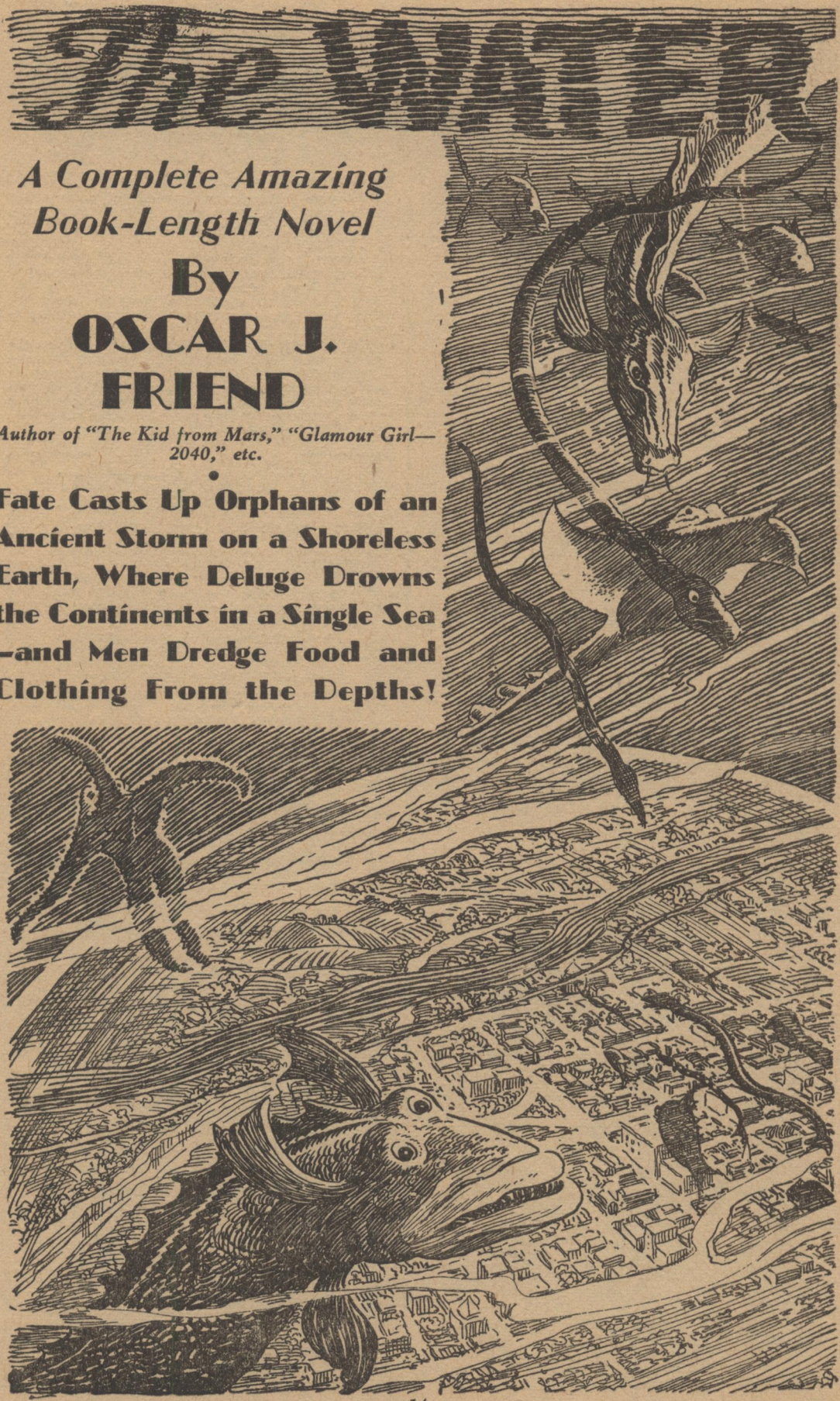
A Complete Amazing Book-Length Novel

By OSCAR J. FRIEND

Author of "The Kid from Mars," "Glamour Girl—2040," etc.

•

Fate Casts Up Orphans of an Ancient Storm on a Shoreless Earth, Where Deluge Drowns the Continents in a Single Sea —and Men Dredge Food and Clothing From the Depths!



Abruptly a curving, transparent wall came swimming into view, revealing a wondrous scene.

CHAPTER I

Wonder Craft

THE German High Command was badly worried. A secret conference was being held in Berlin. The chamber was impressive, but the subject matter was more so.

"How many tons of British shipping have we sunk this month?" demanded the furor of Europe.

"You mean official figures—or the facts?" asked the first general. "Officially we sank the *Ark Royal* again, and about two hundred thousand tons of merchant shipping. Actually we sent fifty thousand tons of British ships to the bottom, or about as much as they can replace in the same length of time."

"And who sank this shipping?" pursued the all-highest. "Airplanes, naval vessels, or U-boats?"

"Our U-boats destroyed more than ninety per cent of it," put in the second general anxiously. "So you can

see how utterly important this new submarine may be. If this *verdammt Amerikaner* who invented it gets to England with it—well, we might just as well sue for peace at once."

"What? Before we have enough *lebensraum?*"

"Before we even have a dinette."

"Just what is this new submarine?" demanded the all-highest angrily. "Who is the inventor? Why don't we know more about it? How is it we do not have the plans and specifications? We get everything else we want from America."

"The inventor is an American named Jefferson Reade," said the first general in a weary voice. "In exchange for the complete plans of the vessel, the United States Government built the first model at Philadelphia for Jefferson Reade. He has named it after the famous Jules Verne. He is to be permitted to turn the ship over to the British Government for the duration of this war."

"And what is so marvelous about that?" asked the all-highest in ominous calm.

"The kind of ship it must be, Excellency," said the second general. "The rumors are that the vessel is built of a new alloy capable of greater depths of submergence. Generally Diesel engines are used on the surface, battery-operated electric motors when submerged. But this new submarine breaks down uranium two-thirty-five for fuel and drives the ship on the surface and submerged at an astonishing rate. It means the revolutionizing of submarine warfare."

"I don't believe such fairy stories, but we must look into this."

"We'll have to look fast," said General Number One significantly. "Jefferson Reade, with a small crew of unknown strength, left the Philadelphia navy yard three days ago for a trial trip. The ship hasn't been heard of since."

THE all-highest laughed. "Doubtless this phenomenal vessel sank or blew up."

"Possibly. But our London agent in the Z sector advised us this morning that Jefferson Reade is expected in London tonight. Plans are being made by the British Admiralty to receive him."

"The Z sector? *Himmel,* then it is authentic! The vessel must be a success. We must get it at all costs! *Schnell,* what do you have on this Reade? Who and what is he? Send for Goebbels. He will have a dossier on—"

"I have the information right here, Excellency," said an officer of the Gestapo, who had not spoken before. "He is about twenty-seven, single, tall, gray-eyed, light-brown hair, is carrying on the work of his recently deceased father. Has no immediate relatives living, but is the grandson of Gertrude Schmerzen, a citizen of the fatherland, and therefore beholden to the Third *Reich.*"

"Excellent, Bruno," commended the all-highest. "This Jefferson Reade is twenty-seven, and he has been studying and working for so long, eh? Get in touch with the Z sector in London and tell them to put the most beautiful female operative on this case. Whom have we over there?"

"Z-twenty-three, Excellency," supplied the Gestapo officer. "She is young, talented, has beautiful auburn hair, and was educated both in England and here."

"I want her to have the full cooperation of every agent in England," the all-highest stated. "Her orders are to get that *untersee* boat and to capture Jefferson Reade alive, without fail! I want them delivered at Kiel before the cursed English have enough time to open and close an umbrella."

"But, Excellency, how can that be done now? It will be impossible to get the ship itself, but we should be able to capture the inventor, perhaps even get plans and a working model if he has them with him."

"I want both ship and inventor!" screamed the all-highest hysterically. "I don't care how you do it, but England must not have *das untersee* craft!"

* * * * *

At a certain famous building on Downing Street, a group of ruddy-

faced Englishmen were having difficulty controlling their emotions.

"Gentlemen," the speaker was saying, "the *Jules* will appear at the East India docks at three o'clock, regardless of mines, warships, or Thames patrols!"

"And just who and what is the '*Jules*'?" demanded a lordship who had successfully slept his way up through the House of Commons to a peerage and a seat in the War Minister's cabinet.

"Good heavens, man!" exclaimed the prime minister. "The *Jules* is that revolutionary submarine invented by Mr. Jefferson Reade of New Jersey. Mr. Reade is delivering his vessel to England for use against U-boats. If he can run our blockade, it simply means the end of Nazi warfare on and beneath the sea."

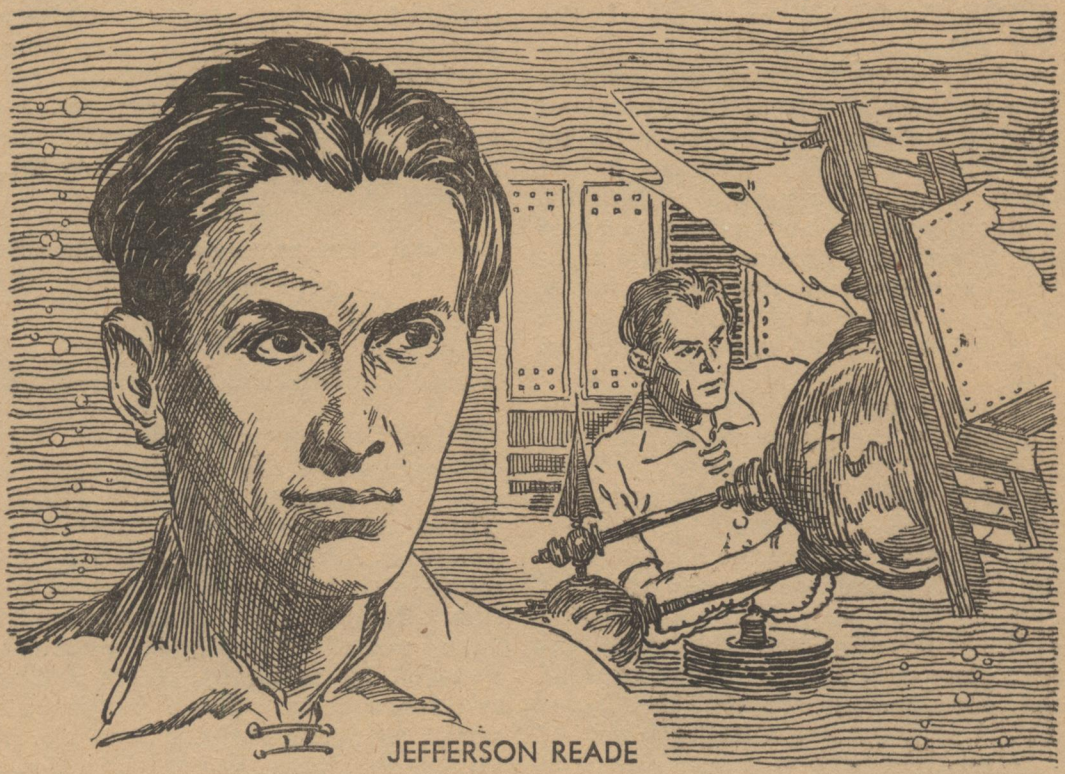
"What? And this American what's-his-name will pop up at a Thames dock at three o'clock this afternoon—in spite of all England's defense measures?"

"Quite, old chap," said the second lord of the Admiralty. "In time for a spot of tea."

"What utter rot!" the Conservative snorted. "The fleet won't permit it. By gad, sir, we won't stand for it!"

"That is just the point," said the prime minister significantly. "The fleet is to try to stop this ship. Not a mine or a net is to be removed. The *Jules* is fair war game. Mr. Reade promises to surface his craft promptly at three o'clock at the East India docks."

"Rubbish!" said the Conservative. "Britain's head is bloody but unbowed. This *Jules* will be blown out of the water before it reaches the Strait of Dover. The American must be crazy. Now is no time to play at silly games and take insurmountable risks."



JEFFERSON READE

"It came to the Home Office on good authority," interrupted a British Intelligence officer, "that the German High Command is in a dither over Reade's ship. Every Nazi operative in England is already concentrating on London, with Reade and the *Jules* as their objective. Naturally we have taken steps to protect him—in the event that the *Jules* should arrive."

"I am confidently expecting Mr. Reade," said the prime minister. "What steps have been taken?"

"All of the usual precautionary measures. For additional safeguards to insure Mr. Reade's personal safety,

I have ordered that British Intelligence Operative Ten assume complete charge of him."

"'By-ten'!" The prime minister nodded in approval as he exclaimed the nickname by which BI-10, one of England's best secret agents, was affectionately known. "That's splendid. I suppose you will have the East India dock area properly but unobtrusively guarded. Gentlemen, this bids fair to be a great day for England!"

* * * * *

CHEERFULLY unaware of the elaborate preparations for his reception, Jefferson Reade sat comfortably at the controls of the *Jules* and guided the fifty-foot craft gently up the Thames at five minutes before three. The submarine moved forward against the current with the easy grace and power of a channel catfish, carefully avoiding wrecks, nets, chains, mines as easily as though the entire shell of the vessel were a selenium cell.

It was better than an electric eye. The hull of the *Jules* was transparent at the will of the operator. Transparent metal! Of all the rumors and reports, true or untrue, the wildest had not approximated the facts. Glowing like an opalescent pearl from its own interior soft lights, having a girdle of floodlights around its lengthwise circumference for penetration of the surrounding waters, the *Jules* moved forward like a living jewel.

It was not wholy transparent, the bottom half being of conventional opaque metal. Attached to the controls was a switch, wired to each plate in the hull, that vibrated the transparent metal imperceptibly, yet shifted the molecules enough to prevent the free passage of light.

Save for the relaxed, somewhat lanky figure of Jefferson Reade in the conning tower, the entire ship was devoid of human occupants. For four full days Jeff Reade had flung his one-hundred-ton wonder ship through and under the seven seas—all by himself! Not only had he had no need for a relief operator, but he could manipulate and control the intricate ship without even a skeleton crew!

No wonder the German High Command was in convulsions. No wonder the British Admiralty was developing a fever.

Serenely unaware of the furor he had caused, Jeff Reade glanced at the complex bank of instruments before him, read his exact position and the time of day. He was just off the East India docks, and it was ten seconds to three o'clock. Smiling faintly, he manipulated several buttons and switches.

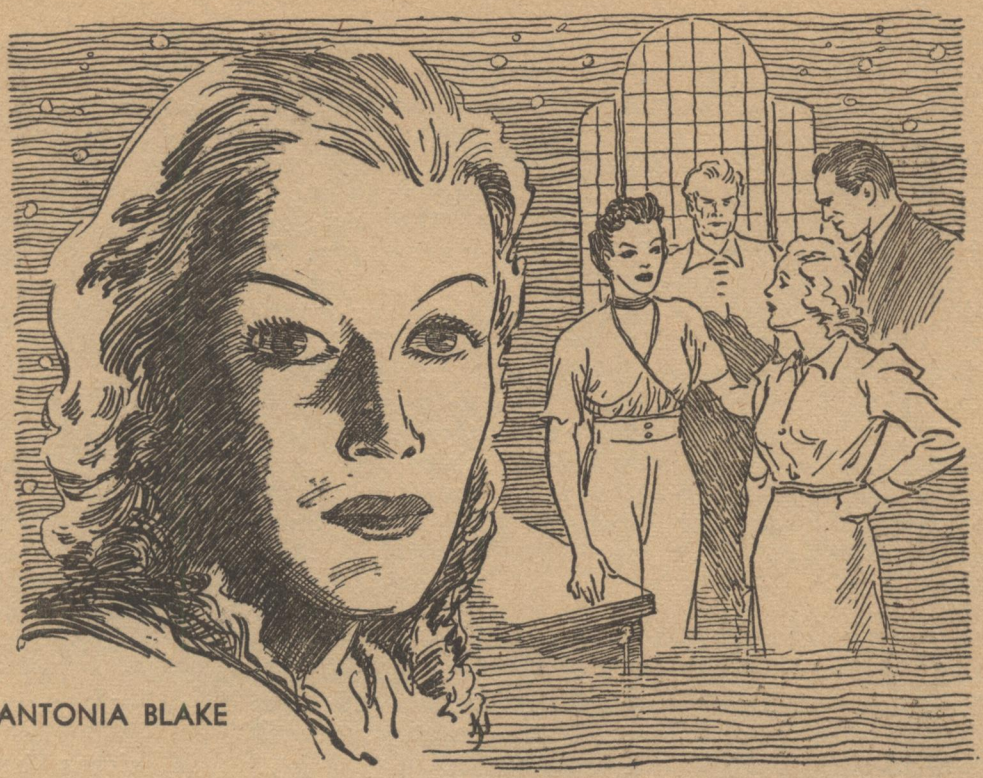
Silently the transparent conning tower of the great capsule lifted. With scarcely a quiver, the ship rose almost horizontally, like an elevator cage. The tower slid out of the water to sparkle and glisten in the afternoon sun just as Big Ben was tolling three o'clock.

CHAPTER II

Into the Depths

THERE was no fanfare of trumpets when the conning tower of the *Jules* slipped from the Thames. There was no crowd waiting to greet Jefferson Reade, for the British Commonwealth had never even heard of him. Nevertheless preparation had been made. The dock area was guarded by soldiers, guards and intelligence men. Small naval craft nosed as persistently around the vicinity as young pups. Far downstream, two sub-chasers lay warily at anchor. Perhaps this would have been sufficient to take care of the three boatloads of bucolic excursioners who looked as though they should have been heading for a beer-fest up the Spreewald. They could certainly handle the crews of the two motor lorries who were dawdling over a loading job at a tea warehouse near the docks. And unquestionably the land force could handle the twenty dock stevedores here on duty at the explicit order of the Nazi Z Sector—as yet undiscovered Aryan gents with Fifth Column tendencies.

But even the prime minister hadn't



figured on a daylight air raid in his classification of emergencies. For how was he to know Z-23 was on the job with a vengeance? The German High Command was taking no chances on muffing this job if the fabulous *Jules* did put in an appearance, but the prime minister didn't estimate properly the cooperation between the *Luftwaffe* and the Gestapo.

Only a couple of workmen on one of the docks saw the transparent object rise in silent majesty from the depths.

"Look, Alf—a glass boat!" one whispered hoarsely. "Like one o' them toy glass ships with red candy in for tykes. Or am I seein' things wot ain't there?"

"Cripes!" breathed his companion, face p a l i n g in his excitement. "There's a man down inside. We better call the boss. He said to keep a sharp watch out for anything strange on the river, no matter what."

He tried to whistle, couldn't emit a sound, licked his lips and finally got out a signal of a sort. A third man, obviously a foreman of some kind, came trotting out of a warehouse. He halted and stared in utter astonishment, his jaw sagging. Then he closed his mouth with an audible snap, turned and sped back into the depths of his warehouse.

At once the docks came alive with men doing various things. But they all appeared to be solid-looking Britons with nothing the least bit suspicious in their actions. Down the pier toward the landing stage came a group of official-looking persons. A couple of wharves distant, the crews of a pair of large vans ceased their work to gawk toward the slip, seeking the cause of the excitement.

Looking up through that amazing transparent hull, Jeff Reade waved a sinewy, bronzed hand in greeting. As his conning tower hatch came even with the landing stage, he locked the controls before him and swung lithely up the ladder to the hatch cover.

Easily visible to the gaping men, he deftly opened the cover and pushed it back with the harsh and recognizable clangor of good, honest metal. The entire stern of his weird craft awash at the surface now, he climbed out on the little circular platform around the base of his conning tower and rested one hand on a rung of the pier ladder.

"Hello," he said in a friendly baritone voice. "I'm Jefferson Reade. I

radioed the Admiralty about my arrival. How about a guard for my ship? And can any of you direct me to Number Ten, Downing Street?"

"Cheerio, Mr. Reade!" called one of the official-looking gentlemen.

Quickening his pace, he began trotting along the stringer of the pier. The whole group promptly responded with the same equine change of pace until it seemed to the American that a small herd of coach horses was sweeping down upon him.

"I say, cheerio," repeated the spokesman. "I am Lord Etonbrook, from the Home Office, sent to welcome you. A guard for your submersible? My word, isn't your crew sufficient?"

JEFF READE laughed boyishly and quickly clambered up to stand on the pier. He greeted Lord Etonbrook with a vigorous and vibrant hand-clasp and bowed to the squad of equine gentlemen.

"I am the crew, Lord Etonbrook," he stated. "In fact, I'm the entire personnel of the *Jules.*"

"You mean to say you have navigated that glass submarine entirely single-handed?" demanded a ruddy-cheeked gentleman just behind the spokesman. "Across three thousand miles of ocean in four days?"

"I've logged more than ten thousand miles since I left Delaware Bay, and it isn't glass. I'll explain all about it to your war authorities. I'm not much of a hand on making speeches, but the *Jules* is a surprising success, and I'm here to offer it to England. I—Yeah, I guess that's all. If you'll see about a guard for the *Jules,* I'll ask to be excused for a few hours and get some sleep. I haven't had a lot lately. So if I'm not going straight to Downing Street I —well, I'm not much on receptions, either."

"All details will be cared for, Mr. Reade," announced Lord Etonbrook, beaming jovially. "But we cannot think of letting you out of our sight, Mr. Reade. The Nazis are straining every effort to get in touch with you. A dangerous woman spy called Z-twenty-three has been sent to England to abduct you. I regret that we haven't located her as yet, but the Home Office is working on it. In the meantime a special agent from British Intelligence, BI-ten, has been assigned to protect you."

"What?" exclaimed Jeff Reade incredulously. "A woman spy? Why, that's ridiculous! I never have any time for women. And what good would it do the Nazis, now that—"

"You don't know what a woman Z-twenty-three is reputed to be," interrupted Lord Etonbrook with more animation than he had yet shown. A murmur of corroboration arose from the troop behind him. He glanced around, nodded and looked at his big watch with the Seal of England in miniature upon it. "I can't understand what is keeping Mr. Banderwithe-Tate. He is Home Office, you know. He was to bring By-ten to meet you here."

Abruptly a dozen sirens began wailing, their brazen-throated cacophony swelling into the hellish chant of a thousand air raid warning signals. A fleet of Nazi bombers and escorting fighters came droning out of the eastern skies. Blasé London was far too used to air raids by now to go into a panic. But air raids meant bombs, and bombs meant destruction, fires and casualties. British fighters would go up and engage the enemy in combat, and the Archies would cut loose. All in all, it would be quite messy while it lasted, and that was what bomb shelters were for, anyway.

The crowd on the East India docks melted away like snowflakes on a hot griddle. The equine troop scattered in the most approved fashion of open skirmishing. Lord Etonbrook gulped, took a quick look up at the darkening sky, made a grab for Jeff Reade's arm and indicated the black mouth of the nearest warehouse. He missed his clutch. Just then a whistling shell shrilled to earth not a hundred yards distant and let go with a deafening *wham-m-m* that jarred the docks.

"Air raid!" shouted Lord Etonbrook. "Into the warehouse, Mr. Reade!"

Everybody was either out of sight or still running. And diving low overhead came a hellish flight of Stukas and Heinkels, hugging tons of devil eggs close to their bellies. Jeff Reade knew he had no time to hesitate. He had to get back into the *Jules,* submerge and escape before anything could happen to the ship. Wonder craft though it was, it was not impervious to destruction.

At that psychological moment he heard the scream. It was a lovely sound in spite of its shrillness, but then it may simply have sounded good in contrast to the wailing sirens. Jeff looked, and saw a young woman darting out of the doorway of a tea warehouse, near which stood a pair of half-loaded trucks.

The girl sped around the land end of the pier and ran straight out along the wharf toward the American. Behind her came a motley crew of thugs and stevedores, armed with everything from cudgels to hand-grenades. Obviously they were chasing the girl, who was disheveled and bareheaded.

Jeff Reade didn't really get a good look at her, but he had a hazy idea that she was dressed in tweeds and held some sort of bomb in her hand. He had only time to realize vaguely that she was young and blond and maybe beautiful. The only lasting impression he had was that she was badly frightened and that her blue eyes were big in her fear-whitened face; her lips made a crimson gash.

In the instant that he hesitated between an impulse to help this girl in some vague fashion and the urge to leap back down the ladder to protect the *Jules* from destruction, the girl cried out to him in a vibrant, golden voice.

"Mr. Reade! Jefferson Reade, flee for your life! These men are after you, not me. You are in terrible danger, but don't try to get back into your ship. Those dive bombers are going to sink it. Oh, you haven't a chance to—"

That was all the young woman fugitive knew about it. Jefferson Reade could move like a flash when he was sufficiently aroused. He had time enough to leap forward, scoop up the breathless girl and spring from the stringer down to the superstructure of the *Jules,* just as the ugly-looking pursuers ran out onto the vibrating pier. He swung her over into the hatch, almost stuffing her down it, getting a flash of shapely legs in sheer silk.

"Climb down!" he ordered. "Fall the last half of the way to make room for me. Hurry!"

Breathless and shaken, the girl could only nod. She dropped down the hatch, and Reade followed after her. Just as he reached for the hatch cover, he became aware of something dropping on the floor of the control room with a soft *plop.* He couldn't tell in the stress of the moment whether the baffled pursuers had lobbed a grenade or the girl had dropped the queer bomblike thing she had held in her hand. He could only hope that nothing exploded.

Locking down the hatch, he dropped to the sili-beryllium floor and reached for the controls.

"First I must get us out of this trap," he explained tersely. "Then I can make the *Jules* opaque and see what's to be done."

AS he spoke, his flying fingers activated the cyclotron motors. The *Jules* moved backward with a surge that was like the lunge of a leaping fish. It headed out into the river proper at a submerging rate that made the crash-dive of an ordinary submarine seem like the slow scuttling of an old rowboat.

The *Jules* simply slid under the very keels of the oncoming motorcraft and plunged seaward like a diving whale. Up in the sky, angry and baffled Stukas and Heinkels cut loose with their eggs. The Thames became a veritable hell of geysering, boiling water.

They were too late. The silvery, crystal ship had escaped all traps—save one. As the *Jules* shot rearward, diving at an awe-inspiring speed to escape the bombs, Jeff Reade glanced at the girl who stood beside him. She was watching all he did with wide, eager eyes. He pressed a button, was answered by a soft, purring sound.

"A special air-purifier of my own invention," he explained. "It employs a blend of several gases which—"

He broke off as he saw the smoky fumes rising from the shattered bomb on the floor. Something was clutching at his throat with invisible, strangling fingers. He felt himself going weak. Things were spinning and slowly going black before his eyes. He must not pass out! He strained his tortured gaze toward the blond girl and saw that her hands were empty. She was clinging to the handrail near the control board to keep from falling, but he thought there was a triumphant smile on her lovely lips.

"The woman spy!" he gasped. "Z-twenty-three! I—"

He could utter no more. He knew he was falling out of the navigator's padded chair. With the last ounce of will power, he forced his incredibly heavy hand to pull the master switch. It cut all power of every kind, save the central atomic plant which was the secret heart of the *Jules*. The cyclotron went on breaking down uranium-235 in its enormously powerful cycle, which would continue until all the fuel was converted.

Lightless, driving deeper into the English Channel under impetus alone, its upper half as transparent as a bell-jar to light rays that would never reach these Stygian depths, the *Jules* struck bottom like a torpedo and came to rest in the mud and ooze. Neither knew when the vessel struck. Both lay senseless on the crystal-clear metal floor of the control room, their bodies side by side, their nerveless hands touching.

CHAPTER III

Awakening

JEFF READE slowly became conscious of an uncomfortable feeling of cold. It gnawed at the back of his subconscious mind for an eon, gradually eating through and peeling back the layers of sleep, nagging at him with a growing insistence.

He knew that touch well. He was a small boy again, out on an evening's call with his father and mother. Permitted by the hostess, he had gone to sleep on the sofa covered with the Navajo Indian blanket she had brought back from that western trip. And now Mother was shaking him into wakefulness to get up and go home.

No, he was a full-grown young man in college. It must be early morning. It got devilish cold in Massachusetts in the winter and his roommate had stolen his covers again. Sluggishly Jefferson Reade stirred, sighed and reached down to snuggle deeper under the cover that wasn't there.

Suddenly he was wide awake. Gone were the nebulous half-memories. He was Jefferson Reade, possessor of several engineering degrees, inventor of the successful submarine, the *Jules*. And he was stretched out on the chill, cold plates of the floor of the control room. Comprehension came back to him in swift flashes . . . East India docks . . . the equine troop . . . Lord Etonbrook . . . spies . . . dive bombers . . . a girl . . . escape . . . blackness. . . .

He started up. He remembered that cutting the master switch was his last conscious act. But the control room wasn't dark. It was softly aglow with a delicate, greenish light, ghostly as a sun-bathed grotto in the south seas, but ample for ordinary vision.

It was a full moment before Reade realized that the upper half of the *Jules* was still transparent as he had last left it. The soft light came from a single course outside the ship and some distance overhead, like a spotlight in a theater.

The American inventor passed his hand across his brow, his cheeks, his chin. He started unbelievingly. He had a short beard. He needed a haircut. This meant that time had elapsed. How much? What had happened?

He stared down at the fabric of his clothes, at the leather shoes on his feet. Everything looked all right until he tested the tensile strength of his coat sleeve. Then it tore like rotten cheesecloth. With care his clothes would hold together. He thought of some ancient Incan cloth he had recently seen in a travel window in Radio City.

They saw a broad-band of dead-gray membranous flesh clamping down around the "Jules" in a progressive sort of spiral wrapping (Chapter XV)

Then he became aware of the girl. He almost jumped. She lay there beside him so still and quiet that he thought she was dead. When he finally looked into her face closely, he saw that her lovely blue eyes were wide open and that she was staring at him in wonder.

"Then it wasn't an awful dream," she said in that low but vibrant voice he remembered perfectly. "And we aren't dead."

"You!" Reade almost snarled. "You dropped that anesthetic bomb! You tried to trick me."

"Yes," she admitted frankly, struggling to sit erect, rubbing her arms and staring curiously all about. Then, womanlike, she started fixing her honey-gold hair. "I dropped it, but I didn't mean to. It was jarred out of my hand by the jump down the hatch. But why try to explain? You don't believe me."

READE stared at her without answering. A rip started in her sleeve as she worked with her hair. She colored faintly in the belief that he was looking at the white flesh revealed and inwardly laughing at her embarrassment. She lowered her arms and ruefully examined the rent.

"You'll have to move carefully, you know," he said. "Our clothes seen to be pretty rotten. It must have been the mixture of the gases in my aeration system and that bomb of yours. Tell me the nature of your bomb and I'll work out the chemical equation."

"I—I don't know," she admitted. "It was made in Berlin by a renowned chemical engineer. It produces a coma that is harmless and wears off within twenty-four hours—" She stopped with a little cry of realization, her slim fingers going to her throat as she looked at him. "Twenty-four hours! Your beard . . . your hair . . . our clothes. . . ."

Abruptly she screamed.

"Cut out the hysterics!" he snapped. "I don't like it any better than you do. We got caught in each other's trap apparently—*Z-twenty-three.*"

This sobered her. She looked at him anxiously.

"How long do you think it's been?"

She shrugged, ripping a shoulder seam.

"How should I know? I never grew a beard before."

"Haven't you a chronometer or something in this ship that keeps time?"

"Nothing that will run unattended long enough for me to grow a crop of spinach like this, except the cyclotron."

"Where are we?"

"Somewhere near the mouth of the Thames, I suppose. Practically the bottom of the ocean." His voice was still surly, for he found that he was not immune to her charms. "I cut the main switch just before I passed out."

"If you did that, why haven't we exhausted the air? Where is the light coming from?"

"The central atom converter would purify the air for quite some time, but there are a lot of things I'll have to check before I'll understand this. There's no use in our staying here on the floor. We're trapped together until I can be sure of getting us out, so I guess we'll have to declare a truce temporarily. But you're my prisoner. I warn you that I shall turn you over to the proper authorities as soon as we return to London. Will you give me your word to behave, or must I tie you up and lock you in one of the compartments?"

She actually smiled at his earnestness.

"I'll give you my word," she agreed demurely. "I—I feel faint and weak, Mr. Reade," she added as she carefully got to her feet. "You wouldn't have anything in the way of food, or a stimulant aboard, would you?"

"Funny, I feel the same. I have both. Sit in that chair while I go prepare something for us, but don't try any tricks. Maybe I'd better search you for a gun or some other weapon."

She opened her arms and held them up cautiously.

"Search me if you like, but I swear I have no weapon of any kind—not even a stiletto in my stocking. Honestly, Mr. Reade, I was really trying to save your life back on the dock. I didn't smash the bomb purposely.

It's a long story, but I'll tell you—"

"Skip it! I couldn't believe it, anyway."

"No," she agreed, studying him. "You wouldn't. I'll go with you to find something to eat. Then you won't have to trust me."

"This way," he directed.

SHE started obediently before him, holding on to the hand-rail in her inexplicable weakness. Reade found that he had to do the same. All thought of checking over the mechanism of the ship was pushed out of his mind by the urgent need of sustenance.

"You didn't ask me my name," she said over her shoulder. "It's Antonia Blake. I know yours, now you know mine. That makes us more nearly even, doesn't it? You may call me Toni."

"That's quite an English name for a Nazi spy," he growled.

"My father was English."

"Which makes you all the more vicious and detestable!"

She did not respond to this. Instead she asked about the transparency of the ship, staring up curiously at the water above the vessel and the colorful fishes which swam lazily by. For the first time they both became conscious of the world outside the submarine. They halted there in the passageway amidships and gaped with growing incredulity.

The *Jules* reposed in the exact center of a huge tank of clear green water. On all sides, perhaps fifty feet distant from the ship, rose white-tiled walls, shimmering hazily because of the intervening mass of water. Directly overhead and high above was a huge spotlight of some sort, which imbued the great tank and its contents with that soft green glow.

Around the upper perimeter of the circular tank was a graceful railing of glittering metal that looked like chromium. Just above water level on each side of the tank, so that the lettering could be read easily from the opposite side, was a large plaque with raised metal letters. Straining their eyes, they tried in vain to decipher the words. The angle, light refraction and the shimmering water prevented.

A nameless, intangible dread upon him, Reade turned and ran back to the control room. Antonia Blake followed him on legs that trembled now from more than simple physical weakness. Reade threw the main switch of the control panel back into position.

The *Jules* responded instantly with a single quiver like a heart-throb. The interior lights came on. The thermal unit began to function and warm the ship. A current of air indicated that the air-conditioner was gently at work. The faint clicking of relay switches and the soft purring of motors proved that the *Jules* was still functioning, even though she might need overhauling, tuning and oiling.

Reade swiftly cut all controls directing the movement of the craft. Then he pressed a button. A slim gray periscope tube silently elevated itself above the tower hatch until it cleared the surface of the water in the tank. With deft hands the inventor focused the instrument on one of those majestic metal plaques. The scene was reflected on the fine ground-glass screen of the table. The inscription was in English. Both of them read it with popping eyes and incredulous minds.

DOVER CHRYSALIS

Discovered in 6683 A.D., by Fisher Calhoune of the Depth Division, this Great Capsule of Adamantine Transparency and Resistance to the Action of Salt Water Is Obviously a Successful Experiment of Men of Ancient Britain in Suspended Animation. Note the Lifelike Figures of the Man and Woman in the Compartment beneath the Central Shaft.

Whereas this Crystal Crypt Has Proved Impervious to All Ordinary Attempts to Open It, and the Telemeter Has Established beyond All Doubt that an Internal Machine of Unknown Electro-chemical Nature Is Rhythmically Functioning Therein, It Has Been Decreed that this Chrysalis Shall Remain Untouched Until Such Time as Visible Changes Take Place in this Capsule or Any of Its Contents.

Placed on Public Exhibit in this Museum of Science on Island Five, May 2, 6687 A.D. by Order of the Inner Council of the Island Cities Confederation.

Lyman Scott, World Regent
Carl Neidler, Governor of Island Five

THE American inventor blinked his eyes. He felt a sickish, stunned sort of sensation that he couldn't locate as he gulped and read again the amazing text. Of course it was ridiculous and utterly absurd, but who would go to the trouble and expense of staging such an elaborate joke?

Antonia Blake uttered a frightened cry as she understood the meaning of the unbelievable words.

"Jefferson Reade!" she cried out despairingly. "It isn't so! It *can't* be so! Tell me it's just a hoax you're playing on me."

"*I* playing on *you?* You mean that you and that crazy Third *Reich* are playing on me."

"No," she said violently, shaking her head. "No! I don't understand it. It doesn't make sense. You had nothing to do with it, either. I can read that in your face."

"The sixty-seventh century?" he murmured stupidly. "Ancient Britain? Suspended animation? World Regent?"

Antonia Blake was shocked out of her assured poise as a woman of the modern world. Sobbing softly, she crept into the shelter of the American's right arm. Automatically he tightened his grip and held her closer to him as he continued to stare at the incredible message on the periscope field.

"Jeff," she whimpered, clinging to him, "I'm afraid."

CHAPTER IV

Five Thousand Years

IT was too stupendous to assimilate all at once. They were too stunned to think. They just stood there and forgot their personal differences, their hunger, their weakness, their disintegrating clothes. Clinging to each other for mutual support, they sought the courage to face whatever impossible, fantastic experience confronted them.

Finally Jeff Reade became aware of the fact that he was hugging Antonia Blake and that the sensation was not at all unpleasant. He forgot for the moment that she was technically an enemy. Her very nearness set his heart to thumping faster. He frowned down at her.

Her complexion and hair withstood inspection nicely. But there was an anemic paleness about her skin and a tautness which hinted at wasting away. This, next to his own beard and the fragile condition of their garments, did more than anything to convince him.

"Here, here," he said, awkwardly patting her shoulder and almost ripping out the sleeve of her tattering jacket. "Buck up, Toni. I don't believe that plaque—yet. But something terribly strange has happened. We're going to move the *Jules* over to the wall, rise to the surface of this —this aquarium, climb out and explore. But first we'll eat and drink something."

"It couldn't be true," she argued as he released her and stepped back. She finished pulling the sleeve off and used it for a handkerchief. "Your ship wouldn't even run after such a staggering lapse of time. It would be out of fuel."

"I'm afraid not," he answered slowly. "The cyclotron motor, feeding on atomic energy, uses practically nothing at idling speed, and I had a hundred pounds of uranium. Anyway, I wouldn't count on that as a measure of time."

"But your beard! It would be a mat around your feet after—after—" she shuddered—"forty-seven hundred years."

"Not in case of suspended animation. I imagine hair would cease growing altogether as the life processes slowed down practically to zero. I don't know what to think yet. I have some spare clothes in a locker, but I'm afraid they'll be too large for you . . . that is, if this condition was caused by a combination of chemicals. If it's a matter of age, I guess they'll be as rotten as these clothes we have on."

"Let's find something to eat first," Toni said.

In the little galley, Reade opened

a couple of cans of soup and warmed them on an electric grill. He produced a bottle of whisky and poured them each a huge drink.

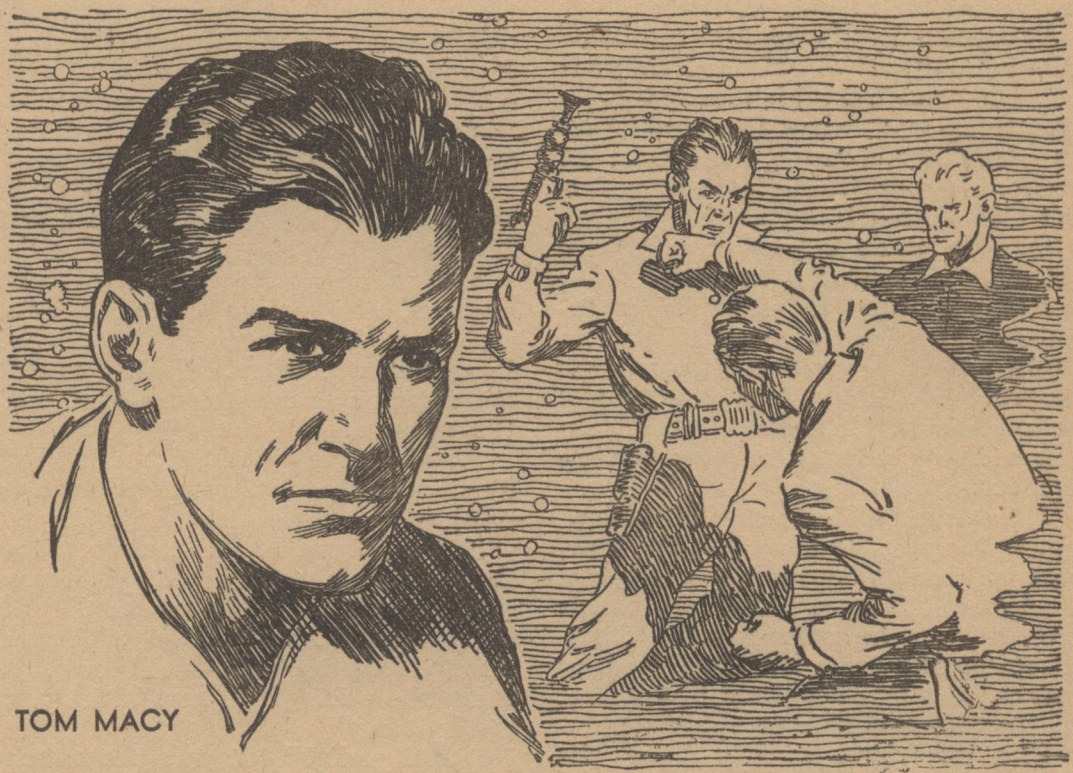
"A sort of eye-opener, as they say in my country," he said as she started to protest. "It'll strengthen you."

Then he looked at her lamely as he realized just what he had said. She smiled weakly, and they gulped down the liquor. It helped wonderfully. They were drinking the hot soup when the first tremor came.

They heard nothing, of course, but a great shock of some sort began far off and came nearer and nearer. his head.

"It felt like an earthquake. I've experienced a couple in California. I know. . . ."

His voice trailed off as his scientifically trained mind told him how great the shock must have been to have transmitted itself to a one-hundred-ton submarine cushioned in a huge tank of water. He didn't explain to his companion, but all that was needed to make this nightmare complete was a catastrophe to destroy this place, wherever it was, before they could get out and orient themselves.



TOM MACY

Growing stronger as it came, it rolled over and engulfed this unknown spot containing the huge tank in which rested the submarine. A sort of vibratory crescendo grew in a succession of swift shocks that quivered the huge tank of water and actually made the *Jules* itself tremble.

"An air raid!" she whispered, eying him with wide blue eyes while her delicate color vanished to her lips.

FOR a fleeting instant Reade was ready to agree with her. Then he remembered the tank of water, the plaque and other things. He shook

"Drink your soup," he commanded as she seemed on the verge of setting the spoon down. "Lord only knows when and where we'll find time to eat again. Even Nazi spies have to live, I suppose."

Antonia Blake was slowly recovering her poise. The nourishment had helped a lot. She studied him thoughtfully.

"Listen, Mr. Jefferson Reade," she said frankly, "you are quite a self-confident young man, aren't you? I seem to remember that you have a masterful chin beneath those reddish whiskers, but I was under the im-

pression that scientists did not jump at conclusions. I tried once to explain about that anesthetic bomb, and you wouldn't listen."

He snorted. "Do you deny that you are Z-twenty-three, a spy for the Third *Reich?*"

"No, but—"

"You needn't add anything. Do you want to declare a truce until we settle this other business?"

Color rose to her cheeks. In her entire career Antonia Blake had never met so abrupt a young man, nor one who irritated her so easily. She smiled sweetly, but her violet blue eyes were like a pair of icicles.

"Yes, Mr. Reade, on the condition that you will try to refrain from your boorish remarks, which occasionally clutter up your otherwise intelligent conversation. You—" She broke off and pointed up through the transparent hull of the ship. "Look! There's a man up there beyond that silvery railing. He's waving at us!"

Reade glanced up, stared incredulously. Hastily he raised his arm in reply and then ran back toward the control room. More leisurely the girl followed him. She found herself taking a lively interest in the man up there at the railing.

He was an athletic sort of fellow, young-looking and attired in some sort of slacks ensemble of pastel shades which were indistinguishable from within the water-covered *Jules.* That he had been on the verge of leaving and was now held by interest in Reade's actions was apparent.

The American swiftly blew the *Jules'* enormous tanks, which were out of sight below the floor line. The craft responded to her controls as readily as though she had been operated but yesterday. In a moment the superstructure was above the surface of the water. The great capsule itself gently nosed the side of the tank below the watching man at the railing.

Reade swung up the conning tower ladder and opened the hatch. The man leaned his arms on the railing and stared in fascination, for the inventor had trouble getting the cover thrown back. At last, with a clang of metal, the lid lifted on its great hinges. Jefferson Reade emerged.

"Hello, there!" he called to the lone watcher. "What place is this?"

THE man, again hesitating between the desire to remain and the impulse to flee, pointed a trembling hand at the far plaque.

"The Museum of Science," he said in an agitated voice, but in a clear although queerly accented English. "You speak English. Can't you read it?"

"I did read it," said the American, gazing at the man and then around at the vast chamber in which the tank was enclosed. "Do you seriously mean this is sixty-six hundred and eighty-seven?"

"No. That was the year your mausoleum was placed here. This is sixty-nine hundred and forty."

"What? You mean we've been in this tank for nearly two hundred and fifty years?"

"That's what the museum record tells us, and you've certainly been here ever since I can remember. I'm a museum watchman. I must go call the director and tell him about you. Wait just a bit."

"Wait a bit yourself," said Jeff Reade tersely. It was hard not to think of this ruddy-faced man in pale yellow slacks as Lord Etonbrook, but there really wasn't the slightest resemblance. "Miss Blake and I will climb out of here and go with you. The *Jules*—my ship—will be safe here, won't it? Say, how about that earthquake?"

"Earthquake?" It was the watchman's turn to be astonished. "Truly, that is an ancient word. What does it mean, a quaking earth, real soil that trembles?"

"Certainly. Just like that quake we had about five minutes ago."

"Oh, you mean the Wave! You felt it inside your crypt? Of course you did. Perhaps that's what awakened you. No, not that. Not after two hundred and fifty years of the daily rhythm. But I must notify the director."

"What are you talking about?" demanded Antonia Blake from below. "Climb on out so I can come up."

"Come on," said Reade as he clambered out onto the superstructure platform. "All of us are punch-drunk, and I don't know who's the worst. It's the year sixty-nine-forty, by the way. Here, watchman, give us a hand and help us up there beside you."

"You seem to take it lightly enough," Antonia gasped as he boosted her up to where she could catch hold of the railing with one hand and the watchman's hand with the other.

"What's a mere two or three hundred years more now? It's nothing but a telephone number to me by this time. Be careful of that other sleeve."

"I don't believe you ever had a telephone number," Antonia said viciously.

Her irony was wasted. He simply didn't grasp the implication.

"Telephone?" murmured the guard as he swung the girl lightly up beside him. "I don't know what that is, but we will speak to the museum director by visi-phone. Come this way, please. You feel all right? I saw you taking some sort of nourishment. From just what year do you come?"

"Nineteen-forty-one, as if you didn't know," Reade retorted. "But I'm not going to make a monkey out of myself arguing with you. Let's go visi-phone the director."

CHAPTER V

Island Five

THE watchman, a trim-looking chap about Reade's own age, studied both his new charges queerly. Then he shook his head dubiously at their odd thought processes. Without further words he led the way around the circular walk and into an arched corridor. The pathetically clothed pair followed him into a small chamber that was far more comfortable than the lofty aquarium room. It was still a bit alien, reminding Reade of the modernistic buildings with fluorescent lights at the New York World's Fair.

"Please be seated," said their guide, indicating chromium and red leatherette chairs.

He touched a paneled contrivance in a niche in the wall, and what appeared to be a softly illuminated mirror came to life. At the twist of a dial or two below, the mirror ceased to be a mirror and became a three-dimensional screen. A pale blue light glowed and pulsed around the perimeter in a sort of signal.

"Thompson at the museum calling Director Radcliff," the watchman said into a grille. "It is most important and urgent."

Over the watchman's shoulder the waiting pair could see the mirror suddenly flash a projected picture of what appeared to be the interior of a modernistic library. A new voice spoke from the depths of the screen.

"Thompson, is there anything wrong?"

"The man and woman of the chrysalis," said the watchman swiftly. "They are here with me. I noticed lights within the chrysalis as I was making my last round. I stopped, and there they were, already reanimated and taking some sort of nourishment. They saw me and started up machinery which enabled them to bring their crypt to the surface and over to the wall. They emerged before I had time to call you, sir. The man called the chrysalis a—a ship. I haven't tried to question them thoroughly. Here they are."

As Thompson stepped aside, Reade and Antonia saw the head and torso of a man in the foreground of the screen. He was a clean-shaven man of about fifty, with a head of vigorous iron-gray hair that was brushed straight back from his intelligent forehead. His gray eyes were staring straight at them, and his face registered surprise, interest and anxiety.

"I'll come at once," he said quickly. "Bid them welcome and make them as comfortable as possible."

The visi-screen went dead. Thompson turned to face the two people from the *Jules*. Reade was frowning as he studied the mirror.

"A clever adaptation of the television screen," he mused. "That

doesn't prove this nightmare conclusively. Say, if this is a scientific museum, where are the exhibits? Where are the spectators?"

"The chrysalis tank is the only exhibit in this wing," explained Thompson. "It is after ten o'clock at night, and the museum is closed to the public at five. Your attitude seems to be one of doubt. Didn't you expect to stay in your cataleptic state so far into the future? But perhaps the coming of the Nebula threw your experiment out of adjustment. However Director Radcliff will explain all that to you."

"I hope so," said Jeff Reade grimly. "Tell me something of your era. Were there indeed great continents of land, real, solid soil and rocks and trees and mountains and valleys? Was it true that there were once seven great oceans and still room for vast continents of dry land?"

READE cocked a wary eye at the speaker. He was drawing a deep breath preparatory to snarling at the wisecracker when Antonia Blake caught his arm.

"Jeff!" she cried. "Look at his eyes. He means it!"

"All right, I'll play make-believe for a minute," said the inventor ominously. "The answer, Mr. Funny Guy, is yes. But before I start answering any more kindergarten questions, how many oceans do you think there are?"

"There's only one now," Thompson said simply. "Just the Sea."

"Oh," said Jeff Reade cynically. "The old world is drying up like Mars, eh?"

The museum watchman shook his head in perplexity. He was spared the difficulty of explanation by the arrival of the director. Fairly running in his anxiety, into the chamber came the man they had seen in the visi-screen. With him was a young woman, a stunning brunette who couldn't have been any older than Antonia Blake.

"Ah!" exclaimed the man, hastening forward. "My dear friends! You don't mind my calling you that, do you? I have known you all my life. My father used to bring me to the museum when I was but a tiny lad and tell me about you sleeping in the chrysalis and how Fisher Calhoune discovered it by accident when Island Five was floating at longitude one degree east, latitude fifty-one degrees and thirty minutes north."

Jeff Reade automatically reconciled these figures with his knowledge of geography and the Mercator map. It was somewhere off the southeast coast of England, which made sense, but the rest of the director's speech was so much gibberish. It sounded crazy for a man twice their age to speak of them as though they had been family relics for centuries before his birth.

"So I feel that we are indeed old friends," went on the director. "I am John Radcliff, curator of the Museum of Science of Island Five. May I present you to Claudette Neidler? She is the daughter of our governor."

He paused expectantly. Jeff Reade rose to the occasion.

"Thank you, Mr. Radcliff," he said. "If this isn't a hoax of some kind, we certainly need friends. This is Antonia Blake, my—companion in this experiment. I am Jefferson Reade, the inventor of the craft you have called a chrysalis. Our last conscious moment was in the year nineteen-forty-one, until we awoke here less than an hour ago."

"Five thousand years!" exclaimed Claudette Neidler. Her voice was low and sweet, her eyes shining like stars as she surveyed the American. "I can scarcely credit it."

"I don't!" said Antonia Blake crisply.

Meeting another woman, and one who showed unmistakable interest in the inventor did more than all else to snap the lovely blonde out of her daze and fear. Let Jeff Reade worry about orienting them in time. She had firmly set her slender feet on the ground.

Claudette Neidler turned her graceful head and met Antonia's truculent gaze easily. Each girl took full measure of the other, perhaps seeing things far below the surface that mere men only guessed at or learned by bitter experience. Here were foemen

worthy of each other's steel. A vague, nameless tension sprang into existence between these two beautiful women of different eras. Not an active dislike, not a sudden enmity, it was an intangible warning to each woman that she was somehow to be pitted against the other.

"AND why, may I ask, do you challenge the facts—if your own contribution to the data is correct?" Claudette asked.

"If you are the daughter of the governor, Carl Neidler, whose name is on the plaque," responded Antonia, her voice sounding like crystal-clear water trickling down cascades of ice, "there is a discrepancy of two hundred and fifty years in your story. Are you really that old?"

The two girls, blonde and brunette, faced each other frankly. Antonia was clad in twentieth century tweeds, which were disintegrating charmingly upon her. Claudette wore full slacks like those of the men of her own period, only hers were of a soft white material like sharkskin, bloused to her rounded figure and trimmed with ornaments of gold. Then Claudette laughed softly. All of the tension went out of her as she came forward and placed an arm about the defiant Antonia.

"My father's name is George," she explained without rancor. "Carl Neidler was an ancestor of mine. Somehow the Neidlers seem to have wormed their way into the Board of Experts and have stayed there for more than three hundred years. But you mustn't think hard of me because of that. I can't help it. Will you come with me, my dear? I think my clothes will fit you nicely."

"Thank you," said Antonia, melting. "You are kind. Forgive me, but this transition has been quite bewildering."

John Radcliff was talking again to Jeff Reade.

"We must go to the governor's sec. You will need medical attention, a barber, a hairdresser, a tailor, a historian—a thousand things! Here is no place to fret you with questions. Come."

"The governor's sec?" asked Reade. "Short for secretary?"

"Sector," explained Radcliff, leading the way out of the museum. "Everybody is assigned to certain apartment sectors. Land is so precious, and space is at such a premium on the several islands, that everything is as systematically divided and figured as the compartments of your chrysalis. No one, not even the governor, has a private home and grounds.

"With more than a million souls crowded with their all in a space of

[*Turn page*]

approximately twenty-five square miles, you can readily see that elbow room is about all we have. And conditions are the same on the other sixteen islands. You will learn all this in the days to come."

"Seventeen islands crowded with population?" interrogated the amazed Reade, thinking of Manhattan. "But what about the continents? Has population grown so much in five thousand years that—"

"There are no continents," said Director Radcliff. "There is only one spot of land on the face of the globe that is solid land, unshakable and immovable, standing nearly four hundred feet above even the crest of the Wave. That is Everest Island, a bleak, barren, rugged point of land which we use care to avoid in our navigations."

"What?" blurted the American. "What land are we on now?"

"This is Island Five, one of the seventeen artificial islands which float on the Sea of Earth. There has been no land since Earth passed through the Great Water Nebula back in the thirtieth century."

CHAPTER VI

Radcliff Explains

WHAT his reaction to this amazing statement would have been, Jefferson Reade did not know. It was driven from his mind as the four of them left the Museum of Science and descended the broad sweep of steps to the street. Like a sunburst of pastel colors, glowing under the soft fluorescent lamps, a veritable gem of a city spread out before him.

A slender, curving driveway arched past the front of the museum, lighted by running tubes of soft light set in the curbing and bordered by narrow ribbons of green grass, which contained occasional flowerbeds, clumps of shrubbery and rows of trees. Beyond were blocks and blocks of graceful buildings of white stone, none of them more than four stories in height. There wasn't an unsightly spot as far as Reade could see, nor an empty site.

Overhead, against the background of night and the twinkling stars which were the only familiar things to the homesick inventor, above treetops and rooftops, spread a lacy pattern of great girders. It stretched in a great arched dome, like the skeletal frame of an aviary, across the city, reaching from horizon to horizon.

It was a beautiful, breathtaking sight, a glimpse at fairyland. It reminded Reade of Washington, the parkways of Long Island, the World's Fair—a composite of all these things built on a smaller and more compact scale.

"Oh, how lovely!" exclaimed Antonia, stopping to stare.

"Yes, isn't it?" agreed Claudette in faint boredom. "But it becomes rather ordinary to one after a time, when there is nothing else but the Sea to look at."

Purring along the curving roadway were occasional vehicles of extreme streamlining, queer topless cars which ran without noise or smoke or gas fumes. A two-seater was waiting for them at the foot of the steps. Radcliff ushered them in before sliding into the driver's seat. There was a simple push-button control, a rheostat for speed regulation and a steering lever on the order of those seen on electric cars in the early part of the twentieth century.

"Sun power," explained Radcliff, noting Reade's interest. "Everything is powered by Sun energy now, either direct or through storage batteries. There is no fuel for steam, no oils for combustion engines, no minerals to spare for disintegration motors, and no way to procure them. We are completely cut off from Earth as you must have known it. Five and one-half miles of water are between us and what your world knew as sea level."

"Incredible!" exclaimed the American inventor. "That's as hard to believe as that five thousand years have elapsed for us like a single night. If what you say is true, how has the

human race managed to survive such a catastrophe?"

"That is a long story," said the museum director, frowning in concentration as he watched the traffic ahead. "I am fairly well informed, but what you ask is such ancient history that I can give you only the meagerest outline. Most of mankind didn't survive, although the water did not come as a deluge. It took nearly a hundred years for Earth to pass through the Great Water Nebula.

"That alone must have been a remarkable sight. Imagine seeing the entire Solar System plunge into a thin, watery mist that obscured the very stars, to watch the Sun turn that mist into steam, to see the pyrotechnical displays, note the weather changes, record the deviation in the movements of the various planets!"

HE sighed enviously before continuing.

"But I was telling you about Earth. Due to its solid core of metal, which has been computed as being six thousand miles thick, Earth attracted so much of the watery vapor that the seas began to rise. The rains fell from outer space over the entire surface of the globe for months and years. The polar caps simply melted away and helped to raise the water level.

"It was extremely fortunate that we went through no glacial age at the same time. It was a terrible enough experience as it was, so history tells us. Considered the end of the world, the Second Deluge turned men against men, nation against nation. Millions and millions of people perished, by famine, by war, by flood. Life changed drastically and with frightening rapidity, in spite of the hundred-year cycle of time it took.

"Plant life, all the lower forms of animal life, insectivora, everything save man and fish perished miserably. New kinds of diseases appeared for man to fight along with all his other enemies, old and new. But he retreated doggedly before the rising tides, fighting every inch of the way. Many and varied were the solutions offered and tried. There were whole schools of thought, bitterly divided on the subject.

"One theory advanced was to delve deep into the ground and seal over the entrance. Obviously this suggestion was absurd, because they had no way of knowing how high the water would rise or how long it would remain. But legend tells us that one faction of scientists and engineers attempted this sort of thing.

"Another suggestion, equally as fantastic, was to build space ships and migrate to Mars or Venus. But man had not mastered space travel. That was the worst era in the history of the world. The final solution, as you can see, was the construction of great rafts, artificial islands, onto which the surviving millions took refuge, along with every possible domesticated animal, plant, device, supplies and stores they could muster.

"These rafts, each the size of an island twenty to thirty square miles, were built of steel hulls and sheeted with an alloy of copper and chromium to resist corrosion. As much soil of as many kinds as could be found was filled in compartments. The rafts were powered with series of screws in the hulls which ride nearly two hundred feet deep in the water, just enough power to propel the rafts at slow speeds from one part of the world to another.

"The rafts were built on selected high plateaus, emulating the building of the Great Ark of Noah in Biblical days. And the water continued to rise until the last raft was afloat. Blessed with his rich heritage of courage and tenacity, endowed with all that could be salvaged from a world flood, most of the weak and the cruel weeded out by the strife and struggle, our ancestors took up life and civilization aboard these artificial islands and began to build anew.

"This is the final result. Originally there were twenty islands, but three have been lost through various accidents. Fuel ran out, and the Sun motor had to be invented. Sea life changed, became mankind's greatest

supply of food. Plant life was too precious for food, so science began feeding us concentrated vitamins in chemical form, along with our varied fish diet and marine garden stuff. You wouldn't recognize kelp today, in its various developed edible forms.

"There are thousands of things for you to learn of this life atop a globe of water. I can't think where to begin. You'll just have to observe and ask. First, after you have been questioned as fully as possible about the past, you will be assigned a niche in life here. There is no monetary exchange, for instance, as we understand the ancients had. Since we can't get to land to mine for minerals any more, all metal belongs to the state and is employed for the common weal."

RADCLIFF paused and slowed down his glider car. Reade felt as strange as though he were in a dream. This man was relating as ancient history facts which had transpired a thousand years after the American's era!

"So you've solved that bugaboo of the capitalistic system at last," Reade commented. "What have you—dictatorship, or Communism?"

"Neither," said the museum director, stopping his car before a Spanish mission-type building with a flagpole before it. "This is the governor's sec. Instead of money we have ergs of work credits, which can be saved or spent as one pleases. Thus we still have a class system of a sort—a sliding scale of wealth, with this significant difference—everybody has to work for credits, to accrue or spend at will.

"When a person dies with a lot of work credits to his name, they revert back to the state. Any minor dependent on him automatically becomes a ward of the state until such time as the child has been educated and reaches the age to start earning his living. But of this socialistic economy we can talk some other time. Have you any question you particularly want answered before I present you to Governor Neidler?"

"Present us at this hour?" Reade asked, surprised.

"Certainly. This is an epochal moment. His excellency is waiting with a staff of physicians to welcome you."

"Okay," said Reade. "You've just about convinced me of all this business in spite of myself. But tell me one thing. I remember that Mount Everest was over twenty-nine thousand feet high. If there are five and a half miles of water down to sea level, I figure that Everest Island must be the peak of old Mount Everest, the last spike of land to stand out above water."

"That is true," said the museum director, smiling. "You remember your geographical data quite—"

"Wait, that isn't my question," cut in Jeff Reade. "I want to know, if you are that far from the bottom and can't reach it, how did this Fisher Calhoune get down to my submarine? It was still lower, at the bottom of the sea near the mouth of the Thames River."

"A logical query," Radcliff said. "But I didn't mean to give you the impression that we can't reach bottom. We can, but we cannot work down there. We are completely at a loss at such depths. We can reach it in special pressure globes which are lowered from the bottom hull of the island for submarine fishing—globes such as the deep-sea explorers of your time called bathyspheres, I believe.

"Armed with his magnetic grappling hooks and underwater hydraulic cannon, which fires an explosive bullet filled with compressed air that is deadly to creatures of ten-thousand-foot depths, Fisher Calhoune was hunting food. Through the water he saw a sight he had never seen before—a giant fish with lights glowing through its skin. He was a mile down and descending to our two-mile floor. Excited, he called the surface and asked that he be maneuvered to the strange creature. It was your chrysalis, of course, floating free a mile below the surface."

"I hadn't thought of that," admitted Reade. "The tanks were set for a crash-dive for the bottom, which was about half a mile below. I was in a hurry, so I took on more ballast than

I actually needed. Naturally, when the Earth went through the Water Nebula, the buoyancy of the ship raised it to a mile from the surface. Good thing, too, or we'd have been down there yet."

TONI shuddered. "Imagine waking, trapped in the mud—"

"Your crypt was coated with ooze," Radcliff cut in hastily. "But the lights shone through quite strongly. Calhoune's magnetic grappling hooks clamped to the hull when he was maneuvered close to the ship. When you and he were drawn up, you can imagine our amazement at finding the metal to be transparent and two people inside in a perfect state of preservation besides detecting a machine in operation somewhere inside by use of the telemeter."

"Lucky accident, all right," said Jeff, grinning weakly.

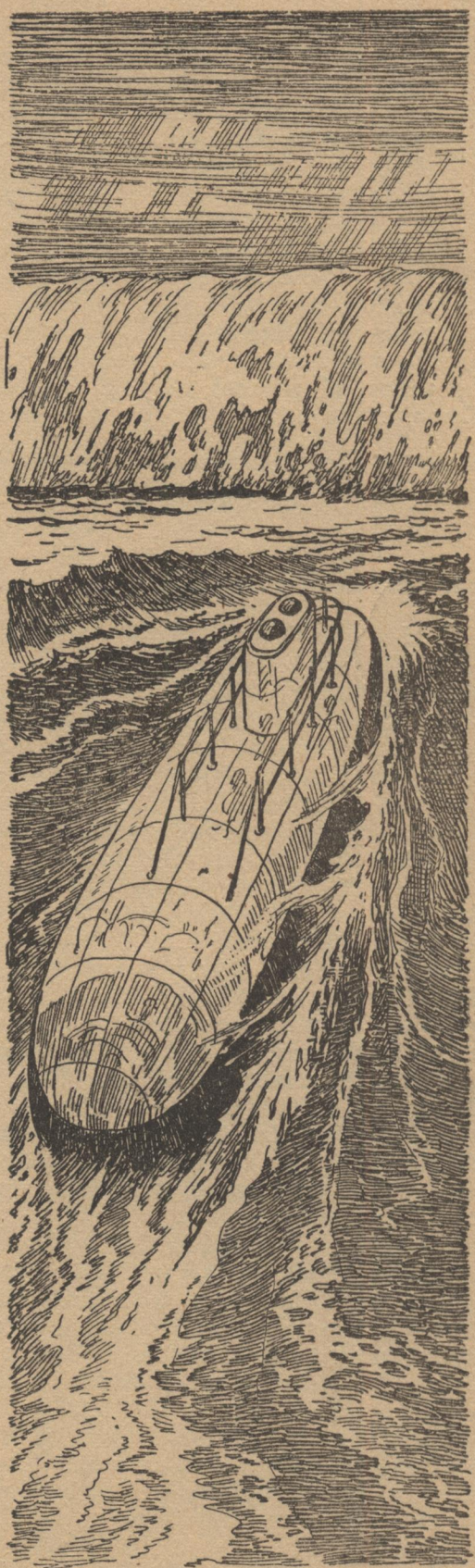
"Not quite. By the law of mathematics, since we work so comprehensively in the Sea, and the lights of your crypt were so powerful, it was almost certain that you would eventually be discovered."

"I have a question," Antonia Blake said, indicating the metal of the glider car and the girders overhead. "If you can't mine ore, where does all this metal come from? After five thousand years all the spare metal your ancestors salvaged should have oxidized and been eroded, it seems to me."

"Another fair question," said Radcliff, smiling delightedly. "I see that the ancients were quite as alert and intelligent as we of today, Claudette. It rather deflates our self-esteem."

"I am readjusting my opinion of the past," said the governor's daughter in her thrilling low voice as she glanced at Jeff Reade.

"You have nothing new there," said the American. "You should read the 'Meditations of Marcus Aurelius' for a shock. He was an ancient to me. I found, though, that he thought the same thoughts as twentieth century folk and expressed himself a darned sight more lucidly. But what about Toni's question? How do you get



The tiny vessel and the huge tidal wave rushed at each other (Chapter XIV)

out of that one?"

"Get out of that one?" puzzled the director. "I don't quite follow your meaning. But about the metal, it is true that we have utilized practically all of the various metals stored in and on the islands. That is why they belong to the state and are only loaned to individuals in one form or another. However, there are many things in suspension in sea water, including minerals and mineral salts. We are mining more than we are consuming by a special process of electrolysis. Come, let us enter."

CHAPTER VII

Politics—6940!

AN hour later, bathed, shaven, okayed by a physician and attired in a suit of Radcliff's slacks, Jeff Reade accompanied the museum director to the private chambers of the governor of Island Five. He had lost sight of Toni in this fantastic affair. She had disappeared for the night into the quarters of Claudette Neidler.

Jeff had improved the past hour by keeping Radcliff talking steadily. He had learned a number of interesting things. Radcliff was a supporter of Neidler and was in high favor, having quarters in the same sec as the governor. It seemed that everything was not exactly clear sailing on Island Five. Among the masses of people in the lower erg brackets a movement, fomented by an unknown, was afoot to depose the governor and take over the island controls.

Scarcely interested in this political claptrap which seemed trivial as compared with his own troubles, Jeff listened attentively enough to gather that there was no sound reason underlying the incipient surge against constituted authority. But Colonel Cloxin, disciplinary coordinator of industry, had things well in hand. The capture of the agitator was expected daily down on the machinery level in the hull.

Governor George Neidler wasn't worried in the least. Why should he be? He was a fine and gentle governor, always doing the best he could for every person under his jurisdiction. He had already been mentioned on several islands as the likely choice for the next world regent.

Without encountering anybody on their way via private corridors and private elevators, the two men entered the governor's personal sitting room by a back door, unannounced. One man was in the luxurious chamber, his back to them. Evidently he did not hear them enter. He sat in front of a connected visi-screen, conversing with someone whose projection they could not see.

"The last findings confirm our greatest fears then, Dr. Gross? I asked you to go to the utmost lengths and exert the greatest secrecy."

"I have, your excellency," answered the grave voice of the man called Dr. Gross. "Unless every instrument to which I have had access is false, I have succeeded only in confirming my report of last year."

The governor arose and leaned forward. He was tall, slender and, for his slight build, exceptionally broad-shouldered. There was an aura of force and magnetism about him that was distinctly felt by the American.

"Then there is no hope, no chance of a change, Dr. Gross?" he asked in a terse voice.

"None, your excellency. It is inevitable annihilation."

"How long do we have?" demanded George Neidler.

"Five years at the most. The change in the Sea temperature will be obvious to the least observant within a year."

"Even with all instruments securely under governmental control?"

"Even so, your excellency."

NEIDLER hesitated, his broad back tensing.

"But there is no reason for suspicion as yet?" he asked.

"Not by anyone outside of my department."

"And can you account for every person in your department, Doctor?"

"I am sure of them, sir," the voice stated flatly.

"How about the other islands?"

"Your orders have been faithfully carried out, your excellency. I doubt if even the regent himself is aware of the world crisis."

"Then somebody has been very indiscreet, Dr. Gross. Why should there be a movement on the lower levels to depose me?"

"Surely that, if true, has nothing to do with this crisis."

"Don't delude yourself, my dear Doctor. This is a direct answer to me from someone in possession of this secret."

"I hope not, your excellency, but I do not see what is to be gained by keeping this knowledge from the public. The end is inevitable."

"You don't? You think panic, riots, murders, suicides and all the viler passions running wild for the five years remaining to mankind a happy solution? No, Dr. Gross, it is better a thousandfold to keep them in ignorance of their doom as long as possible, while we try to find a way out. Even a year more may be sufficient. And whoever is secretly fighting me is just as anxious to keep the truth from his followers. He is afraid to tell the real reason he is after me!"

The governor brought his rising voice back under control with an effort.

"Rather silly to take it out on you, Doctor," he said. "Sorry, but don't lie to me. Somebody from your department is fomenting trouble on the machinists' level. Who is missing at the present time from your laboratory, Doctor? Answer me that."

"You are wrong, your excellency."

The governor made an impatient gesture with one hand, which permitted the visi-screen to show for an instant. Jeff Reade caught a glimpse of an old man's kindly face, crowned with a veritable shock of snow-white hair. It reminded the American slightly of his father. Then the governor's wide shoulder cut off the screen again.

"Who is missing from your department, Doctor Gross?"

"The only person absent is young Tom Macy," answered the scientist unwillingly. "He is vacationing on Island Eight, your excellency. I don't expect him to return for another two weeks. But surely you can't—"

"Of course not, Doctor," assured the governor in a soothing voice. "I'm sorry. It's the terrible strain and responsibility. I'll talk with you again tomorrow. Please remember to maintain secrecy. Good night."

The visi-screen went blank, then lighted up almost immediately. This time the two listeners saw the face of the person who responded. It was a bullet-headed man with close-cropped dark hair brushed back in a stiff roach. He had a tiny mustache like a cat's whiskers, a nose like a hawk's beak, and eyes like cold, polished jet.

"Yes, your excellency?" he asked in a hard, efficient tone.

"Hunt Tom Macy, of the Meteorological Bureau, down through the lower levels. He is the protegé of Dr. Gross. He'll probably be in disguise as a mechanic of some sort. He's the man you've been looking for. Colonel Cloxin, don't ray him down unless he tries to shout out certain unpleasant facts to the workers. In that case, extinguish him. Otherwise find him as quickly as possible, arrest him quietly and bring him straight to me."

"If that young meter-reader is masquerading out of his class, he'll be in your presence within twenty-four hours," promised the disciplinary coordinator of industry.

THE screen went blank. Director Radcliff coughed discreetly. The governor whirled about to confront his two informal visitors. Jeff sustained the full glare of this man's searching dark eyes. It was like being stabbed by a flash of lightning.

"Your excellency, I'm sorry," said Radcliff. "You asked me to bring Jefferson Reade, the man of the chrysalis, to see you. This is he."

"It's my fault," said the governor instantly, relaxing and smiling. "I was expecting you, but Dr. Gross called me here. I forgot about you. Welcome to Island Five and the sixty-ninth century, Jefferson Reade."

"Thanks. It seems I've merely jumped from the frying pan into the fire."

"On the contrary, young man—if

I may call you a young man—you've jumped from the bath into the refrigerator."

"Then there is really no hope, your excellency?" Director Radcliff gasped in despair.

"You heard Dr. Gross giving me his final report," answered the governor. "I have no secrets from anyone on the Board of Experts. Why should I have from so epochal a person as Jefferson Reade? Frankly, gentlemen, mankind is facing extinction. The world is on the way to another ice age, but one of terrible significance this time. Within five years this globe of water will be a ball of ice spinning along in the wake of the Sun.

"There is no land to withdraw to. With the Sea frozen solid and destroying all our industries, with bitter cold and starvation on a world of glacial ice, man must finally perish. I have known this for nearly a year, but I've tried to spare the people the panic this knowledge of doom will bring. I've been hoping against hope that a solution would be found—"

The rear door through which Radcliff and Jeff had entered was violently flung open, then slammed. A man stood there with a queer but vicious-looking pistol of some sort in his hand.

"The solution is to tell all the people the truth!" he cried. "Who are you to play God and decide whether or not millions of people shall know the truth? Why can't they work with science and mathematics and each other in a collaborative effort to survive, instead of dying in ignorance?"

"Tom Macy!" exclaimed Radcliff in horror.

"So it is," agreed the governor calmly nodding. "I just finished a process of elimination, Tom, and sent for you. Advance and seat yourself. You are a scientist, so you will be interested deeply in the man you are about to meet. He is—"

The armed newcomer swung his odd-looking gun to include all three men before him. "Silence, George Neidler! I didn't come here to listen to any of your specious arguments or sophistries. I came here just a jump ahead of your police hounds to kill you, unless you publicly visi-screen the bulletin centers at once and tell the truth!"

JEFF READE stared at the threatener with a feeling of detachment. Macy was a fair-haired chap of about his own age. He wore a gray denim-like suit of slacks and jumper, grease-smeared, with a number and a wheel insignia over the left breast. There was a wild gleam in his blue eyes, and he was bareheaded and breathless from running. Nevertheless there was a likable something about him that attracted the American.

It was hard to get all steamed up over this ice crisis, which was years off. He hadn't even seen the Sea yet, and his head was still full of cobwebs about aiding England—an England that no longer existed.

"Be reasonable, Macy," said the governor coolly. "You ask me to make a public statement that you yourself were afraid to make. You had the opportunity. Why didn't you tell them?"

"You know why! The workers either wouldn't have believed me, or would have rioted. You have the authority and the disciplinary control."

"And I don't dare tell the public," said Neidler, "for the same reason. So put down that ray tube and let's discuss the problem sanely. This is Jefferson Reade. He might be able to offer—"

"Get over to that visi-screen!" cut in Tom Macy tersely. "Tune in the public bulletins, quick! And no tricks or I swear I shall ray you with no more compunction than I'd feel for a viper eel."

The governor made an expressive grimace and backed slowly toward the control panel of the visi-screen. Director Radcliff dropped helplessly into a chair. Jeff Reade darted his gaze around without moving his head, wondering what he could do, if anything.

In the twentieth century an adroit and resourceful hero could pull the bearskin rug suddenly from under a

man with a gun and trip him. A good football player could dive headfirst and tackle him. Unfortunately there were no loose rugs on this fabricated floor, and Jeff wasn't a football player. He remembered how a detective had got out of a like predicament by suddenly squirting the ink from his fountain pen into an adversary's eyes. But the ink in Jeff's pen had been a hard, black residue for five thousand years.

This train of thought made the inventor think of a water pistol he had had as a boy. The little fountain bubbling away musically on the drinking stand at his left gave him an idea.

"Call the public bulletins!" repeated Tom Macy, warily approaching so that he stood almost between Radcliff and Reade while his ray gun menaced the governor.

Neidler shrugged in resignation and flipped a switch. The visi-screen came to life, pulsed once. Suddenly the head of Colonel Cloxin appeared.

"Cloxin!" said the governor crisply. "Macy's in my quarters!"

The young man venomously swung the muzzle to cover his betrayer. Abruptly Jeff Reade put his thumb over the drinking nozzle of the fountain. A fine stream of compressed water shot squarely into Macy's eyes. The young scientist cried out, involuntarily squeezing the trigger of his ray gun.

A beam of vivid blue light crackled out from the gun muzzle, imparting the smell of ozone to the atmosphere. It missed the courageous governor's head by inches, struck the visi-screen.

The screen went blank and dark as its parts fused together.

Following the stream of water he had projected, Reade launched himself at the gunman. Catching hold of the gun-wrist, he brought up his right fist in a terrific blow that caught Macy on the point of the jaw. The young scientist didn't even groan as he pitched to the floor.

CHAPTER VIII

On Level Nine

GEORGE NEIDLER quickly recovered from the effects of that bolt of artificial lightning which flicked past his ear. He was a remarkable man, this governor of Island Five.

"You've saved my life, Jefferson Reade," he said warmly, "although I don't quite understand how you did it. And I think you've saved the lives of millions of other people by your prompt action."

Jeff Reade carefully appropriated the ray gun of the unconscious Macy and gingerly glanced at it before putting it into his pocket.

"What happens to Macy?" he asked.

"He dies, of course. Too bad. He was a splendid hydroponical engineer. But none of that matters. Colonel Cloxin will take care of the sordid details as soon as he gets

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here. Macy just precedes us all by a few short years."

"No!" snapped Jeff Reade. "You're not going to kill this man. His methods are wrong, but he has democratic ideals. He wants to help as he thinks best. He doesn't deserve to die for that."

"Sorry," said the governor. "To let him live would be dangerous. He has forfeited his life by attempting assassination. There's nothing I can do to save him."

"Then I will," said Jeff.

He stooped, took the unconscious man by an arm and a leg and slung him across his shoulder in the approved fireman's hold of a vanished era. He backed swiftly toward the private entrance just as a knocking sounded at the main door.

"Stop, Jefferson Reade!" ordered Governor Neidler. "Are you also a madman? You can't escape Colonel Cloxin."

"Something tells me I wouldn't have liked Cloxin, anyway," said Jeff curtly. "He has a face like a Machiavellian wolf-trap. I'm not going to be responsible for throwing any victims into his jaws. So long, gentlemen. I'll see you later."

He was out the door and kicking it shut before Neidler or Radcliff had a chance to stop him. He heard the far door opening to admit the disciplinary police as he ran rapidly along the corridor. Reaching the elevator he and the museum director had used, he glanced despairingly at it. It was there as they had left it.

Springing inside, he slammed the door shut and fumbled with the unfamiliar controls. Just then the man across his shoulder stirred and spoke.

"If you'll put me down, I think I can operate this cage satisfactorily. Where are we going?"

Jeff immediately eased Macy to his feet, steadying him.

"You feel all right now? Sorry I had to sock you like that, but you were out of order. We're escaping Colonel Cloxin right now."

Tom Macy manipulated the instrument panel before speaking again. The elevator shot downward with such smooth velocity that Jeff said he thought the cable had parted.

"No cable," grunted Macy. "Can't spare the wire and metals. Gravity plates at the bottom of each shaft. Elevators float free, just clearing inside of shaft."

"I see," said Jeff Reade. "On the order of a vertical pneumatic tube, a sort of bullet in an air rifle effect, but employing gravity instead of compressed air. They were experimenting with electro-magnetism and gravity at the World's Fair, I remember."

"World's Fair?" repeated Macy, frowning. "What's that?"

"I forgot you wouldn't know. Tell me, is this really the seventieth century and not the twentieth?"

MACY stared at him.

"The twentieth? Oh, I place you now! You're the man of the chrysalis. I didn't know you without your red beard. So that was what Neidler meant when I first came in. I still haven't time to be amazed at you. Yes, this is the year sixty-nine-forty. Why did you prevent me from extinguishing Neidler, and then turn right around and rescue me?"

"I don't know," admitted Jeff. "I guess I have no right to meddle in anything here, but I liked you both, if that makes any sense to you."

"It does. I've always admired the governor and his daughter from afar, but the islands come first. There must be a way to save mankind. There has to be! But what chance have we got to find it if Neidler keeps everybody in ignorance?"

"Of course I know nothing of this set-up," declared Jeff, "but in my day it wasn't generally advisable to tell everybody the entire truth. The governor is right about panics."

"Neidler's keeping this knowledge secret," argued Tom Macy. "That's why I don't trust him. But this is neither the time nor place to debate politics. Shall I take over and try to get us out of this mess, or am I still your prisoner?"

"Give me your word to attempt no further violence and you take over."

"Given," said Macy ironically. "I can't get close enough to Neidler

again—unless I'm in a paralysis jacket—even to speak to him. And maybe that's the way we'll both see him before morning. But you picked a good elevator for escape. This private shaft of the governor's goes down to the ninth level."

Macy pressed a button in the instrument panel. Jeff felt suddenly light, as though the cage had dropped out from under him. Then he felt curiously heavy, as though he held in his arms a soft but heavy bag of material.

"Gravity cuts off automatically," explained Macy. "It switches over to the correct degree of repellent to neutralize the speed of the descent and weight of the cage. That second surge you felt was a return to normal gravity to keep us from starting back up the shaft. An unusual experience the first time, isn't it?"

"Yeah," admitted Jeff, steadying himself. "But it isn't completely strange. It's similar to the feeling I experience in crash-diving my submarine—the ship you people call a chrysalis, you know."

"You mean that transparent crypt is an undersea vessel? You can actually manipulate it freely beneath the water?"

"Certainly. The *Jules* has its own self-contained power plant. Don't you know what submarine navigation is?"

"No. We haven't had submarines since the coming of the Geat Nebula and the building of the floating islands. At first we didn't have time. Then we couldn't spare the materials. Finally it became a lost art."

"Then how do you do your undersea fishing, your marine gardening, your—"

"With the spheres which are raised and lowered beneath the hull of the island. That's how Calhoune of the fishing division found you. Jump out and I'll send this cage back up to the sixth level, so Cloxin won't know for sure where we got off."

"Why the sixth level?" asked Jeff.

TOM MACY reached in and touched a stud. Reade jerked back just as the door snapped shut almost in his face. Macy grinned at him in the running-tube light of the corridor and pointed to the wheel-like insignia on the breast of his jumper.

"That's the machinists' level where I've been agitating and working. It's the most powerful of the workers' divisions. Everything mechanical is built, adjusted or repaired on that level, including the Sun Motors, the source of all our power. The disciplinary police will be sure to look for us there as soon as Cloxin figures out you've freed me."

"Cloxin is a dirty dog, isn't he?" said Jeff, trotting briskly along the corridor, which stretched interminably in both directions.

"On the contrary, he really isn't," was the surprising response. "He's sharp as a fox, but he staunchly serves the state. As disciplinary coordinator of industry, he has to keep work going. Stop! Listen!"

They halted and strained their ears. From the distance ahead came the sound of swift feet marching down upon them. Jeff turned his head to listen in the direction from which they had come. He heard either more marching feet or an echo of those in front. Macy heard also this second set of sounds.

"Well, they're after us," he said grimly. "Men don't march like that on this level. Too bad we don't have my voltage ray gun. You should have brought it along."

"I did, but we aren't going to use it. Remember your promise."

"Easy for you to talk. You're too important to need fear. For me there is only death. Say, what's your name again?"

"Jeff Reade. I'm sticking with you as long as you keep your word to me. What's on this level?"

"Food storage and marine gardener stations. Say, that's an idea! We can duck into the nearest supply chamber down this side corridor, grab a couple of gardener uniforms and descend. We can feign work in the gardens until the search is over. Cloxin's men will never suspect we've gone there."

"Lead on," said Jeff promptly, with-

out the slightest idea of what he was letting himself in for.

They darted along the next bisecting corridor and threaded their way through a maze of runways until Macy indicated a door. Through this they went, Macy signaling for caution.

"This is a locker room where gardeners keep their upper level clothes when they come down to work. We should find some work-suits and gardening equipment."

It was the queerest sort of room the American inventor had yet seen—a vast chamber with rows and rows of clothing lockers along one seemingly endless wall. Along the other were empty lockers and racks. Macy moved hastily down the row. At last he halted before a couple of full lockers.

AT his urgent call, Jeff sprang to his side to stare in amazement at the gardening suits Macy exposed. There was a heavy suit of close-fitting tights, reminiscent of long, fleece-lined underwear, hanging over a bar in the front of the locker. In the locker itself, filling it from side to side, was a passable copy of a diving suit of Jeff Reade's era. The outfit was of rigid construction, with a glassite head globe and a beltful of weird-looking equipment similar to that of twentieth century telephone linemen.

"Wheel your suit out. It's on wheels. Get into it from the back. Better pull on the heavies first. It's mighty cold so far down."

Quickly the fleeing pair were bundled up and enveloped in the diving suits.

"Clamp on your head-phones first," instructed Macy as he held the glassite globe over Jeff's head. "Otherwise you'd be cut off from everybody. Here's how you adjust the oxygen tank at your back. It's good for six hours. Lucky I'm a hydroponics man. I'm familiar with all this stuff, even though my own work was in the laboratories on the top of the island."

"You mean we're going gardening a thousand feet below the ocean surface?" protested Jeff. "I won't even understand it, much less be able to do it."

"We're going to dodge the police. Just do what I do. I'll explain all I can as we go." Macy slapped on the globe as Jeff got his hands out of the way. He clamped it down in its water-tight groove, then motioned for Jeff to do the same for him. "We take this cage down to ten, the lowest level," he said inside his helmet, his voice vibrating in the phone diaphragms against the American's ears.

Jeff clumped over to a grilled door. It was the entrance to a simple elevator which lowered them into darkness for about twenty feet.

"We take a pressure globe here," Macy's voice said in the phones. "Switch on your searchlight. There's a water-lock here and no running lights, of course. We are down right on the keel now."

As he spoke a strong beam of white light sprang into being at his waist. Jeff sought for and found the same sort of lamp on himself. He fumbled on the switch with his plastocoid-covered fingers and followed his mentor into a tiny vestibule that closed behind them. A round port showed ahead. He clambered into a spherical chamber on Macy's heels. Macy promptly sealed the entrance and touched an instrument panel.

"We're descending by cable now," he said. "Look through the side ports."

CHAPTER IX

Submarine Garden

READE stared and found that his light penetrated a number of feet through a transparent port. A world of soft, swirling green was moving past the port in an upward current as he watched.

"We are dropping at regular speed." Macy explained. "I think we are safe here, and we don't want to attract undue attention. This is one of the regular submarine garden globes. We don't have to use them when we know for sure that Island Five is directly over any one of the gardens. We could just drop through an empty lock and sink to the garden, but we'd have to

take a globe to get back up."

"The gardens aren't attached to the bottom of the island?"

"Of course not. That would be worse than barnacles. There are several hundred square miles of submarine gardens in different spots, placed in a geometrical pattern around the Earth. The various islands follow a systematic routine in patrolling and working their own section. Each garden is approximately the same area as a floating island."

"What keeps them in position, anchored at the thousand-foot level?" Jeff asked.

"Gravitational controls, almost as rigid as steel."

"Why submarine gardens, though?" Why not have them at the surface?"

"Because of the Wave. They have to be deep enough to be undisturbed by the rushing torrent of top water. Down here there is only a strong current when the Wave comes."

"The Wave? Somebody else mentioned that. What is it?"

"It corresponds vaguely to what you must have known as tides. You'll understand better if you learn that from on top. Here we are. We go out through this water-lock on the side."

Jeff did not answer. He was gazing out at a wild dream of a submarine forest. Silently he allowed himself to be led through the lock onto a spongy footing composed of tangled marine plants which had woven themselves through a grid which floated uncannily on a horizontal plane a thousand feet below the surface.

Tall forests of seaweed grew in rectangular rows. There were low growths that resembled truck gardens, and tall growths that reminded Jeff of pine forests. An intermediate type of plant growth was grotesquely like a fruit orchard, even to queer-looking nodules budding in clusters. The whole garden undulated in the grip of an unseen current.

Queer fish and marine creatures swam or scuttled through the weird scene. All was in general darkness, save for rays of light here and there through the distance. Those were the spots where gardeners of Island Five were at work in the vicinity of their pressure globes, which resembled gigantic black mushrooms with snaky cables undulating up and out of view above them.

"EVEN Alice never saw anything like this in her Wonderland," observed Jeff aloud. "You mean to tell me, Macy, that this queer stuff is edible?"

"So much so that two different departments are working on the problem of getting rid of these small surface fish and crustaceans. They are what birds and insects were to the ancient land farmers. The gardens are seldom bothered by the giant deep-sea creatures. There are railings and certain defenses against them. But these top-water creatures can't be kept out. If we built a fine enough grilling all around the gardens, we couldn't get to them ourselves.

"But what difference does it make now? I was working on special cultures which could be grown by hydroponics on each island when I learned of the coming ice age. I dropped everything to investigate that with Dr. Gross, and then to fight Neidler. But we'd better not talk about that. Some gardener may get close enough to hear."

"I see," replied Jeff. "These are wireless phones, based on the old radio sound-wave principle. In my day that sort of thing was used to chart ocean bottoms. Say, isn't that some sort of railing over there?"

"Yes. It looks like a grillwork as tall as that grove of kelp-apples it protects from huge monsters. We are near the fore end of Five. The island isn't exactly above this garden. It hasn't fully compensated for the action of the last Wave."

"You mentioned creatures of the deep before," said Jeff, trudging along in his companion's wake. "Don't whales play havoc with this stuff?"

"There are no whales such as you knew," said Macy as he unhooked a pair of long shears and a net from his belt. "Either new life developed in the deep waters of the changed world, or certain species the ancients never learned about came up from the deeper

spots and began evolving. Anyhow, viper eels, dragonettes, stalkers, saber squids and other huge monstrosities have changed the very nature of—"

He broke off. He neared the grove of kelp-apples, his beam of light fell upon what looked like a felled redwood trunk to Jeff. It stretched from the unseen heart of the kelp grove to the grill-railing—and beyond in a somehow horribly suggestive fashion. From the heart of the grove, violent eddies of water rushed out against the two men. Segments of kelp trunk and roots and fruit tumbled along in the force of the stream.

"Get back!" called Macy sharply, struggling to retrace his own steps. "This looks like a dragonette. We must notify the guard on the eighth level to send down the air-bombing squad. There's a cable telephone in the sphere. We've got to get away!"

Down the middle of the grove of kelp trees, a part magically appeared, as though a reaper had suddenly cut a swath through a Kansas wheat field. In this wide gap appeared the head of the gigantic sea monster. To the startled Jeff Reade it resembled a Chinese dragon, even to the fringe of gills like whiskers. The wide jaws were crammed with masses of kelp. The eyes were enormous, empty and convex like those of a fish, and just as soulless.

As Jeff stared in horror, watching Tom Macy turn about in his heavy armor and start away like a man in a slow-motion nightmare, the horrible creature lifted its ghastly head. It unhinged a lower jaw that was fully fifteen feet across and swallowed that colossal bale of kelp in a single gulp. Without moving its great body one inch forward, it began to draw in water. Caught in the suction of that terrible current, Tom Macy was picked off his feet and pulled backward.

"Run, Jeff!" Macy's voice blasted against Reade's ears. "You can't help me. Get to the sphere and call!"

BUT Jeff Reade had given his word to stick by this courageous young firebrand of the seventieth century. His plastocoid-gloved right hand pushed down toward his belt for the volt-ray gun he had hung there as they were getting into the metal-reinforced, cumbersome diving suits. Deliberately he moved out across the spongy floor, was caught in the frightful suction.

As the flow of water whipped him toward the horrible maw, he aimed Tom Macy's weapon at the vast eye and pulled the trigger. The whole area of water turned blue about them. Jeff went rigid as he was gripped by the short-circuiting shock discharged from the deadly weapon. He realized what he had done the instant he felt the shock, but he couldn't unlock his muscles. It was the end, he thought.

He saw the bolt strike the cold eye of the monster. The eye simply disappeared as the water boiled and swirled. Then the bolt was dissipated and the awful agony was gone. But so was Tom Macy, and Jeff was helplessly following into that cavernous black tunnel! The minute-brained sea monster was not dead in spite of its ghastly wound.

Then Jeff's beam of light shone on an incredible sight. Already deep within the jaws of the dragonette, recovering from his own share of the electric shock, Tom Macy had rammed the point of his unopened shears deep in the jaw muscles and hooked his net over the handles. Clinging to the strands of the net with one hand, he was clawing frantically for a blunt-shaped weapon at his belt.

"Your air-bomb pistol, Jeff!" he called out. "Maybe we can finish the beast off with bombs!"

Jeff Reade felt for and found a duplicate of the queer weapon Macy was drawing. Having nothing to hang onto, he was pulled past his companion and sucked down that repulsive gullet. But he had his beam of light and the air-bomb pistol was in his hand now. Aiming blindly at the arched roof of flesh above his head, he pressed the firing stud of the gun.

The result was nothing like that from the bolt-ray gun. Only by the slight recoil against his wrist every time he pressed the stud could he tell

the gun was firing. He went down that terrible fifteen-foot throat, stitching a row of missiles like a seam down the monster's backbone.

Suddenly the downward movement ceased. The dragonette had had enough. It tried to regurgitate, and Jeff was swept back like a toy doll in the outrushing torrent. Now he was given the amazing view of what the kelp-apple grove, sprawled across Tom Macy. They watched the neck and head of the monster literally exploding.

THE forepart of the horrible raider from the depths simply burst. There were millions of bubbles that materialized from nowhere and turned the reddening water into

Jeff Reade saw the bolt strike the cold eye of the monster (Chapter IX)

last several of his air-bomb shots were doing to the monster. Where each shot had penetrated, an enormous swelling was ballooning outward. The next to the last shot was in the process of exploding. The third from the last had already ruptured, tearing a great hole in the dragonette's throat.

Abruptly, Jeff was outside in the froth. The giant body just slid away like a huge black rope, flipped over the top of the grilled railing and dropped out of sight as it sank toward the sea floor.

"Well!" exclaimed Tom Macy at last, shaky and yet exultant. "That's not only the first dragonette I've ever helped kill, it's the first one ever killed with hand-guns. We've set an

enviable record."

"I hear you," answered the American weakly. "But just what did kill it?"

"Those bullets we fired into it were explosive compressed-air shells. They literally blew it up. Deep-sea fish blow up upon being brought to the surface, due to the sharp lowering of external pressure. That's the principle on which the air bombs work. They inflate them sufficiently with air to burst them. This is the first time anybody ever fired a volley of small bombs into a dragonette from the inside. But that first bolt of lightning must have had a lot to do with it. What did you do—have my bolt-gun handy and fire it?"

"Yes. I didn't know about these air-bomb pistols. I thought it was the only weapon of any kind we had. I just took a chance without thinking."

"And you darned near electrocuted us," said Tom Macy cheerfully. "You're as crazy as I am, only along slightly different lines. I guess this makes twice in one night you've saved my life. From this moment on, before all else, I am your friend."

"I think I'd like to shake hands on that," said Jeff Reade gravely.

They were untangled now, facing each other in that queer submarine garden, looking like a pair of undersea robots in their diving rigs. Both of them started grinning as they firmly clasped plastocoid gloves. The two young scientists were adventurers of practically the same age, although they were five thousand years apart. Suddenly a harsh voice impinged against their ear-phones. Their grins instantly faded.

"All gardeners on duty report to your proper pressure spheres immediately!"

"The main switchboard of the eighth level," gasped Tom Macy.

The metallic voice went on:

"Squads of special police are about to begin systematic search of the submarine garden for a dangerous political prisoner and his companion. All gardeners report at once to spheres and await further orders. Any gardener not at sphere and ready for questioning will be extinguished without warning. This order comes straight to Gardener Division from headquarters of Colonel Cloxin."

CHAPTER X

What Price Eggs?

MACY looked at Jeff and shrugged comically.

"I guess that just about winds me up," he said. "I should have figured Cloxin would go clear to the bottom in his thorough search for me. I could have got a machinist to hide me for a few hours, but that would only have been a matter of time. Why bring destruction upon some poor devil for such a short respite?"

"Clear to the bottom," repeated Jeff thoughtfully. "Can't we go below the bottom of this ghastly garden?"

"Not without a pressure sphere. They'll examine every one of them."

"You said something awhile ago about dropping from the island hull to this submarine plane without using a sphere. What if a person were to miss?"

"He'd sink more than five miles, or until the weight and pressure of the water crushed him into jelly."

Jeff Reade blinked. "The properties of water haven't changed any since nineteen-forty-one. But there must be a way out for you until we can change the governor's mind. Haven't you any friends on any other island?"

"How would I get there, granting that I'd care to endanger anyone else? Every airport and private plane on Island Five will be under strict surveillance until I am caught."

"How about boats?" Jeff pursued.

"Surface craft, you mean, to go from island to island? There are no such vessels, as you ought to know. No, you oughtn't. You don't know about the Wave yet. I'm sorry. I guess I'm trapped. But you are safe enough. I can tell from the tone of that warning. Let's get back over to our sphere until Cloxin's men pick

us up."

"Wait!" said Jeff in a terse whisper. "There is one place on Island Five where you would be perfectly safe. I know I can hide you where Colonel Cloxin will never think of looking for you. Can you get us back to the street level before we are overtaken?"

"Probably, if that would do any good. Anyway, we can try." Macy shrugged his shoulder.

"Let's start trying," said Jeff decisively. "I want to go back and have it out with Governor Neidler and then get some rest. I'm beginning to feel pretty weary."

Half an hour later, Jeff Reade tiredly made his way along the corridor in the governor's sec. It took him to the private conference room from which he had fled so unceremoniously. There were two muscular guards in snugly fitting blue uniforms at the entrance now. Each had a white star stitched over the left breast, with a numeral in gold clamped to it. Colonel Cloxin's disciplinary police challenged him before he reached the door. Jeff held up his empty hands in token of surrender.

"I'm the man from the chrysalis," he said. "I give up. Take me to the governor."

Exclaiming in wonder, but not forgetting to draw their bolt-ray guns, the two officers searched Jeff for weapons. Then one of them conducted him into the chamber. Neidler and Radcliff were still there. They had been joined by Claudette and Antonia, and all four of them were talking excitedly with Colonel Cloxin. Jeff Reade's entrance precipitated an abrupt silence. It was the governor who smiled and spoke first.

"Ah, my Quixotic friend, you have returned."

Colonel Cloxin stabbed a glance at the guard.

"Where's the other one?" he questioned.

"If you mean Tom Macy," said Jeff, answering for his captor, "I let him go after we killed a dragonette together in the submarine garden."

THE two young women stared at him in wide-eyed wonder. The director of the museum exclaimed aloud in amazement. The head of the disciplinary police merely grinned mirthlessly.

"With what?" he asked coldly.

The American obliged with a brief but accurate account of his terrible experience.

"But that's impossible!" protested Director Radcliff. "It would take an an air-bomb cannon to do that. It must have been a viper eel."

"Twenty feet in diameter?" asked the governor. "Come, Radcliff, you know better than that. Besides, Jefferson Reade knows nothing about present-day conditions. He couldn't be drawing on his imagination. If he says it was a dragonette, I am quite ready to concede the fact, incredible though it seems. Remember that he used a bolt gun, too. I'm beginning to have a wholesome respect for this energetic man from the past."

"I have a wholesome respect for both of them," said Colonel Cloxin grimly. "They will interfere with production. I advise you to dispose of them, your excellency."

"After Reade saved my life? When you consider his unique position in our society? Cloxin, your zeal exceeds your judgment. Confine your efforts to the capture and disposal of Tom Macy. I'll take care of Mr. Reade. He is entitled to a detailed explanation of conditions existing on Earth today. Dismiss your guard, Colonel. I need no protection from this man."

The colonel stared deep into the inventor's eyes with an inward shudder. Reade thought of the indefatigable *Monseiur* Javert of Victor Hugo's *Les Miserables.*

"Very well, your excellency," said Cloxin with a stiff bow. "You may withdraw, Sergeant. I presume you have no objections to my personally interrogating this man from the past."

"Not at all," agreed Neidler. "But not at this hour, my dear colonel. It is almost dawn. Our two guests must have nourishment and rest."

The governor dismissed the matter for the time being. Reade was grateful. Before he left with Radcliff, Antonia found the opportunity to draw him aside.

"I suppose you still have the nerve," she whispered, "to look down on me as a spy. It seems to me you've gone overboard on the leftist side with a vengeance. All you need to be a first-rate agitator of the seventieth century is a soapbox. Your hair is long enough, and you've done everything subversive you've had time for."

Jeff colored angrily. There was just enough apparent truth in her remarks to bite in.

"Now see here—" he began, then broke off as Claudette approached.

"I think you are one of the most remarkable men I've ever met," said the governor's daughter with charming frankness. "Toni has told me of her own short acquaintance with you, despite the strange circumstances. Don't you think he's amazing, Toni?"

"At least he has no counterpart in this era," admitted Toni.

"I'll get a haircut before I see you again," said Jeff curtly. "I didn't have time for more than a shave for this performance. Good night."

"Good morning," said Colonel Cloxin. "Merely for your own protection, Mr. Reade, Sergeant Prall will conduct you to your apartment."

The governor was more cordial, his handclasp genuinely warm.

"We will meet at noon for lunch, Mr. Reade, and we can take turns asking questions."

OUTSIDE in the corridor, Sergeant Prall fell into step with Radcliff and Jeff. At the door to the museum director's apartment, he gave a courteous good night to Radcliff and motioned Jeff onward.

"Colonel Cloxin has arranged for your complete privacy and rest," he said. "You will be quite comfortable in the apartment prepared for you."

Shrugging helplessly, Jeff said good-by to Radcliff and walked on. The museum director started to speak, hesitated. He went into his chambers, shaking his head. Jeff had no such apprehensions, for Prall conducted him to a suite that was the last word in luxurious fittings.

Two doctors awaited him. As soon as the sergeant withdrew, the pair rapidly checked over the American, gave him a hot bath and a bowl of hot greenish stuff like a thickened consommé, and ordered him to bed. Jeff was glad to follow instructions. He was unutterably weary. As he experimentally tasted the soup, one of the medical men explained:

"A puree made of type fifty-seven algae with vitamins A to J. It is very rich and far superior to the green vegetables the ancients ate."

"But hardly as savory," said Jeff after his first sample. "It isn't bad, tastes faintly like spinach and greens, and it's pleasantly salty."

"I am not familiar with spinach. Your physical condition is remarkable, considering the length of your inanimation. You can use about fifteen pounds more weight. Outside of that, you are as sound a specimen of thirty-year-old manhood as I have examined. Now off to bed with you."

"Thanks, Doc," said Jeff sleepily. "I guess I lost that much weight hibernating. When I get around to it, if I can find a substitute for wheat flour, I'll show you how to make crackers to go with your soups."

"We make an astonishing variety of breads out of fish protein and added chemicals," said the second doctor calmly.

"The kind of bread I'm talking about isn't in the form of a concentrated tablet," said Jeff.

"Neither is ours," stated the doctor. "We produce the bulk from bone meal, a basic flour made of the specially prepared bones of several edible fish. To produce different breads and pastries, we simply add different ingredients."

"I'll bet that stuff tastes good," said Jeff, shuddering. "Well, g o o d night."

Without further talk, he tumbled into bed. It had a frame of plastic material, mattress and pillow of pneumatic sponge-rubber stuff, sheets something like the linen of his own

day, and covers of synthetic products comparable to rayon. He tried to adjust his head to a comfortable position as the doctors packed up their equipment and prepared to roll their examination table out.

"All this synthetic stuff is all right," Jeff murmured, "but why did you bother trying to find a substitute for feathers for a pillow?"

"Feathers?" asked one of the departing medicos over his shoulder. "You mean the plumage of birds? There are no birds. Good morning."

Jeff closed his eyes simultaneously with the closing door. Then he snapped awake as suddenly as though he had been stuck with a pin. Like a flash he was out of bed and racing across the room toward the door.

"Hey, Doc!" he yelled. "What was that you said about no birds? How do I get eggs for breakfast?"

He flung open the door. The doctors had disappeared, but two uniformed guards with white stars on their breasts snapped to attention from each side of the doorway. Faces wooden, their gigantically muscled bodies were rigidly barring the door.

"Oh," said Jeff, blinking up at them before slamming the door and going back to bed. "I see. Colonel Cloxin supplies hard-boiled eggs."

CHAPTER XI

Jeff Learns

RIGHT on the dot at twelve o'clock, according to the dial with twenty-four numerals and several hands set above the visi-screen panel, Jeff was awakened by his medical attendants. They brought a barber with them. He proceeded to shave the American as soon as the two physicians got through with their tests.

"The service in this hospital is excellent," complained Jeff, "but the chow isn't so hot. Where are Mike and Ike—those two eggs guarding the donjon keep?"

"You refer to the disciplinary police of Colonel Cloxin?" asked the first doctor hesitantly. "A guard of honor is just outside your door."

"Honor? That's what Cloxin told you, maybe. Say, barber, how about a feather-edge haircut this morning? Why must I think in terms of eggs and chickens? Give me a haircut like everybody else's, will you?"

The visi-screen began glowing and pulsing. One of the physicians looked at Jeff for instructions.

"Cut it in," he ordered. "I'll preview the picture, or whatever you call a television message in this enlightened era."

The doctor pressed the proper button and adjusted a dial. Instantly the beautiful face of Claudette Neidler filled the screen. She was smiling a friendly greeting. The smile stayed, but her fine dark eyes went a trifle wide at sight of Jeff in pajamas and being ministered to by doctors and a barber.

"Good day," she greeted. "I see you really meant it when you said you would get a haircut."

[*Turn page*]

"Good morning. Excuse my appearance. I was expecting only a call from Colonel Cloxin."

"He is breakfasting here with us," Claudette replied. "I just flashed you to say we expect you in half an hour. How is your medical report? Toni's is amazingly good. You must tell me about your suspended animation experiment as soon as you can."

"I'll be there. I'm all right. Why don't you ask Toni about it? She knows as much as I do. Maybe you can get her to talk."

"Perhaps I shall. Hurry along, Mr. Reade. Come to father's private conference room. Someone will be there to conduct you to the breakfast roof. Can you find the way?"

"I'm sure I'll have a reliable escort," he assured her ironically.

The doctor clicked off the screen.

"A lovely and talented young woman, Claudette Neidler," he said in admiration. "Very few women in her position trouble to major in the productive arts. She has already piled up enough erg units in engineering to care for her the rest of her life, should anything happen to her father."

"Why do you say that?" demanded Jeff sharply. "Why should anything happen to her father?"

"There shouldn't," said the doctor, a ludicrous expression of surprise on his face. "I was just thinking what a remarkable girl she is."

"I see," said Jeff, instantly realizing that these men and his guards—in fact, everybody outside the governor's circle—knew nothing of what had transpired the night before. They hadn't the slightest inkling of the course of events leading up to the attempt on the governor's life. Nevertheless he put out a feeler. "Do you know a Dr. Gross?"

"You mean Dr. Gross of the Bureau of Standards? Of course. As fine a scientist as there is on all the islands. He is a friend of Governor Neidler's. Well, I see no reason for further checking on your condition. All you need is a little weight, but you needn't worry. We'll put everything in our report to the governor."

"Thanks," said Jeff dryly. "Better give a copy to Colonel Cloxin, too. He'll probably be interested."

"Everybody in the world will be," agreed the second doctor seriously.

TWENTY-FIVE minutes later his two white-starred guards, a different pair from the two who had first stood at his door, conducted him back to the governor's suite. Claudette herself was awaiting him in the conference room. She dismissed the pair of policemen. As they reluctantly withdrew, she came forward to greet the American. Her straight-forward greeting was fraternal, yet it had all the grace and charm of womanhood.

"I haven't thanked you for saving my father's life, Mr. Reade," she said in her hauntingly sweet voice as he took her hand. "I want you to know that I do, with all my heart. And I don't mind that you assisted the assassin to escape. I just want you to know that I love my father more than anything in the world. I think I'd die if anything ever happened to him."

"I hope nothing does, Miss Neidler," he responded. "I think you overrate my share in the matter. I don't believe Tom Macy really wanted to kill your father, anyhow. They simply differed in opinions and an accident almost happened."

"That's not the way Colonel Cloxin considers it," she said as she slowly withdrew her hand. "Yet I can't understand why anybody would attempt my father's life. He is the gentlest, kindest, finest man on this water world."

So Claudette was in ignorance, too, of the cause of conflict. Jeff did not consider it his province to enlighten her.

"Do you know the man?" he asked instead. "He is a young scientist named Tom Macy."

"I've heard the name, but I don't recall him," she said, trembling. "I simply hate him, sight unseen! But, come. They are waiting for us on the roof. I insisted on waiting alone to meet you."

There was a wordless intimacy in what she said that pleased and thrilled this man from a long ago age. She

seemed aware of this effect herself, for she colored faintly. Jeff Reade appreciated what a man named Shakespeare and another man named Dickens and innumerable other men had known—the human heart does not change in a mere few thousands of years.

Claudette led the way through the suite of rooms to an inner elevator. Jeff noted from the panel that there were only four stories above the ground level. He had already noticed this same precise regularity of structural height in every other building he had seen. He asked about it now, meanwhile admiring the girl in her morning robe of pale rose, her delicate perfume, her black hair braided and coiled around her shapely head like a coronet.

"That is an architectural law," Claudette explained, smiling. "Only a few governmental buildings in the center line of the island are taller, reaching the equivalent of six stories. There are ten levels below the waterline. That is to prevent the island from becoming top-heavy and capsizing. Only the island of the world regent—Island One—has a circular shape, being almost six miles across from any direction. The regent's palace in the center of the island must be like the towering skyscrapers of the ancients."

"How many stories?" asked Jeff Reade.

"Fifteen," she answered proudly. "The offices of world government occupy the lower floors."

"You'd better read up on your ancient history," commented Jeff quietly. "The Empire State Building of New York had a hundred and two stories. It stood more than twelve hundred feet high. It was the tallest structure in the city."

"Nobody can study the past to any full extent, Claudette replied, her lovely face sad. "We just have a few books, salvaged here and there, in the library of the regency. Most of the reference books of your day before the Great Nebula were in the library on Island Nineteen, the one that was destroyed in thirty-eight-ten by treachery."

JEFF wanted to ask about this bit of interesting history, but there wasn't time. He mentioned her perfume.

"Oh, yes, we still have that industry. Ambergris from the giant anemone is blended with the chemical esters in the laboratory. I studied that for awhile, until engineering principles fascinated me. Here we are on the roof. This is our nearest approach to a flower garden."

Jeff Reade looked about him in interest. The roof was flat and sodded with a fine, vivid green grass that reminded him of the turf in Lincoln Park, Chicago. There was a parapet, tiled in Spanish fashion, around the edge. In the center, an inner square of lusty plants growing in chemicalized water trays landscaped and hid the elevator housing and stairs to the regions below. Scattered about the lawnlike roof were plastic tables and tubular steel chairs.

A number of persons on the roof were having luncheon, served by efficient-looking young men and women scarcely out of teen age. Nearly all wore the trousered costume of the period, the women's cut fuller and in more graceful lines, but all in pastel shades.

Young and old alike had a pleasanter air about them than a comparable group of Jeff's own time. Some of the women were aging and graying, and some of the men were overweight. Yet there was a trend to a standardization of size and weight and general comeliness, without approaching the classical monotony of perfection.

"There is a restaurant and all other complete shopping, living and educational centers in every sec," Claudette explained. "People can come up here for meals, or prepare their own in their apartments."

"All life and comforts seem to follow a regular pattern," commented Jeff thoughtfully. "A truly communal life. But then the old independent family life would be impractical here, where space must be at a premium. But tell me, Miss Neidler, what are those girders, that system of steelwork arching far overhead? It looks as though there are panes of

glass in some of the squares, while others are open. You don't live under domes of some kind, do you?"

"Yes and no," the girl answered. "Ordinarily, no. But there is a thirty-minute period every twenty-six hours when we do. When the warning signals sound, all aerial traffic ceases. Planes are grounded if they are local fliers. Geared machinery cranks out sheets of clarotex plastic from each one of those 'glass' segments you noticed to every adjoining segment. Thus each solid square takes care of four others about. They all fit together in a perfectly hermetic pattern."

"To make a solid dome of transparent plastic?" he prompted as she paused.

"Precisely. We go this way. Father's tables are over to the left, next to the parapet."

"But why?" he asked, perplexed.

"The Wave."

HE wrinkled his brow, trying to puzzle it out.

"You mean you have a wave of tidal proportions just two hours farther apart than a day? A wave large enough to force you to glass over the entire island? It must be a smaller island than I was told."

"The island isn't small. The Wave is far larger than you imagine, and it is only one hour more than a day in coming."

"You said every twenty-six hours."

"Yes, but our days are twenty-five hours long now. Scientists have figured that the Wave itself is acting as a brake to slow down the revolution of Earth. It is a terrible wall of water following the spinning globe, but lagging an hour behind, sweeping from west to east in a continual and majestic roll of water around Earth."

"Of course!" Jeff exclaimed. "I should have figured that out. A spinning globe of water with a rigid core and a moon would have a huge ripple. You don't have tides any more. You just have this one big wave!"

"Exactly. A two-hundred-foot wave, hundreds of feet thick, racing around the world in one constant crest and head of water at nearly a thousand miles per hour at the equator. None of the islands could drive around the globe ahead of it. They are all domed to let the Wave break over them."

"Wait here a moment before we join the others," said Jeff.

He halted her near the end of the hydroponical inner square, in full view of the group at the governor's tables, by gently placing his hand upon her upper arm. He meant nothing, yet he thrilled at this contact and felt Claudette quiver slightly. Through the thin material of her sleeve he felt her rounded arm. It made his voice a shade unsteady. Nevertheless the scientist in him was crying out for information. Claudette raised her face to his, gazing deep into his burning eyes.

"Yes, Mr. Reade?" she murmured.

"About the Wave," he said intently. "So that's why navigation has become a lost art. That's why you have submarine gardens. That's why you have a convertible dome. But it seems to me that a world of water constantly in motion would counteract the danger of free—er—I mean, the wonder to me is how the first people of these artificial islands survived the first waves. Were the islands domed like this from the beginning?"

"No. They survived because the Wave didn't spring into being suddenly. It slowly built up, gaining in size and speed until it reached its crest in a couple of hundred years. They built and fought ahead of it. These convertible domes, as you call them, are the final results."

"I must learn more about this amazing life," Jeff declared. "I—I feel like a child lost in a wilderness of strange facts that must be mastered before I can find myself. I guess I sound a little crazy to you, Miss Neidler, but I can't help it. I haven't really got adjusted to the sudden transition. I suppose I must appear moronic, to say the least."

"Not at all, Mr. Reade," she answered gravely. "It was the Wave that started me to studying engineering."

A bond of some intangible essence, of a common denominator of scientific research, was suddenly welded be-

tween them. As they joined the governor's party, Jeff Reade felt positively giddy. He didn't even see the three police officers who came out of the hydroponically camouflaged inner square behind him.

CHAPTER XII

Future Industries

THERE was only a small group at the central table—George Neidler, John Radcliff, Antonia Blake and Colonel Cloxin. Toni looked lovely in a shimmering white robe of Claudette's. She looked venomously at Jeff and Claudette. After greeting Jeff cordially, the governor spoke casually.

"It seems that we haven't had all the excitement to ourselves. Director Radcliff has informed me that there were further peculiarities at the museum after you left it. Thompson, the guard, was mysteriously attacked on his rounds by unknown assailants, who left him bound and gagged in the director's office. He didn't catch so much as a glimpse of his attackers."

"The staff is checking the entire museum now," added Radcliff. "Nothing appears to be missing. It is decidely queer, don't you think?"

Jeff Reade kept himself from going tense by a great effort. He glanced from one face to the other.

"Not being familiar with things here," he said, "I wouldn't know, Mr. Radcliff."

The subject was dropped, but Jeff felt the eyes of Colonel Cloxin on him, boring in like twin gimlets. He was almost glad when the luncheon-breakfast was over and Toni managed to get him to one side for a few choice words.

"You're getting quite familiar with certain aspects of this island," she said acidly. "I thought you were going to gobble Claudette up before she could get you to the table. You're not falling in love with a woman five thousand years too young, are you?"

"Certainly not!" he snorted in disgust. "This is not time to fall in—Say, what is it to you what I do, Miss Blake?"

"Save that formal talk for the governor's daughter. My name's Toni to you. And I—" She broke off somewhat breathlessly, her lovely violet eyes going wide in speculation as she stared into his face. "Yes, that's right. What is it to me? Nothing ever happened like this to me before. I can't figure things out."

She didn't have to, for the time being. The governor did.

"I'm taking you two people on a tour of the island," he said, "before publicly announcing your awakening. After that it would be practically impossible to go anywhere quietly."

"Except to the disciplinary chambers," suggested Colonel Cloxin.

For the anachronistic American, the next few days passed rapidly. He was questioned often by Governor Neidler, occasionally guided and instructed by John Radcliff. But he was ever under the surveillance of Colonel Cloxin or his men. Nevertheless he assimilated an accurate picture of the times, customs, and problems. He continued to reside in the governor's sec and was considered a part of the executive household.

Not yet assigned a position in society, he and Toni paid for their keep by spending two hours daily answering questions and trying to present a graphic picture of their own time. Occasionally they were questioned together.

Jeff found himself staring at Antonia Blake, amazed at the accurate picture of European politics and world conditions of 1941 that she drew. Instead of telling a garbled account, coloring her story to favor totalitarian powers, she told the truth in a manner which neither flattered nor condemned any one country. At first startled at her knowledge, Jeff remembered her profession and revised his preconceived notions about the intellectual attainments of spies.

DURING this period of readjustment, sometimes with Toni accompanying the party, more frequently alone, the American studied the economics, history and industries

of this new water world. Reminiscent of the conducted tours through plants and factories of his own vanished era were these trips and excursions about Island Five.

He went through the fisheries, where huge quantities of unbelievable sea creatures went through various processes that turned them into food. It was like a composite trip through slaughter houses, packing plants, processing mills and chemical laboratories.

The flesh of certain sea creatures was treated in different ways to create different products. The bones of most of them were kiln-dried, processed into flour and meal. The scales went into synthetic pearls, plastics and glues. The natural oils were used for everything from shoe dressing to salad oil, much in the efficient manner of the old petroleum refineries. The skin of certain species became leather as good as any Jeff had ever seen. There were a few speciments that he recognized as descendants of fish he had known. But there was more that didn't remotely resemble any deep-sea monstrosity he had ever seen. The fisheries themselves were the strangest of all. Not a thing was taken at the surface of the water. There were no boats, no wharves, no piers. Where the island met the sea, there was only a heavily reinforced sea-wall, where the system of overhead girders started.

Jeff felt a pang of nostalgic longing for the sight of men and boys fishing along the stringers of a dock, for a boy using a cane pole on the muddy banks of a woodland stream, for the sight of a sportsman fighting a speckled beauty in a mountain pool. But all this was gone as though it never had been. Men went down wells and went fishing in pressure spheres with huge nets and air-bomb cannons and caught their fish in shoals and schools around the submarine garden. They hoisted them away to the plants at the surface with the ruthless, machine-like efficiency of the Japanese flotaing factories, which once preyed on the salmon fisheries in the North Pacific.

Food products were canned in plastic jars that were made of creatures of the sea. There were no metal containers. Paper was manufactured from a variety of kelp from which different kinds could be produced by a change in the processing plants. One industry simply led to another in an endless chain, all interlocking, completely unlike anything Jeff had known.

The reclamation of minerals and mineral salts from the Sea by electrolysis, evaporation and other refining methods was a process of absorbing interest. The electrolysis method did not differ greatly from the ways Jeff had known, but they were more elaborate, astonishingly thorough. Great plants, all operated by Sun motors and covering a great deal of space, reclaimed in their proper order metals and salts.

This line of research led in two directions — toward mills and foundries and toward the chemical laboratories. Jeff took a cursory glimpse at both. He hadn't time for more. Then he went on to the cosmetic and perfumery laboratories, and to cloth mills, and dye plants and clothing shops.

Everything came from the Sea or was supported by the Sea. It was unbelievable, the miraculous conversion of life and industry that had taken place over a period of several thousand years. Life was full-rounded and the social order seemed better, but Jeff Reade yearned sickly for land, for things that grew and flourished in the soil.

He keenly missed animals, bird-life, milk and eggs. True, they had good and wholesome substitutes for milk and eggs, but they weren't the same. To these people who had never known the other life, everything seemed adequate. To Jeff Reade it was a pitiful makeshift. After the novelty wore off for him, there was nothing left.

THE most amazing thing of all was the Wave. The first time he went through that experience he would never forget. It was at night, about one hour later than he and Toni had first felt the tremor upon awakening in the control room of the *Jules*. Sirens shrieked all about the island,

He broke off as he saw the smoky fumes rising from the shattered bomb on the floor (Chapter II)

and in every home and building warning bells and warning lights came to life.

He was with the governor at the time. Neidler explained quickly that the Wave was approaching. He took the American to the Bureau of Standards building—the tallest point and therefore the most central—to view the phenomenon. It was here that Jeff met Dr. Gross, the famous elderly scientist.

"Dr. Gross is one of the finest scientists of the day," Neidler said as they entered the building, followed by the inevitable Colonel Cloxin. "I am in hopes that he and others like him will find a solution to the terrible problem which confronts mankind. But the old man thinks that everybody should be told everything. I fear he has inculcated this idea in his protegé, Tom Macy. But don't let this information sway you against Dr. Gross. He is honest in his beliefs and does his work as he sees it, just as I see and do mine."

"I consider him dangerous, nevertheless," put in Colonel Cloxin soberly. "One inadvertent admission to someone outside of his organization, and the whole secret will be out. I came upon him on the verge of spilling the facts of the steady dropping of sea temperature to Claudette yesterday. And you well know, your excellency, how little information your daughter would require to get on the track of the whole thing."

A swift frown crossed the governor's face.

"I shall tell my daughter about this myself when the time comes. I wish to spare her as long as possible. I will caution him again."

"Just let me casually inform him that my men are after Tom Macy, and why," said Cloxin grimly. "That will shut him up."

"No," declared the governor. "There will be time enough for that. And I

don't want to make a rebellious citizen of him. I am in hopes that he can develop that Sun power thermostat idea he has. I still believe he can make it work practically."

"You mean his idea of putting thermostatic heat units down in the Sea like thermometers, then scatter them thickly all over the globe to build up a certain temperature of water, holding them in position as the submarine gardens are held?"

"Exactly," said the governor. "If that can be done, we can pass through the coming ice age with no difficulty."

"Granting that we had the time to do this, which we haven't," pointed out the Colonel, "where would all the metal come from to make these millions of thermal units?"

"Your stand is well taken, my dear Colonel, but the answer lies in the range of water-warming efficiency of each thermostat. If, for example, it takes one thermostat unit to each square mile of surface area, it would take one hundred units for a ten-mile square. But if the efficacy of the individual unit can be stepped up to cover ten miles instead of one mile, ninety-nine units would be eliminated. That is what I am hoping for."

The elevator took them to the top floor of the Bureau of Standards building. In a huge and gleaming laboratory with circular windows giving a view all around the compass, Jeff made the acquaintance of Dr. Herman Gross. The old scientist's eyes lighted in friendly interest as he surveyed the man from the chrysalis. "I've brought Jefferson Reade here to see what he can of the Wave," explained the governor. "I knew you would be working late and that you would not mind, Dr. Gross."

"Mind? It is a pleasure. Come to the west windows, gentlemen. I will turn out the lights so you can see."

CHAPTER XIII

The Wave

AT the western side of the circular chamber, Jeff stood and stared out over more than two miles of lighted rooftops. The strong lights of the laboratory went out, leaving only the soft glow of the city. Overhead the smooth machinery was sliding the transparent plates out into their correct sections. The stars blazed down in undiminished beauty.

Then a faintly perceptible tremor made the floor beneath them sway, reminding Jeff poignantly of the elevated train platforms of long-vanished New York. A row of blinding searchlights set in the western wall of the island came on in a flash of brilliance and focused westward for all who cared to see. And, faintly but clearly through the dome of ironwork and plastic panes, there came the roaring sound of a wall of racing water.

"There it comes," said Dr. Gross, placing a gentle hand on Jeff's arm and pointing. "You can set your watch by the Wave, it's so regular."

Before the American's amazed vision, rearing higher than the tallest building on the island, a solid wall of foam-laced gray was rolling forward. The sight was frightening and awe-inspiring. Jeff experienced a momentary doubt that even this immense floating island would survive at all, much less be spared destruction. It looked like a magnified hurricane and tidal wave, sounded like a combination typhoon and cyclone.

As the floor surged stronger beneath their feet from the forerunning swell, the Wave struck the island. It was like the shock of battle, the meeting of the irresistible force and the immovable object. The island shuddered throughout its length and breadth. The wall of water struck the dome, lashed high in fury, dashing salt spray clear over the top of the dome with the speed of bullets.

The searchlights on the western rim were drowned out in the raging torrents as billions of tons of water crashed down upon Island Five. It was worse than any wave Jeff had ever seen break over the bow of the staunchest ship. The sky was completely blotted out as a world of water roared overhead, completely inundating the island.

"Magnificent, isn't it?" said the governor.

"It's—it's terrifying!" Jeff managed to gasp. "I gathered a vague idea from what your daughter told me this morning, but I didn't dream it was anything like this."

"Wait until you see it in the daytime, if you think this is awe-inspiring," said George Neidler. "The paroxysm of the Wave itself lasts from one to ten minutes, depending on what latitude the island is in at the time. It'll hit during daylight in about a week."

After the deluge had broken over the island and swept on in its perpetual race eastward, Dr. Gross turned on the lights of the laboratory.

"So this is your first conscious experience with the Wave?" he said to the wide-eyed American. "That is all there is to it. As soon as the surfaces drain, the dome plates will be drawn back out of the way. You must come and talk to me of the science of the past, Mr. Reade. Perhaps you can tell me of difficulties and problems your scientists met and overcame. Maybe you can tell me—"

"Pardon me, Dr. Gross," said the silken voice of Colonel Cloxin. "Have you heard from your vacationing assistant, Tom Macy, lately?"

"Not for a week," said the old man pleasantly. "He is pretty busy enjoying a deserved rest on Island Eight, you know."

"Pretty busy, I'm sure," agreed Cloxin. "What were you about to remark, Mr. Reade?"

"Nothing," said Jeff curtly, satisfied that this guileless old man hadn't the slightest knowledge of his protegé's activities or presence here on Island Five. "Thank you, Dr. Gross. I will call on you again."

BUT Jeff saw the Wave by daylight before he saw Dr. Gross again. It was right after this fearsome spectacle at six o'clock, on a gray morning. He had viewed it from the pedestrian ramparts of the western wall of the island, in company with John Radcliff and a couple of Cloxin's attendant guards. Then the American returned to the governor's sec and sought out Toni Blake for a heart-to-heart talk.

A daylight vision of the awful grandeur of the Wave had brought home a great many things to the American. He was worried and lonely. It was this more than Tom Macy's continued absence that precipitated his action.

At last Jeff Reade had come to the full realization that the world he had known for twenty-seven years had vanished like a dream. It was no more, not even in the memory of the most learned man alive on this water world. It was as though it had never existed. Bitter tears of anguish that he could not shed welled up in his heart. He thought of the American that once was, of the England he had wanted to help save, of even the central European powers that had fought in their own dark way to conquer.

All of them had crumbled into dust or gone into solution many thousand years ago. All that men had longed for, lived for, struggled for had disappeared or changed irrevocably. Nothing of the old was left, not an economic or political ideal, not even a physical vestige save Toni, the *Jules* and himself. What Toni had fought for and what he had fought for was gone from the face of the Earth.

The lovely, tousled blond head of Toni appeared in the visi-screen panel. There was a frown of annoyance on that piquantly lovely face and in those violet eyes still misty with sleep.

"Who on Earth can be calling me at this hour?" she began. Then her eyes went wide at sight of Jeff Reade's rugged, earnest face in her own visi-screen. "You, Jeff! Why are you calling at this ungodly hour?"

"I've got to see you, to talk with you, Toni," he blurted. "I've put it off because—because—I won't procrastinate any longer. There's something you ought to know about certain things."

"Such as what?" she demanded suspiciously.

"Such as Tom Macy, the world, us. Where can we talk?"

"Come to my sitting room, if you like," she offered, "although I don't see the reason for all this haste."

He didn't answer. Clicking off the screen, he went at once to the apartment assigned to Toni. He left his

two police shadows outside the entrance, went in to find Toni in charming negligée at her dressing table. She, in turn, eyed his morning slacks and gray synthetic slicker with raised eyebrows.

"Don't tell me you've been walking in the rain this morning," she said.

"I've been watching the Wave from the west wall," he answered tersely. "The spray and mist whips in there in spite of the dome's protection. It's the nearest approach to a stormy sea on a craggy headland that this watery world can offer. You ought to see it."

"I've seen the Wave three times already," Toni responded, yawning prettily. "Pardon me. I'm growing rather used to it. I think I can wait now until it strikes Island Five at a respectable time of day."

"Snap out of it, Toni!" he said harshly. "You purr like a satisfied cat. Listen to me! Haven't you got it through your head yet that our world is lost to us forever?"

A QUEER light came into Toni's eyes, a faint spasm of emotion crossing her face and momentarily quivering her lips.

"I've been wondering that about you. You strike me as being rather slow on the uptake, Jefferson."

"Eh?" He looked startled. "But there's more to it than that. This world is going to be lost to mankind within the next five years. Had you heard about that?"

"No," she breathed. "Are you just trying to frighten me?"

"I didn't think anything would frighten you," he began bitterly. Then he felt like biting off his tongue. "I'm sorry, Toni. I didn't mean to start that again. Our quarrel—if you and I ever really had one—is over. It would be silly to continue the economic struggle of a dead world in a strange one. This new world faces a deadly crisis of its own, which inextricably involves us along with everybody else."

"What are you talking about?" she asked, rising to her feet and slowly approaching him.

"It's supposed to be a state secret, but I don't see why you shouldn't know. You have as much right as I. This whole water world is going to freeze solid within five years and man is going to perish miserably. That's what George Neidler is keeping from the people. That's why Tom Macy tried to kill him. We're going through another ice age, and there is little hope of deliverance. Macy wants to let the people know."

"Good for Tom Macy!" she cried. "I thought to find a champion of the people in you, when I first met you. I'd like to meet this Tom Macy."

Any tender feeling he might have had for the girl froze up in the American's heart.

"I am surprised to find you championing the common people," he said stiffly. "It's a little late. But never mind all that. I thought you ought to know about things."

"Another ice age?" she said. "But why? How? Is the Solar System passing through an especially cold void in space? I thought the cold of almost absolute zero existed all around us in space all the time. Look at the temperatures of the Moon. Without an absorbing and diffusing surface for sunlight we would freeze up here on Earth, wouldn't we?"

"Your science is sketchy but passable, as far as it goes," admitted Jeff. "From what little I have been told, I don't think it's a special condition of that part of the Universe through which we are traveling."

"Then is the Sun cooling off?"

"Not appreciably. The Earth has some twenty-one motions. The three most important are the revolution on its axis in approximately twenty-five hours, the motion around the Sun in what is now three hundred and seventy-seven days, and the grand axial revolution, which occurs about every twenty-six thousand years, which reverses the equinoxes. As I gather it, it is this third motion which is about to play a dirty trick on mankind, as it has before. Only this time it means the annihilation of all the higher forms of life!"

TONI stared at him helplessly.

"Why are you telling me this—to make me feel as bad as possible?"

"No. Dr. Gross of the Bureau of Standards has an idea that may save the world. But he needs help that is lost to the people of today."

"What do you mean?" she demanded.

"Their reference libraries were destroyed. They don't know all they should know about metals, metallurgy —a thousand things. Perhaps this knowledge will do them no good. Perhaps it can't even be found. But I think I can supply it."

"How?" she whispered, strangely moved by his burning vehemence.

"Back in nineteen-forty a time capsule was buried at the New York World's Fair — an eight-hundred-pound letter to be delivered to the people of the seventieth century. Nobody now remembers the time capsule of our era, but you ought to."

"I do!"

"Well, I intend to get that capsule and lay it at the feet of Dr. Herman Gross as a gift of our time to his."

"Oh, how wonderful, Jeff! But can you get it? Will it help?"

"I don't know," he said wearily. "I don't even remember all that's in it. I know it has the Encyclopedia Britannica on micro-film, samples of metals, seeds, instruments. And I remember its location! Latitude forty degrees, forty-four minutes north, and longitude seventy-three degrees, fifty minutes west. And best of all, I have an undersea craft that will take us safely to that spot. I'm going to offer all this to Governor Neidler. Do you want to go along and help?"

"Nothing in the world can keep me from it!"

CHAPTER XIV

Little Old New York

PROBLEMS, according to science, were made only to be solved. The story of the time capsule set Island Five and the rest of the water world by the ears. It fired the imagination and stimulated the spirit of adventure. While the real reason for seeking the time capsule was not given to the general public, there was no secrecy in the governor's private quarters.

His excellency listened to Jeff's story with the liveliest animation. Hope stirred in the depths of his black eyes. Director Radcliff went into an ecstasy of delight. Colonel Cloxin had an ironical expression on his face. He was unimpressed and said so.

"All right, Colonel," said Jeff tersely. "What if I am a liar? What if the time capsule is there and I can't get to it? What difference does it make? How can I hurt this crazy water world by taking my submarine down into the depths? If I never come back, I will have shortened your life by not a second. I might win, so you've all to gain and nothing to lose."

"Maybe," said the colonel skeptically. "This sounds like a fairy tale you dug up about the past just as an excuse to get your submarine vessel away from the museum. How can anyone challenge your story?"

"I don't challenge it," stated the governor. "I am in favor of letting Jefferson Reade make this attempt. It may be the very salvation for which we are grasping."

"In the name of the state, your excellency, I cannot permit such an unorthodox venture. Think of Jefferson Reade's value to history! The educators haven't even begun to sound the depths of his priceless knowledge of the past."

"You are now arguing in circles, my dear Colonel," commented the governor. "If you don't believe in the authenticity of his time capsule, which should have been opened a year ago, you can't very well believe in the other things he tells of the past."

"But it's the idea of letting Reade get away from all supervision," protested the head of the disciplinary police. "I tell you—"

"Especially after all the attention you have shown him for the past few days, eh?" cut in Neidler shrewdly. "He hasn't proved very violent, has he? You know, if you had devoted as much time to your search for Tom Macy as you have to keeping an eye on Jefferson Reade, I think you might have shown some results. Or have you apprehended Macy without telling me

anything about it, Colonel?"

Cloxin reddened. "You know I would withhold nothing from your excellency. I have not set eyes on young Macy since before he left for his vacation on Island Eight. I have only your excellency's word that Tom Macy is the man I am hunting. But I do know this Jefferson Reade is the man from the chrysalis. As such he is valuable to the state. Even aiding a dangerous criminal does not remove his value. He cannot be allowed to depart on his own recognizance."

"And who said he was to go on this dangerous voyage alone?" asked the governor coolly, pressing a button. To the responding attendant he said: "Find my daughter and Miss Blake. Ask them to come here immediately."

"You are going to reveal the danger to Claudette?" asked Cloxin, surprised.

"I am," said Neidler. "Don't forget she is an engineer."

THE wait was short, as Jeff knew it would be. Antonia was with Claudette, waiting to hear from him. When the two young women entered, Governor Neidler came to the point with admirable candor.

"My dear, the islands are facing a terrible crisis. Jefferson Reade has offered a possible solution. At least it's an attempt that might help. I've kept the ugly news from you, as well as from the general public—"

"You mean the coming ice age?" Claudette broke in quietly.

The governor gazed at her, his features inscrutable. Colonel Cloxin looked faintly surprised. Then he began to grin, enjoying the situation.

"Yes," said Governor Neidler at length. "I wasn't aware that you knew."

"I've known for several months. I have an engineering degree in several fields, you know."

"That simplifies things. Jefferson Reade seeks permission to use his submarine to find a certain time capsule buried under nearly six miles of water. Colonel Cloxin objects, and with reason, to Jefferson Reade's going alone. The very trip, providing the submarine will function, will prove revolutionary and highly adventurous, regardless of the success of the mission. I was thinking of asking Dr. Gross if he would care to go. You have accommodations for how many persons aboard the craft, Jefferson?"

"Eight, but I don't need a crew at all."

"That will be fine," said Claudette crisply. "Get Dr. Gross, Father. Toni will go, as is her right. And I shall go in your name, of course. How soon can you be ready, Mr. Reade?"

"If the *Jules* hasn't been molested," said Jeff, swallowing his astonishment at her directness, "I can leave as soon as I check the fuel supply and get the ship out of that museum aquarium."

"That can be done in a day" said the governor. He looked at his daughter and hesitated. Then he nodded as a gleam of pride came into his eye. "Give orders to that effect, Cloxin—subject to Jefferson's supervision, of course. I'll get in touch with Dr. Gross."

"Very good, your excellency," agreed the colonel coldly. "And since you have the room, Mr. Reade, even though you don't need the crew, Sergeant Dusange will accompany you."

The task of getting the *Jules* out of the aquarium was simple. Tank and all, it was lowered down through the hull of the island to water level. A pair of huge derricks with electromagnetic grapples lifted the *Jules* as easily as if it had been a Missouri mule in a belly-band sling, deposited the vessel lightly on the bosom of the sea through a gigantic hatch. It was simply a reversal of the way in which the *Jules* had been placed in the museum in the first place.

In checking over the craft, Jeff found that his supply of uranium-235 was three-fourths gone. However, considering the few ounces he had used on his initial ten-thousand-mile trial trip under full power, twenty-five pounds should serve for at least half a million miles of submarine travel. In other respects the *Jules* was in perfect condition. Personally seeing to the restocking of food and water, Jeff announced his readiness to shove off for the depths of the Sea

and whatever hazards might be lurking in wait.

There was an impressive little ceremony as his group of passengers came aboard. The governor was there. Oddly enough, Colonel Cloxin was not present, being represented only by a squad of his police. Perhaps his humiliation had proved more than even his thick hide could bear.

DR. GROSS and the young women had already been assigned two of the four compact sleeping chambers in the lower half of the hull, below the transparency line. Jeff briefly explaining the ship to the interested governor. He was showing how to render the entire craft opaque when Sergeant Dusange arrived.

The strapping policeman foisted off on Jeff by the zealous Colonel Cloxin was an odd-looking person. Smart enough in his uniform and armament equipment, he was completely baldheaded and had a short but ferociously bushy beard. It was as if his face sought to make up for the deficiency of his scalp. He wore amber-tinted glasses through which his alert greenish eyes stabbed like a knife.

"Sergeant Dusange, reporting for this voyage by order of Colonel Cloxin," he said in a deep voice.

A long look passed between the sergeant and the governor.

"You realize, Sergeant," said Neidler, "that only the inventor of this craft has ever made a voyage beneath the surface of the Sea in a free-acting ship. You may never return from this undertaking. Realizing this, you are prepared to brave the dangers?"

"Yes, sir," said the sergeant without the slightest hesitation.

"And there is another small matter I might add," said Jeff tersely. "In the days when there was maritime navigation, the captain was the supreme authority aboard a ship until she returned to port. As far as I am concerned, this law still applies. In other words, Sergeant Dusange, I am the skipper of this vessel, and my word is going to be law. You may be aboard as an official observer, but you are under my command, subject to my orders while on this voyage. Understand?"

"Er—yes, sir," growled the sergeant.

"Okay then. Don't forget it. You may keep your weapons, but don't get gay with them. For your information, I have devices aboard the *Jules* that might surprise you."

"Don't you think you'll need an air-bomb canon to fight off dragonettes?" asked the governor.

"This vessel was carefully equipped," said Jeff, glancing at Toni, "to fight off creatures more deadly than any the seventieth century can show me."

The governor chuckled slightly. He embraced his daughter and bade them all farewell. As soon as Neidler had climbed back off the ship, Jeff secured the conning tower hatch. Waving good-by through the transparent shell, he seated himself at the control panel. He ran his fingers lightly over the board.

"All set?" he called out. "Hang on!"

Only Toni, aware of the extraordinary speed of the *Jules,* knew enough to grip the hand railing. Like a startled racehorse, the submarine shot forward along the surface of the empty expanse of sunlit sea. The parapets and low towers of Island Five had receded in the distance. They dropped out of sight over the curve of the watery horizon.

For the next hour the inventor had no difficulty keeping his companions spellbound. Without lecturing, he gave an exhibition of a sea craft which left them breathless with amazement. For speed and maneuverability, the one-hundred-ton submarine was far ahead of all craft of the twentieth century. To the seventieth century, which had no vessels of any kind for comparison, it was a miracle. Their perfectly natural fear gradually disappeared.

Far ahead in the west, they could see what appeared to be an unbroken line of sullen gray cliffs stretching north and south, farther than eye could reach. With the speed double that of a dive bomber, the awful barrier was racing forward to meet them.

"The Wave!" exclaimed Dr. Gross. He had forgotten this formidable terror of this modern water world. "Can

we survive its buffeting? Can we escape it?"

JEFF READE laughed aloud as he headed the *Jules* straight for the great barrier of water rolling out of the distance. The American was in his element now and in full control of an instrument he knew to be thoroughly adequate. The *Jules* with its atomic-powered machinery was a veritable queen of the seas. Salt water was salt water whether it was one mile or ten miles deep.

"Hang on to your seats, folks," Jeff warned. "We're crash-diving under the Wave."

Claudette and Toni clung to each other. Dr. Gross gripped the handrail. He trembled, but he did not take his eyes from the approaching spectacle. Though Sergeant Dusange of the fierce whiskers never uttered a sound, the perspiration was standing out in great beads all over his slick skull. He was worrying his bushy beard frantically with one hand.

With a combined speed of nearly eleven hundred miles per hour, the tiny vessel and the huge tidal wave rushed at each other. Just as it seemed that the *Jules* must crash head-on into the two-hundred-foot wall of roaring water, the navigator manipulated his controls. Without the slightest slackening of its speed, the *Jules* dropped her nose like a dolphin as her flood tanks opened.

She slid at a sharp angle toward the bottom of the Sea, cutting under the onrushing Wave with an ease that seemed almost derisive, hurtling like a javelin of streaking light. Light was the proper word. As the submarine dived toward the dark and mysterious deep, her girdle of penetrating searchlights came on with a flare of brilliance that lighted up the sea around in a shimmering radiance for hundreds of yards. It was like a fiery, ringlike oval slithering at a forty-five-degree angle toward the ocean floor.

There was a momentary flurry as the swelling forefoot of the tremendous Wave slapped the back of the diving craft. It caught the stern with sufficient force to jar the vessel throughout its length. Then they were safely below and behind the Wave, exclaiming aloud at the beauty of the eerie sights.

At that moment a strange step was heard in the corridor. Into the control room came a grim-faced young man who had just come up from below the bisecting floor of the ship. He halted there, swaying. Swiftly he surveyed the group. Before anybody had a chance to speak or act, the agile Sergeant Dusange was out of his chair and whirling about with drawn gun.

"Tom Macy!" he roared. "So this is why the disciplinary police couldn't find you! This was how you mysteriously vanished in thin air. You hid yourself aboard this vessel, the one spot we didn't think to search. Or did you think of this alone? Raise your hands. You are my prisoner. I arrest you for the attempted assassination of Governor Neidler!"

TOM MACY spread his feet wide apart and folded his arms across his chest.

"So you're Sergeant Dusange," he said, grinning without mirth. "Another one of Colonel Cloxin's watchdogs, eh? Set to dog Jefferson Reade's footsteps even down to the bottom of the Sea on a trip in the name of humanity. And you think to arrest me. What would you do with me, granting that I would surrender? Have you forgotten that you are deep in the trackless ocean and under the command of the captain of this craft?"

Sergeant Dusange's eyes glowed behind their amber-tinted glasses. Without taking his gaze off Tom Macy, he called over his shoulder.

"Turn this vessel back, Jefferson Reade! We are returning to Island Five. Whether or not you go to prison for complicity depends on the leniency of the governor. Turn about and ascend to the surface!"

"Put away your gun, Sergeant," answered the mild voice of the American inventor. "Those bolt rays are dangerous under water. Believe me, I know. You're mistaken about our destination. We're headed for little old New York. Mr. Macy is quite right. You're subject to my orders until I see fit to return to Island Five."

CHAPTER XV

Battle Under the Sea

SERGEANT DUSANGE'S face, hidden in that bristling black beard, was inscrutable. But his greenish eyes behind those amber-tinted glasses gleamed like the feral eyes of a jungle cat. The muscles in his brawny shoulders knotted. The tendons in his neck stood out like ridges of steel in his fury.

"Turn this ship around, *Captain* Reade," he said grimly, " or I shall extinguish this rebel criminal where he stands!"

"No!" cried Dr. Gross in protest. "You can't!"

Claudette Neidler stared in wide-eyed fascination at the tense drama. Jeff Reade was helpless at the moment to intervene. With no one to whom he dared entrust the navigation of the *Jules,* he hastily manipulated the controls to bring the submarine to a stop on an even keel half a mile below the surface.

It was Toni Blake who, trained in a war-torn world to think on her feet, used one of them in this crisis. Swift as a ballet dancer, she kicked the sergeant's gun wrist squarely, jarring the lethal weapon out of his hand. With a snarl of rage, Dusange whirled to strike her. At that instant Tom Macy launched himself in a flying tackle at the frenzied police officer.

The pair of them crashed to the floor in a snarl of arms and legs that threatened injury to the others, as well as possible destruction of delicate gages and instruments.

It became a desperate struggle to get a hand on the ray pistol before the other could do so. Tom Macy was by no means having the best of things when Jeff threw himself into the fight. Jeff ended it by getting a headlock on the furious sergeant with one hand clutching a fistful of whiskers.

"There!" grunted the American. "Manacle his hands behind him, Tom. Use his own bracelets."

The sergeant gurgled inarticulate speech and redoubled his efforts to get free. He nearly succeeded in tearing himself out of Jeff's grip before Tom Macy snapped the handcuffs upon him. Only when he felt the cold steel and heard the fateful snap did the police officer cease to struggle.

"That's more like it, Sergeant," panted Macy, picking up the bolt-ray gun Toni had kicked out of Dusange's hand. "Climb to your feet now and take it easy. Jeff Reade and I have whipped bigger fish than you."

The sergeant silently obeyed as Jeff released him. The American was staring at his hands in amazement. One hand was smeared with brown greasepaint. The other held a handful of black whiskers that had come off the sergeant's face in a great patch. On the floor lay the amber-tinted glasses.

"Not much bigger, Tom," said the American. "Look at the sergeant more closely. He's shaved his head and added false whiskers to his mustache, but you ought to know him."

"Colonel Cloxin!" Claudette cried out in startled dismay.

The head of the disciplinary police drew himself erect and bowed with dignity, in spite of the ignominy of his position.

"Your obedient servant, Miss Neidler," he said, flashing a glance of pure hatred at Toni Blake. "I regret that I have failed your father and yourself. I did not underestimate my two culprits, but I was unaware that I would have three of them to fight."

"If you mean the lady with the blond hair, Cloxin," said Tom Macy admiringly, "what Island Five needs is about a thousand more like her."

JEFF READE turned to face Claudette, a shocked look in his eyes.

"Does Cloxin mean that you and the governor arranged for him to continue to spy on me?" he demanded. "Did you bring him along because even you don't trust me?"

Claudette met his gaze levelly. Her chin came up.

"I didn't know anything about this, Jeff. And I don't believe Father had

anything to do with it, either."

"You don't know your father very well then, young woman," said Tom Macy curtly. "What are we going to do with this mutineer, Captain? Better let me execute him—'extinguish' is the official word. We haven't anything like a cell to put him in, but I saw the water-lock at the back end of the ship. We can get rid of his corpse that way."

Colonel Cloxin stood disdainfully awaiting his fate, too proud to beg for his life. Jeff turned from a long stare into Claudette's dark eyes. All the while, unnoticed by any of them, the *Jules* was steadily drifting lower in the depths.

"I believe you, Claudette," said the American. "We can't dispose of the colonel that simply, Tom. Colonel Cloxin, you are aware of our mission. If you will give me your word of honor to act from this moment on as a loyal member of this expediton and hold yourself subject to my orders until we return to Island Five, I will release you."

"And if I refuse?" replied the colonel.

"We cannot be hampered with a traitor or a prisoner in our midst, so we shall be forced to set you adrift at the surface in a collapsible boat. You will have to take your chances of rescue by a possible transport flying between the islands."

"That is tantamount to an execution," Cloxin observed. "So I have no alternative save to pledge my word."

"And I wouldn't take it," said Macy in quick protest. "Listen, Jeff, this man isn't to be trusted. He'll stoop to anything in his insane loyalty to what he calls the state. I tell you—"

"Release him, Tom," cut in the American. "I'll trust him."

"I have to agree with Tom Macy," said Toni with an edged voice. You're a fool, Jeff Reade. Don't do it!"

"But what a glorious fool!" murmured Claudette, stepping forward and slipping her hand encouragingly through the American's arm. "I also trust you, Colonel Cloxin. I know you won't betray Jeff Reade's confidence."

"Thank you," said Cloxin.

Reluctantly Macy removed the manacles.

"Come, Colonel," said Jeff, indicating his hand and the other's face. "Let's clean up a bit."

When they finished the job, Colonel Cloxin emerged as his old suave self, save for his shaven head. They were returning along the corridor to the control room when there was a sudden jar that almost knocked them off their feet. They caught hold of the handrail as cries of consternation came from the conning tower.

They didn't have to go forward to ascertain the trouble. Looking up through the transparent hull, they saw a broad band of dead-gray membranous flesh clamping down around the *Jules* in a progressive sort of spiral wrapping, cutting off all view of the water.

IT was a queer sort of lecherous flesh, like a huge dead tentacle with suction pads fully six feet in diameter studding the massive folds of gray flesh. There were teeth around the perimeter of each sucker pad. The center was a horrid, dull-red maw that worked repulsively as it gripped the hull of the ship and sought to draw sustenance through the metal.

"Great Wave!" exclaimed Cloxin, shuddering. "That must be a giant leech. I never saw one alive before."

"That's the first one I ever saw," commented the American a bit shakily. "Repulsive monster, but he can't do any good against the skin of the *Jules*."

"Perhaps not," said Cloxin. "But how deep are we? The giant leech is never found above a depth of four miles. They are rarely trapped by the pressure spheres and brought to the surface with the electro-magnetic grappling device."

Jeff ran forward to the control room, Cloxin at his heels. One glance at the depth-gage was enough. They were twenty-six hundred feet below the surface.

"Five miles down!" cried the inventor. "Hold tight, everybody, while I shake free."

He applied power. With a sluggish

lurch the *Jules* responded momentarily, then stopped. The giant leech was counteracting the speed. Jeff gradually advanced his rheostatic control to full speed ahead. The ship quivered like a thing alive in its struggle to break free.

The sea monster, like an undulating slab of four-lane concrete highway, writhed and twisted to prevent progress. Its horrendous teeth in the sucker pads sought to gnaw into the craft's vitals. The *Jules* rocked from side to side in the struggle. With a flip of his hand Jeff reversed the drive of the ship. Taken by surprise, the giant leech offered no resistance as the craft fairly shot into motion rearward. But the monster's grip was unshaken. For the space of half a dozen heartbeats, ship and monster hurtled through the turgid depths of the Sea. Then the leech recovered and reversed by curling over like a whip. It began undulating and swimming against the *Jules*. Slowly the vessel slowed down. Then there was a downward lurch as the monstrous leech headed for the bottom.

At once Jeff started blowing the tanks to attain buoyancy. He fought the great beast with every wile at his command, but is was hopeless. In spite of everything he could do, the *Jules*, tightly gripped in sucker pads, sank toward the bottom, drawn down by untold tons of battling flesh. Jeff cut off the power and turned to look at his white-faced companions.

"There doesn't seem much use in trying power," he said. "Tell me something about these giant leeches so I can figure out how to attack it."

"Why don't you torpedo it?" demanded Toni. "Haven't you any torpedo tubes in this sub?"

"And blow us up at the same time?" snorted the inventor. "The tubes are covered up. The torpedoes would detonate practically at the hull of the ship. They'd get the leech, but they'd also get us. We'll have to do something else."

"The hull seems to withstand the

crushing pressure," said Claudette. "Perhaps if we render the *Jules* opaque, turn out the exterior lights and remain quiet, the leech will release us."

"After how long?" asked Tom Macy. "Who knows the habits of giant leeches?"

THE others turned toward Dr. Gross.

"Being such deep-sea creatures," the scientist said, "the deepest known, save for the great anemones which anchor themselves to the slopes of submarine mountains, they have given us little opportunity to study their habits. They are from five hundred to one thousand feet long, swim like eels and prey on all other forms of marine life accessible to them. The teeth are used in the arts, being ground up for paint pigments. The skin would probably make excellent leather, if we could get anything like a supply."

"Good lord, Doctor!" murmured Cloxin. "We ask to know of a possible vulnerability of the thing, and you start an academic lecture. Don't you know of any of its weaknesses?"

Dr. Gross shifted his hold on the hand-rail beside him and shook his head in mild surprise.

"Let me ask something," said Jeff crisply. "You said, Colonel Cloxin, that the few specimens ever brought to the surface were taken with the electro-magnetic grapplers. I thought air bombs were used on deep-sea monsters."

"Giant leeches are never hunted," stated the colonel. "They have always been caught by accident."

"But the grapplers?"

"The giant leech seems to be somewhat electrical in its composition," explained Dr. Gross. "It has a definite attraction for a magnet. It is easily caught by the grapplers and seems to stun easily."

"You don't think it's like an electrical eel, do you, Jeff?" asked Toni apprehensively, glancing at the shell of metal around them. "If it could turn on the juice, we'd fry like an egg in here."

"Don't mention eggs, please," begged Jeff. "I'm so homesick to see a chicken now, I could bawl like a baby. How about it, Dr. Gross?"

"So far as is known," replied the scientist, wrinkling his brows, "no giant leech has ever generated enough power to give shocks."

The diving motion had ceased and the *Jules* was being pulled forward through the water at a terrific rate of speed. A sudden stop precipitated them all from their seats to the floor. Still nothing could be seen past the wrapping of ugly gray flesh about the craft.

"I have an idea," said the inventor. "Tom, there are some rubber mats down in the storeroom where you hid yourself. Cloxin, go with him. Bring back an armful quickly."

He turned to the control panel and began to detach and rewire the opacity switch connecting it directly to the vast generator system. The old scientist and the two girls watched earnestly, dividing their attention between Jeff and the intermittent flashes of view they got through the forward hull as the giant leech shifted and maneuvered its snakelike body.

A sudden rearward movement of the *Jules* and a swift forward movement ended in a dull but audible crash that swept them all to the floor again. Cloxin and Macy came tumbling into the control room, their arms full of rolled rubber matting that had been designed to protect explosive cargoes from dangerous shocks.

The colonel untangled himself first. He crawled forward on hands and knees toward the others, just as the backward and forward movement was repeated.

"Look!" he ejaculated, pointing. "It is battering the *Jules* against a ledge of rock!"

The leech had shifted its hold. Wrapping its long tail about a jagged pinnacle jutting up out of the floor of the Sea, it was pounding the exposed nose of the submarine against the rock. Jeff recognized the semi-intelligent effort to crack the ship open.

"Everybody grab a rubber mat and roll up in it!" he ordered. "It's our only chance."

CRAWLING back to his work at the panel, he ignored the cut on his cheek, from which blood was trickling down.

"Oh, Jeff, you're hurt!" cried Claudette.

"Just a scratch from a corner of the panel," the American replied. "Do as I say, all of you. Quick!"

There was need for haste. The steady hammering of the *Jules* against the rock was shaking them all to pieces, perhaps crumpling in the bow of the ship. Between blows they rolled up in mats asking no questions in this crisis. The American finished making a final connection. Then he tugged and panted to get a rubber mat wrapped about himself.

"Don't let any part of you touch the metal floor," he cautioned. "I'm going to try to electrocute the leech by shooting a lot of volts through the hull of the ship at a hundred amps."

Crash! There was another pile-driver blow against the rock. Then Jeff threw the switch. The atomic motors took up the load with a flexible smoothness that was deceptive. There was a dull bluish aura about everything and the sharp smell of brassy ozone in the air. The very water outside seemed to boil in frenzy.

The motion of the *Jules* ceased abruptly. Held at a rigid angle in the folds of the giant leech, there was only an appreciable tremor. It was like a dirigible held captive by a massive hawser wrapped one end about the dirigible, the other about the anchorage. It resembled a picture by a surrealist, for nowhere was there motion save in the currents of water.

Then Jeff Reade, breathing a prayer, cut off the switch. It was as though somebody had cut the lines of a captive balloon. The giant leech slid off the hull of the vessel like tons of limp spaghetti. The buoyant craft shot upward toward the surface like a cork.

Hastily the inventor pulled himself into his control seat. He manipulated switches and buttons to flood the ballast tanks and bring the *Jules* back under smooth control. The others emerged gingerly from their rubber cocoons. Jeff Reade, in his relief, could have hugged and kissed both girls. The impulse sobered him.

He confined his attention to bringing the *Jules* back to the spot where the battle had taken place. Switching on the searchlights to full power, he gazed ahead and down.

Of the giant leech there was no sign. It must have settled in death to lie flat on the ocean floor. But the jagged pinnacle of rock was there. He caught his breath. Down below, spread out in incredible ruins which were covered by slimy sea growth, was a magnificent city!

"Toni!" he choked out, calling on the only person aboard who could possibly have understood and appreciated. "It's—it's New York. The leech was battering us against the Empire State Building!"

CHAPTER XVI

Paradise Anew

IT was uncanny to hover a thousand feet above Manhattan Island, cruising slowly along at this altitude in the fashion of the Goodyear dirigibles that used to sail above the great metropolis on pleasant week-ends with gondolas full of tourists from all parts of the world. But what a terrible difference! Though almost as short a time back in Jeff Reade's memory as to seem like yesterday, five thousand cold and ineluctable years stretched in between, gaping like the toothless smile of Father Time.

An even greater difference existed. Those long-lost dirigibles had soared around in the air with the sight and sound of birds about them and the noise of a hustling, bustling city of men below. Jeff Reade cruised above a dead and dissolving city of ruins—in a submarine, with more than five miles of water above his head, greeted only by a nightmare of a giant sea worm, faced with only the crushing, murky depths of water that knew no light save that now furnished by the brilliant searchlamps of the *Jules*.

There were tears in the American's eyes and a terrible ache in his throat as he gazed down at all that was left

of his vanished homeland. In spite of the years and the action of the Sea, Jeff could pick out salient landmarks of the great city he had once known and loved so well. A wave of such homesickness smote him that he almost cried aloud in his anguish.

He thought of Alexander the Great who, as he remembered, was reputed to have wept one day as he reviewed his conquering army encamped on the plain below him. Alexander had wept because all the men he saw before him would be dead within a hundred years, his great army crumbled to dust, his mighty empire a vague memory.

Jeff could have laughed aloud at the vanity of the venerable Alexander. While he had slept, overnight the entire world had disappeared. Five thousand years had been as but a single day. All that he had known, all that he had fought for, everything worthwhile was gone as though it had never been. There was nobody in all this landless world to share his memories and his miseries save Antonia Blake.

Everything they had worked for, sought for, hoped for was gone. Even their separate causes had dwindled into cosmic insignificance. It was foolish for them to remain enemies, to be at dagger-points over politics that would never matter again.

Toni placed her hand on his forearm. Her fingers tightened convulsively as she pressed close to him.

"Oh, Jeff!" she whispered, biting her lip as the tears welled up in her eyes. "It is New York! I—I feel a million years old, returning to the death of my world."

Jeff felt closer to this girl than he ever had before. Tenderly he put his arm around her shoulders and held her close to him. The others, staring down in wonder at the ruins of an ancient city, respected their emotion and remained silent in awe and sympathy. Even Colonel Cloxin felt the pathos and tragedy of this hour.

"To think, Toni," breathed the American brokenly, "we will never see a horse galloping across a meadow again, never see a field of growing things, never see the wind rippling through an orchard in full bloom, never tramp in the country with the smell of earth in our nostrils and hear the pad of a dog at our heels. We are lost forever on this water world where men base everything on salt water and sea monsters and the Golden Age isn't even a memory."

"Jeff," Toni said, softening more than he had ever known. "Jeff, do you hate me so—so terribly much?"

For answer Jeff Reade pursed his lips and kissed her on the forehead.

"No," he said gravely. "I don't."

HER eyes shining through her tears, Toni opened her mouth to speak. But Jeff was intently reaching for the controls to drive the *Jules* lower, to cruise through the canyons of decaying buildings where once had flowed the raucous traffic of a mighty city.

"There's Central Park!" he cried. "And those wide valleys mark the old beds of the Hudson and East Rivers. Over there on the left is all that is left of the Palisades—just a slime-covered ridge on the bottom of the Sea, perhaps a lair for giant leeches and dragonettes. Oh, well, I guess we'd better turn toward Queens and chart the position of the Time Capsule. No use cruising around here and crying over the pages of the past.

"I remember that there were five layers of underground traffic at Twenty-eighth Street, I think it was. And twentieth century man had descended to the bottom of what was then the ocean, soared up into the stratosphere, built other underground things beside bomb shelters. Why couldn't they have covered and protected cities like New York? Even the people of today have domes over their islands."

"My boy," said Dr. Gross kindly, "I can only imagine how you must feel. Believe me when I say I understand your horrible loss. You speak of the ancients trying to save this civilization, the ruins of which we are seeing for the first time. Legend tells us that certain groups tried to do that very thing. They must have perished miserably as the waters rose and the pressure became insupportable. Even the islands had terrible times trying

to survive, and they had only the Wave to combat."

The inventor nodded moodily. Tom Macy had gravitated quite naturally to the side of Claudette Neidler, much to the suspicion and displeasure of Colonel Cloxin. He was finding the daughter of the man he tried to depose so violently a fascinating and lovely creature. In turn, Claudette was strangely fascinated by this sturdy and talented young scientist, though he believed so strongly in his principles that he had attempted her father's life.

"Say Jeff," broke in Macy, "what Dr. Gross says makes me think of something. How do you plan to exhume this Time Capsule of yours when we find it? While the *Jules* is capable of withstanding the awful pressure down here, have you got diving rigs which will do it? Could you have planned on working in water this deep?"

"No," admitted Jeff. But the *Jules* stands it. Therefore I am confident the two diving armors I have will stand it. They are made of the same metal as the *Jules* and are not as helpless as the other diving suits of the twentieth century, which had to be handled somewhat on the order of your pressure spheres. My suits are gear-driven by minature atomic motors. Thus a man can walk in one of them like a sort of robot, operating its arms and tools on the order of a small armored tank.

"You don't understand this talk, but Toni does. Anyway, I'll show you when we get there. I'll make the first attempt. If it is safe and the rigs work, I'll ask you to go out with me and help, Tom. If it doesn't work, we'll simply blast down to the Time Capsule and use that small grappler I installed in the hull. Then we'll tow the Time Capsule back to Island Five, or to the surface, where we can secure it to the superstructure or get it inside here with us."

"Suppose," suggested Colonel Cloxin, "we run into another giant leech or a dragonette."

TONI turned a sharp eye on the wily colonel.

"So you'd like to know just what kind of armament Jeff has on board the *Jules*, wouldn't you?"

"Toni!" said the American curtly. "We've declared a truce."

"Yes," admitted the head of Governor Neidler's disciplinary police quite frankly. "I would like to know. I think Jefferson Reade would be wise to instruct us all in the use of what weapons he has. And one of us at least should know how to operate this vessel, just in case."

A hubbub of comment broke out, mostly against the colonel's suggestion. Jeff settled it abruptly.

"On the contrary, I consider Colonel Cloxin's stand well taken," he said. "I'll show all of you how to navigate the *Jules*, and I shall show the colonel and Tom how to use torpedoes and detonator ray."

"What are they?" demanded Tom promptly, glancing doubtfully at the colonel. "I remember you and Toni

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speaking of torpedoes when the leech had us."

The American swiftly explained what a torpedo was.

"They are far more destructive than your air cannon, than even other torpedoes of my own day, thanks to a new explosive formula embodying the breaking down of uranium. That's one good thing I'll have to say for your water world—your weapons for ruthless destruction have practically disappeared. Whatever the cause, I'm glad to see it. Back in my era, every invention conceived and created by man was cunningly converted into an instrument of war—the automobile, dynamite, nitroglycerin, the airplane, the submarine—everything.

"The detonator ray is an adaptation of my own on the short-wave principle. Back in nineteen-forty, they were doing a surprising number of things with it—diathermy, focusing infra-red rays on certain fixed points in space, and so forth. I adapted this ray to explosives. Through any medium, up to certain limits, I can focus my detonator ray on ammunition dumps of enemies, bombs in their airplane racks, torpedoes in their submarines, shells in the powder magazines of their warships, and explode the ammunition there.

"Of course you have no supplies of such ammunition today, but I have made a few adjustments on the detonator gun. It can be used to focus an infra-red ray at any given point within operable radius and thus raise the temperature of any object to the point of combustion. Do you understand?"

"You mean you can incinerate things from a distance, make them burst into flame?" asked Claudette keenly.

Jeff nodded.

"Which won't be of any value down here in this water world," Colonel Cloxin said.

"Not for spontaneous combustion or detonating enemy shells," agreed the American grimly, "but highly useful in focusing on, say, the heart of a giant leech or the stomach of a dragonette. In one minute I can cook their insides alive, burn them up before they even know what has happened. I would have used the weapon on that giant leech, but he had us at too close quarters before we knew it."

"You interest me," said the colonel, his eyes glowing. "I believe I would have enjoyed living back in your era."

"You'd have been right in your element," agreed Jeff dryly.

"Say," said Macy, "this device may have commercial possibilities."

"Such as raising the temperature of the entire Sea to compensate for the ice age," put in Dr. Gross keenly.

"I don't think it would be as good as your own thermostatic idea," said Jeff soberly. "But even if it is, we are still up against the production angle."

"It's a good thing for Germany we went into that trance," Toni said to Jeff. "I wonder what *did* happen?"

"If we can pull the water world out of the present mess," he promised, "some day we'll hunt up some old histories and find out."

Dr. Gross and Colonel Cloxin pointed ahead through the murk at the same instant.

"Look!" they yelled. "Lights ahead!"

CHAPTER XVII

Out of the Past

THE *Jules* was nearing the site of the old New York World's Fair. Instantly Jeff flipped the switch that cut every light inside and outside the *Jules*. In the ensuing blackness, all six of them stared ahead through the transparent conning tower.

A soft glow, momentarily growing stronger, rose from the ocean bottom at some indeterminate distance before them. Extending like a fan to left and right, it arched a huge igloo of pale blue ice to a dome hundreds of feet high in the water.

"That is not phosphorescent," exclaimed Dr. Gross in wonder. "It is manifestly artificial, something like a mercury arc. But that's impossible!"

"Looks more like the old blue of heaven to me," said Toni, her voice trembling slightly. "What do you

make of it, Jeff?"

"Somebody or something has beaten us to the site of the Time Capsule," he answered bitterly. "We're nearly there."

Exclamations of surprise, of stark amazement arose from every lip as the *Jules* slid silently closer to the source of the strange light. Abruptly a curving wall of solid stuff as transparent as the hull of the *Jules* came swimming into view. Jeff snapped on a brilliant beam as he reversed the three screws of the submarine just in time to avoid crashing into the wall.

"Look, Jeff!" cried Toni. "There is dry land, green grass, trees!"

"Life!" shouted the American as he stared through the glasslike barrier. "Horses! Cows! Birds! And a dog! Dr. Gross, your histories were mistaken. Man must have survived at the bottom of the Sea. Where else did these things come from? This is what we had back in the twentieth century. Claudette, this is what I've tried to tell you about. Tom, look! We must find a way into this paradise."

Cruising along the curving wall in search of a possible lock or the evidence of intelligent human life in this amazing half-bubble at the bottom of the Sea, the occupants of the *Jules* stared in wonder. Jeff was astonished at the area within the circular dome. It turned out to be about ten miles in diameter, enclosing approximately seventy-five square miles of Long Island—a Long Island such as the homesick American had once known.

It was a fantastic contrast. Out here the typical turgid depths of a tremendous sea were slime and ooze and reptilian things, deep-sea monstrosities and phosphorescence and darkness. Inside, as though the water world did not exist, everything was normal to the two survivors from the past, yet utterly strange to the other four members of the expedition.

Toni and Jeff stood together at the control panel, the others grouped around them, and explained everything that came into view.

The bluish light proved to be radiating from a complex system of tubing high overhead along the underside of the dome. It was not a great deal different from the style of lighting in the island cities above, save for the peculiar color. And there were roads and fields and copses of trees and streams of running water.

"Houses!" cried Toni suddenly. "There are buildings over there, some of them two or three stories. We're coming to a town of some sort, Jeff."

"Men!" exclaimed Tom Macy. "Men like ourselves!"

"But what queer costumes!" cried Claudette.

MEN and women were thronging the street of the forepart of the town. The clothes they wore reminded Jeff of the jerkins and doublets and stomachers of the early Anglo-Saxon.

"But how can we get in?" moaned Dr. Gross, atremble in his eagerness. "How can we communicate with these people?"

"Where did they come from?" Toni wondered. "Have they been here since the days of the Great Nebula? Why didn't they dome Manhattan instead of so much open country?"

"A thriving community life nearly six miles below the surface of the Sea," murmured Tom Macy, his eyes darkening with introspection. "These people don't have the sun and the stars, but they are independent of the Sea, too. They don't have to worry about an impending ice age. It couldn't make any difference to them if the Sea froze solid all the way down."

"Precisely what I was thinking," said the cold voice of Colonel Cloxin. "I doubt if these people are even aware of the coming of such a condition. I wonder how much room they have here. Do you believe they have any other cities?"

The people under the dome became aware of the submarine cruising along outside the walls. The news spread like wildfire. Crowds thronged to the wall to peer out into the murky greenness at the transparent vessel filled with light and manned by human beings. High excitement reigned. Groups gathered to argue and wave their arms.

Then Jeff found the sunken pit be-

neath the wall and the evidence of a water-lock. He waved to the people beyond the wall and skilfully guided the *Jules* down and through the first pair of open doors. The submarine barely managed the lock, filling it from end to end and proving that the water-lock had not been constructed for craft of any size.

"Do you think this is safe?" asked Colonel Cloxin in well concealed anxiety. "How do you know these people will receive us amicably?"

"I see no reason why they shouldn't," said Jeff. "There aren't enough of us to hurt them, and we can't get beyond that inner dock in the *Jules*. And didn't Island Five receive me pleasantly enough?"

The disciplinary chief only looked his eloquent reply and shrugged his shoulders. They waited anxiously to see whether they would be permitted through the locks. When their patience was almost exhausted, the heavy circular doors behind the tail of the *Jules* slid shut. The faint thump of an exhaust pump came to their ears. Slowly the water level dropped around them until the ship was aground.

Jeff promptly blew the tanks in what would ordinarily have been a surfacing maneuver and the *Jules* floated free once more. After a time the *thud-thud* of the pump stopped. The gates just before the nose of the *Jules* slowly opened.

Jeff eased the vessel through into a second lock. The same procedure, without the excess water, was gone through. At last they were admitted into a third lock from which, when the air pressure was equalized, they were allowed to float out into the basin that was the inner dock of this land below the Sea.

Tom Macy and the two girls were eager to unseal the conning tower hatch and greet the gathering crowd and this new world itself.

"Wait," cautioned Jeff. "While we think it is all right, you must test the air and the atmospheric pressure. Will you help me, Dr. Gross?"

THE atmospheric pressure was just a trifle heavy, about eighteen pounds to the square inch. Otherwise the purity and humidity were normal. When the *Jules* nosed against the dock, Jeff Reade led the way up and out upon the superstructure of the craft. A cheer went up from the crowd as he shouted a greeting.

"People of the Sea, we bring you friendly but amazed greetings from the regent of the island government on the surface."

A man of importance, obviously the mayor or equivalent—a rather stout person of middle age and with a graying, neatly trimmed Vandyke—advanced toward the edge of the pier and replied in readily understandable English.

"In the name of Norderica, I accept your greetings," he said. "But you do not come from Brittane or Himlaya? What do you say about the surface?"

"I said we came down from the surface," repeated Jeff distinctly.

There was an outbreak of astonishment behind the bearded man, a rippling that ran through the crowd. The spokesman's next words cleared things up somewhat.

"Surely you jest!" he cried, his eyes popping wide. "While your clothes and your craft are strange, you must come from one of the thirty-seven dome cities of the world. You can't have come from the surface. There is no land up there. All of mankind perished thousands of years ago, save for those who built the Domes. History tells us about the coming of the Great Watery Nebula, as you well must know. Come, tell me from whence you hail."

Jeff spoke in a low voice to his companions without turning around.

"There seems to be a difference of opinion as to which branch of mankind survived the disaster of the nebula. Dr. Gross, you'd better take over here and explain things. While we are ashore, I am placing you in nominal charge of our party as the most logical commander. And I'm ordering the rest of you to recognize this authority."

There was not a dissenting voice. The old scientist stepped forward, facing the undersea spokesman.

"You are understandably mistaken," he said earnestly, "and I shall be

happy to clarify matters. I am Dr. Gross, in charge of the Bureau of Standards of Island Five, a floating city of a group of seventeen artificial islands which dot the surface of the Great Sea. Allow me to introduce my companions."

In turn, the bearded man identified himself as Laurence Andrews, director of this settlement and a member of the control board governing this dome area known as Norderica.

This name, Dr. Gross and Jeff Reade figured out, was a slurred contraction of "North America." The other names were as translatable when given their geographical location. Brittane proved to be a dome city on the old site of Brittany, in France. Others were scattered around the high points of the ancient world. Himlaya they could only identify as being somewhere in the Himalayas, in spite of the fact that Andrews said it was the capital city of the submarine world.

CHAPTER XVIII

Deadly Parallels

THE director escorted the entire party to his residence. There, after the formalities had been observed and the curiosity of the populace temporarily assauged, the guests were comfortably installed. Andrews called a conference of the board of regents.

For forty-eight hours, with time out only for eating and sleeping, they talked together. Peculiarly adapted for assimilating heterogeneous information, the little group from the *Jules* quickly gathered a comprehensive picture of what had been so baffling.

Those ancients who had delved below to escape the watery flood had not been as foolish as they had seemed. They, too, had met and overcome problems of nature, dissension, treachery. From the Earth below their feet, they mined the elements that the island people reclaimed from the Sea. Minus the sun, their scientists had long ago worked out formulae for special lamps and tubing lights to create a workable substitute for sunlight, at the same time producing necessary warmth.

An ingenious system of locks permitted water to flow into each dome city without danger of inundation. The water was distilled and purified and aerated much as the island people processed surface sea-water. The atmosphere, artificially created, was constantly being supplemented by the electrolysis of water to release the free oxygen. Of the hydrogen thus released, the board of directors would not speak at first. That matter seemed to run into the argument and dissension Jeff had first noted among these people.

The various races of men had not disappeared here as most of them had in the island world. There were, so Andrews said, blacks and Mongols and brown men and red Indians in different domes about the world. And, best of all, they had saved almost every kind of domesticated flora and fauna that twentieth century man had known.

"But this dome, Norderica," asked Jeff Reade, frowning. "How did they manage to build and save it when it was so close to the ocean? From what I gather, man was driven back from the rising tides before he got down to the serious business of trying to survive in a world of water."

"That is true," explained Andrews. "This dome was established just five hundred years ago."

"You mean this land was reclaimed from the Sea *after* the coming of the Great Nebula?" asked Claudette, her engineer interest aroused.

"Of course," was the answer. "Half of the dome cities were built long after the formation of the Great Sea. Hydraulic engineering principles were used, and we had established bases from which to work. We sent out construction tanks to spots we wished to reclaim, and in the course of time a new dome city was functioning.

"We haven't built any since this one, however, for the race has reached a point of physical stagnation. There's something wrong with the birth rate and—but never mind that just now. You can consult our engineers and our

libraries to learn how all this work was done."

Why did they build a dome on this particular spot? asked Jeff Reade keenly.

"To get to the Time Capsule," one of the directors explained. "Or do you people of the surface know about that? The ancients of the twentieth century left a record of their civilization. We thought we might learn something which would help, so we found and opened the Time Capsule more than four hundred years ago. It was very interesting, but not of much aid to us. You can study the entire thing at the capital, Himlaya, where it is in the public library now."

JEFF nodded and stated that he would do so.

"If you have submarines by which you can travel from city to city," put in Tom Macy suddenly, "why have you never come to the surface? How is it that our civilization has never come into contact with yours? Because of a common ancestory, it is similar to ours."

"We do not have vessels," said the head of the board of directors, looking uncomfortable. "We have armored tanks and trains which travel along the bottom of the Sea. We have nothing as large as your queer craft. Why should we have sought to reach the surface? There was nothing there but an empty world of water."

"There was the Sun!" cried out a junior member of the board in hot protest. "And now it is proven that people live up there beneath the Sun and stars, where the wind blows free, where man is not confined to glassite dome prisons beneath six miles of crushing water!"

"Silence, Mark Hander!" shouted Andrews furiously. "You know better than to talk thus. You know—"

"I know that our race is dying out," cut in Hander savagely. "I know that we are striving desperately to find the cause. I know that brave men have wanted to build metal spheres and inflate them with the free hydrogen our electrolysis plants release constantly in the outer sea and ascend to the surface to seek the life-giving rays of the true Sun. I know that they have been imprisoned or killed for their courage —or even worse! They have been experimented on. And I will not be silent any longer. I will speak and—"

At the imperious ringing of a bell a squad of guards came rushing in and seized the dissenter. They hauled him, struggling and shouting and frothing at the mouth, from the conference chamber.

"Ah!" murmured Colonel Cloxin thoughtfully. "The Tom Macy of the underworld!"

Laurence Andrews started speaking apologetically before Macy had a chance to make a hot retort.

"I am sorry about Mark Hander's outburst. It's because of his brother, who was put away for just such ideas as Mark voiced. Poor fellow, I can't exactly blame him. You see, your very presence down here bears out some of the arguments of the rebel group. It's a long and complicated story. Briefly, the fall of the birth rate has become sufficiently alarming to make us fear for the survival of the race.

"Our scientists have been working for years on the problem. Their latest theory is that it is the lack of true sunlight, perhaps of the cosmic rays the ancients called Millikan Rays, I think. We've tried to keep most of our findings from the masses of people until we could find a solution. But a group of young agitators has been guessing at the truth and individual members have advocated immigration to the surface.

"This is ridiculous on the face of it. Suppose they reached the surface safely and found nothing. How would they get back? Of course we didn't know about the island cities until yesterday, but that still doesn't solve our problem. And that is what Mark Hander is stirred up about. I'm sorry it had to happen."

"Think nothing of it, Mr. Andrews," said Colonel Cloxin. "Most of us—in fact, I think I may say all of us—quite understand the situation. We have similar problems at the surface."

"We certainly do!" cried Tom Macy in hot refutation of the implication. "And how do you know you are right in keeping things from the people?

Aren't they entitled to know the facts of what fate probably confronts them? I say yes! And I am in sympathy with men like Mark Hander."

DR. GROSS uneasily begged Macy to keep quiet.

"This does present a remarkable parallel—your problem, I mean, Mr. Andrews," he said. "We, too, face a terrible dilemma. Upon analysis, it seems that you have what we lack, and we have what you lack. I mean if we could trade places, it would appear that the problems of each world, island and dome, would automatically be solved.

"But they wouldn't. Why? Because we all need both. The island world needs land, animals, growing things, a safe refuge from an encroaching ice age. You dome people need cosmic rays, sunshine, an open world. Neither can afford to give up what it has. Now that we know of each other's problems, it would be pointless to trade positions, if we could.

"It is obviously impossible to work things out so that both worlds can have everything. However, if I only had the time, I would gladly offer my poor assistance in trying to solve your fecundity problem. I suppose the trouble is extending to your herds and stocks, which makes it critical in the extreme. It looks as though man is doomed to perish."

Shortly after this melancholy address, a damper already thrown over things by the action of Mark Hander, the meeting adjourned. Plans were under way for the expedition to visit other of the submarine dome cities. Meanwhile the explorers were made free to investigate Norderica. They were barred only from the tall gray building and grounds in the very center of the dome.

It was a queer sort of place. The grounds were stone-walled with barbed top, so nothing could be seen of the interior. The building, the upper part of which could be observed, had narrow, arched, leaded glass windows like a cathedral.

The little group of travelers from the *Jules* discussed their surroundings and pooled their various bits of knowledge before retiring for the night. It was Toni who put her slim finger on the one outré part of the whole business.

"Everything seems quite logical, except for what Mark Hander said before they dragged him out of the conference chamber," she observed, wrinkling her brow adorably. "What could he have meant by saying that the rebellious ones were 'experimented on'?"

"Mr. Andrews could have explained it, had you asked," commented Colonel Cloxin. "We should not get too inquisitive where it doesn't concern us. What do you intend to do about the Time Capsule, Reade?"

"Go to Himlaya, then return to Island Five to take you people home and to discuss the situation. Perhaps something can be worked out to our mutual satisfaction. The sterility problem down here is not yet acute. The ice age problem above is. Right now I want to revel in Earthly things. I want to ride a horse. I want eggs for breakfast. I want all you folks to drink deep of this experience and see what you've been missing since the coming of the Great Watery Nebula. Tom, I want you to fondle a dog. I—Say, where is Tom Macy?"

They all looked sharply around the room. Tom Macy had disappeared!

CHAPTER XIX

Green Torment

UPON leaving the conference chamber with the others, as they parted company to meet later in the evening, Tom Macy took advantage of the confusion and slipped away. In spite of the glib way in which Andrews and other members of the board had explained Mark Hander and his outburst, the young scientist-rebel from Island Five was not fully satisfied.

Perhaps the none too subtle gibes of Colonel Cloxin had contributed their bit to goad him on. But he was genuinely interested in Mark Hander and the striking coincidence of their

positions in their respective societies.

From a guard in doublet and hose in the main corridor of the council hall, he elicited the information that Hander had not been cast into prison nor confined to an observation ward. A pair of the guards had merely taken him to his own home and put him to bed with the warning to sleep off his dangerous seizure.

Day and night, under the constant artificial sunlight of the glowing pattern of the tubes overhead that was merely an arbitrary division of time in the dome city, Macy inquired the way to Hander's home.

Already attired this second day in garb of Norderica—Andrews having furnished them all with fresh clothing—Tom Macy made his way unobserved to the home of the junior board member. He found Hander in a quieter mood. But the board member tightened up at recognition of the young scientist and was arrantly suspicious at first.

"Mark Hander, you do me an injustice," said Macy reproachfully. "I sympathize with you deeply. From what I heard, I gathered that you are a champion of the masses of people. You believe in the supremacy of the common man. Know then that up above, on the surface of the Sea, I, too, champion the cause of truth, of the public dissemination of all facts concerning the common weal."

"You?" said Hander slowly. "What is your name?"

"Tom Macy," the young scientist informed him promptly. "Before my attempt to overthrow the government of Island Five, I was a meteorologist under Dr. Gross."

"Meteorologist," repeated Mark Hander, almost in awe, and his light gray eyes lighted up. He was of the slender, nervous type, a bundle of wire and energy so constantly on tension that he communicated this feeling to others around him. "A lost word down here below the Sea. What have we to do with wind currents, Sunspots, high and low pressure areas, anything? All we have is a dome filled with synthetic air and artificial sunlight that isn't strong enough to perpetuate the race.

"We have a heaven five hundred feet high—a ceiling which has to be braced by mighty girders and pillars every hundred yards to keep the Sea out! Tell me, are there really such things as white and fleecy clouds above the surface? Is there a bowl of sky that is blue by day and velvety black at night, radiant with warm sunlight by day and bespangled with stars by night? Is the dome of sky so illimitable that it makes your eyes ache to stare into the distance? Tell me, Tom Macy, is there such a heaven as that?"

A LUMP came to Macy's throat at the impassioned pleading in Hander's voice.

"Certainly there is," he said heartily, experiencing a keener satisfaction for the beauties of his own world than he had ever felt before. He was spurred by the yearning of this man who had never even seen it, who had drawn his impressions from ancient histories or perhaps the information contained in that Time Capsule Jeff Reade had talked about. "But you have many things down here that we above have lost. You have soil that is alive. You have green things that grow in earth without the need of hydroponics. You have animals. You have birds."

"My brother envisioned all that," said Mark Hander, entranced, never hearing what Tom Macy was saying. "Harry dreamed all that. He fired me with the vision. He wanted to lead men back into the sunlight, but they wouldn't let him. They said there was only blackness and desolation and destruction above. They promised to bring rejuvenation down here to us."

He laughed bitterly, scornfully.

"They promised to bring such gifts of the gods down from the stars and bestow them upon us lowly slugs creeping around under glassite bubbles six miles below a vast ocean of water. They rewarded my brother by making him one of the subjects of experiment.

"What do you mean?" asked Tom Macy sympathetically.

Hander caught his shoulders in a frenzied grip. His gaze burned into the eyes of the man from Island Five.

"What do I mean?" he cried. "I'll tell you! They said my brother and the others who rebelled had submitted to their fiendish experiments willingly. That they gladly offered to science their lives, which they were so anxious to sacrifice in a futile attempt to reach the surface of the Sea! Since man was dying down here on his feet for lack of sunshine, scientists said we needed vitamins. Vitamins, allogens, enzymes — chemically produced substitutes to take the place of sunlight.

"So they took my brother and many others and confined them in that great research laboratory here in Norderica and injected compounds into their veins day after day, week after week, seeking an elixir of rejuvenation. And what has happened? They're turning human beings into a race of atrocities. They've made chlorophyll men of red-blooded human beings!"

"Chlorophyll?" puzzled Macy. "You mean plant men?"

"Do you want to see?" demanded Mark Hander suddenly.

"Yes," said Macy.

"Come with me!"

In silence the man from the surface followed the man from below. Out in what passed for a small garage, Hander motioned him into a small vehicle that was electrically powered.

"We have plenty of oil and coal—and hydrogen," Hander explained, "but we dare not pollute our air. Get in."

"Where are we going?" asked Macy, complying.

"You'll see. I'll show you something you'll never forget."

Hander started the queer little car, guided it out into a back street. He drove out of town and headed for the cathedral-like building and grounds in the center of the dome. At the guarded gate he produced his card of identification as a member of the ruling board. They were admitted.

Tom Macy looked around with alert interest. Save for the spaced pillars supporting the glassite roof, to which he had already become accustomed and which hadn't struck him as being particularly unusual, thanks to the domes of the island cities, he found himself gazing over a lovely expanse of greenery and trees that would have reminded Jeff Reade of an estate in Great Neck, 1941.

NOBODY was in evidence on the grounds, which were bathed in the pallid blue light, like the rest of the dome.

"It is the rest period," said Hander. "The patients should be assembled in the rest dormitory or in the assembly hall. That's all the better for us."

He parked his car near the massive front entrance and led his wondering companion into the building. The guards at the front door, like those at the stone entrance to the grounds, were armed with queer blunt weapons like air rifles, but with jackets suspiciously resembling rheostat coils.

"Selio-beam guns," said Hander bitterly. "They can be adjusted to any intensity, from a thin beam that stings to one that numbs, that paralyzes or that kills."

He flung open one of a pair of tall doors which would have reminded Jeff Reade or Toni Blake of the entrance of a European church, or a private home on a movie set. A babble of voices greeted them. Tom Macy almost recoiled with horror.

He had never seen American Indians, which was as close a quick comparison as one could have made to the men who turned and stared. The creatures were naked to the waist, their ears pointed. A single ridge of black hair ran from the center of their foreheads over their otherwise absolutely bald craniums and down the napes of their necks like a queue. But this wasn't the worst of it. Their skins, even the whites of their eyes, were as green as the grass Tom Macy had noted outside!

On a raised platform at the far end of the assembly hall stood a white screen fully seven feet tall. Hanging just above it were three shiny cylinders. On one side was a machine mounted on a wheeled tripod. It looked like the grandfather of the selio-beam guns carried by the guards. The only main difference was the capping globe of transparent material. But Mark Hander was drawing Macy's

attention to these travesties of men just before them.

"See what science has done to men like you and me!" Singling out a particularly husky green man with a savagely intelligent face, Hander went on: "Harry, this is a man from the surface. He tells me that all that you ever dreamed of is up there. Can you understand me, Harry?"

In growing horror Tom Macy realized that the green monstrosity was Mark's brother! But he had no time for reaction to this amazing discovery. Harry not only understood, he acted. So did the others nearest the two visitors.

"The surface man!" snarled the green monster called Harry. "So this is one of the surface men. Then it is true that men have come down from above. It is true that man can live above the surface of the accursed Sea!"

"Seize him!" yelled a man of bilious-green hue. "Make him tell us of the surface!"

"Put him before the observation screen!" howled another. "Make him talk!"

"Yes, make him talk! Make him talk!"

A pair of guards ran into the room at sound of the growing yammering.

"Mr. Hander!" cried one as the pair of them got set to stop the incipient riot. "What are you doing here? You shouldn't have—"

He was cut off by the sudden leap of one of the chlorophyll men, who sprang from the side and twisted his selio-beam gun from his hands. Instantly another pair grappled with the second guard. The green monstrosity called Harry had already made a cat-like lunge at Tom Macy, ripping the front of his jerkin out with his terrible talons.

MACY drove a fist into the green man's face with all his strength. The man's smashed lips bled a thick green fluid which trickled down his chin like snake venom.

"Harry!" cried Mark Hander. "Are you mad? Harry, don't let them—"

The green man who had appropriated the first guard's gun suddenly raised it as he twisted the rheostat dial to full strength. He pulled the trigger. A black spot appeared like magic in the center of Mark Hander's forehead. The black hole sent up a curl of smoke and a horrid scent of searing flesh.

The green Harry laughed through his smashed lips as his brother folded at the knees and crumpled to the floor. Tom Macy thought inadvertently of the infra-red gun of Jeff Reade's, even as he turned to flee from this inferno of chlorophyll gone mad.

He had no more chance than a mouse ringed in by a circle of starving cats. One guard was screaming in keen agony as green talons ripped his clothes and tore his white flesh from his bones in fury. The very sight of red blood seemed to increase the frenzy of these green creatures.

The second guard got through the doors, his back literally slashed to pieces. Almost at once a siren started wailing somewhere outside. But the savage creatures within the assembly hall made no attempt to escape. Instead, several of them began barricading the doors.

Harry led the rush that closed in on the young scientist. Struggling futilely, Tom was stripped to the waist, carried swiftly forward to the dais and pinioned upright before the white screen he had already noted.

Like a speared butterfly he was mounted there, spread-eagle fashion. The din and howling about him was awful. Then the mad leader motioned the two green savages with selio-beam guns to take up their position down near the front of the room.

"There are thousands of people who sympathize with us," howled the leader. "More and more gather in groups in all the dome cities and argue our cause. We will kill all who stand in our way! Men will rise in revolt and take possession of every city, and I will lead the way to the surface. Here we have a prisoner who is proof of all I have told you. Touch him with the numbing ray in each arm. We will make him tell us all there is to know of the world above!"

Simultaneously a pair of thin yellow beams flicked out from the selio-beam

guns. A horrible, knifing pain struck Tom Macy in both arms, beginning at the wrists and shooting clear to his shoulders. The welcome numbness that followed made his arms as dead and lifeless as a frozen fish.

He sagged forward, fainting in his bonds.

CHAPTER XX

Solution

ON the very heels of the discovery that Tom Macy was missing, Laurence Andrews came rushing into the room.

"Your companion!" he blurted through ashen lips. "The laboratory siren! Something's wrong. He's been traced there, in company with Mark Hander. We don't know what—"

"What's at this laboratory?" demanded Jeff Reade quickly. "Is it that forbidden place?"

"Yes," admitted the frightened Andrews. "There were plenty of guards. An experiment to save the race was taking place. There must have been a revolt."

"Give us guns and we will stop it!" barked Colonel Cloxin. "You two girls stay here with Dr. Gross. Reade and I will get Macy out of this."

"Not so," cried Claudette in a ringing voice. "We will all go. Tell him that, Jeff."

"Yes," put in Dr. Gross emphatically. "Let us all go, please. I can't understand what could have made Tom stray away."

"I can," said Colonel Cloxin sardonically. "I don't know which of you girls we are saving him for, but we'll save him. Do we get guns from you, Andrews, or do we waste time going back to our ship?"

"Yes," I have guns," gasped Andrews. "This way."

"You letting Cloxin depose you this easily?" Toni asked Jeff as they ran from the room.

"Cloxin is a strategist," snapped Jeff curtly. "He's the one who should lead at this time. Besides that, I trust his judgment and his ability."

"But I don't," Toni flung out.

"I do," said Claudette, her eyes flashing dangerously. "Colonel Cloxin is a courageous and loyal gentleman."

"Ah!" exclaimed Toni. "First I thought it was Jeff, and then I thought it was Tom. I can't read people any more. That five-thousand-year sleep dulled my sense of perception."

Into a couple of cars outside, armed with selio-beam guns, the entire group piled. The two vehicles swung out into a stream of traffic heading for the central part of the dome, where the siren of the laboratory still wailed like a lost soul in torment. Men in uniforms, men of all sorts, many of them armed with nothing more formidable than picks and shovels, were speeding toward the scene.

A growing throng milled helplessly around the great building as the newcomers arrived.

"The chlorophyll subjects have gone mad!" cried a doctor in white uniform that reminded Jeff vividly of the past. "They have killed several men. They're barricaded in the assembly room."

"A map of the house!" ordered Colonel Cloxin crisply. "Have they any weapons? Who can give an intelligent report? Has anybody seen the man named Tom Macy?"

"I, sir!" cried a bloody figure of a guard. "They jumped Terence Wayne and me when we went in. They killed Terence and Director Hander. I think they killed the surface man, too. They got our two guns, but there's an electrolysis gun in the room on the stage."

THE colonel studied the chart being drawn for him by the distraught doctor.

"What's an electrolysis gun?" demanded Jeff Reade.

"An instrument such as we use to resolve water into its component gases, hydrogen and oxygen," explained the doctor. "It could make a terrible weapon."

"What's it doing there, then?" growled Colonel Cloxin. "Are you men of this submarine world stupid?"

"It was for use in certain checkings on the patients," said another doctor

apologetically. "They were docile and voluntary patients. We didn't anticipate any trouble like this. It must have been the actual appearance of the man from the surface. They were agitated yesterday about it, talking and whispering among themselves."

"Not to mention an external influence named Mark Hander," commented Cloxin caustically. "All right, I'll take command of the guards who storm the door. Andrews, you command the guards who cover the windows. Reade, how about you covering the rear, effecting an entrance along this passage shown here? There's a small door from this rear room, locked on the outside, to the assembly room at the back of the stage. Just guard that exit. You women stand back here in the crowd with Dr. Gross."

"Not me," said Toni. "I'm going with Jeff Reade wherever he goes. I don't intend to be stranded in this nightmare water world by myself."

"And I choose to go with you, Colonel Cloxin," said Claudette proudly. "No Neidler has ever shirked a duty in three hundred years. And especially is it imperative to rescue the man who once attempted to slay a Neidler."

Jeff Reade said nothing. He was remembering Tom Macy's face as the young scientist pledged his undying friendship. Forgetting the lovely blond girl running at his heels, he sprinted for the rear of the building and dashed into the yawning, dark corridor.

Without difficulty he found the proper way to the anteroom behind the little stage of the assembly hall. The uproar of yells and howls became bedlam as he opened the door. Crossing the little room in a couple of bounds, he glanced at his selio-beam gun to make sure it was set at lethal power. Then he paused with one hand on the knob of the door.

"I don't know what's before us, Toni," he said swiftly, "but if it's a black-out, I want you to know this has been a swell adventure with you for a partner. Lock this door after me. I'm going in to get Tom Macy or his body."

"We're both going in, Jeff! And what you said goes double. Oh, hurry, before we're too late!"

With Toni all but treading on his heels, Jeff flung open the door and leaped out upon the stage. At the same moment there was the crash of a battering ram at the front barricade.

This sound distracted the attention of the green men and covered that rear entrance. It was flat and undramatic, anyhow. For in the center stage, masking the little door completely, was the back of a tall white screen, a human hand projecting lifelessly beyond each edge. At the same moment the amplified sound of Tom Macy's pain-racked voice boomed out from the unseen loudspeaker above them.

"There's nothing more I can tell you!"

ON one side Jeff saw two incredible green figures which looked like ghastly parodies on American Indians. On the other side was the neglected electrolysis machine on its wheeled tripod. After one swift look at the machine, Jeff grasped its principle of operation. Toni uttered a little shriek at sight of the unearthly green men. They in turn howled in maniacal glee at sight of the man and woman who had so magically appeared on the stage. Jeff thrust his gun into the girl's hands and leaped for the machine.

It was like discarding a garden hose for the pressure hose of a fire truck. He switched the current on as he rolled the machine forward. Just in front of the screen, where the exhausted figure of Tom Macy was pinioned, Jeff crouched at the control grips.

"Drop that selio-beam gun!" he yelled.

For answer both chlorophyll men raised their weapons in one-two order to fire at him. Jeff let loose a blast. A vivid flare of yellow energy leaped from the muzzle of the electrolysis gun and wrapped the foremost green man in a cloud of visible mist. He shriveled in mid-air as the water in every cell and atom of his body turned into hydrogen and oxygen. There was a *ping* as the ray from the second

gun glanced off the shielding globe of the machine.

There wasn't any more shooting. A flip of his hand, and Jeff electrolyzed the gun-wielder into oblivion. A wave of green men swept across the stage in sheer rage to tear the man and girl to pieces. Jeff hosed them into history just as the barricade gave way and Cloxin took the remainder of the chlorophyll men at the flank.

Tom Macy was in a pitiful condition when they removed his body from the screen and laid him on a rug on the floor. He was reddened or blistered or blackened all over, where the selio-beam guns had tortured him in varying intensities. He looked up and tried to smile at the faces bending over him.

"Sorry, Jeff," he whispered. "Sorry I wasn't more—help. Cloxin, I was wrong. You—can't tell the masses—the complete truth. They go crazy. Tell Governor Neidler that—for me. Wish I could live to help—you save—the islands."

"If we only can, my poor boy," murmured Dr. Gross, kneeling beside the dying man he had loved as a son.

"You can," whispered Tom weakly. "The ice age will pass—You just need—temporary shelter. One generation or less—while you have time and metals—to conquer the cold. You can move down here—Plenty of room in all the cities—Then you can build more islands above—and everybody can spend time up there in sunlight, too—People can travel from surface to bottom—from bottom to surface. Everybody—will be happy. . . ."

"But how, Tom?" begged Dr. Gross. "How can this come to pass?"

"Ask Jeff. He'll know. These experiments—no good, either."

"But even Jeff can't ferry everybody from the surface down here in the *Jules,*" protested Claudette. "It would take millions of trips. There isn't time. We have only four years."

"Come down at Himalaya," articulated Macy, fighting with the will to live long enough to explain. "Jeff—Himalaya is at latitude twenty-eight, north, and longitude eighty-seven, east. You know—where that is—on map?"

Jeff Reade's eyes became introspective as he visualized the map of the globe as he had know it before the advent of the water world. Nepal came to his mind. Then he guessed the answer in its entirety.

"Everest!" he cried aloud. "Everest Island, the only point that stands out above the Sea! Of course that's the answer! We won't have to use submarines. We'll dig a tunnel down through Mount Everest. Can't you see it? Everest Island will become the way-station for traffic by shaft from floating islands of vacation to dome cities here below!"

A slight smile was hovering about the lips of the dying man.

"Sorry—about everything. . . ." he whispered.

He died in the arms of Dr. Gross, his hand in that of Jeff Reade, while Colonel Cloxin stood at rigid military salute.

LATER, on board the *Jules,* the five survivors of the expedition were preparing to voyage on to treat with the president of the dome cities at the capital, Himalaya. Then they would head for the surface to carry a message of hope to Governor Neidler, the regent of all the islands and the population.

Toni stood beside Jeff Reade and watched the bald-headed but dignified Colonel Cloxin bending over Claudette Neidler.

"And once I thought . . ." she mused aloud.

"You thought what?" asked Jeff, turning to her with a smile.

"Nothing. I think some people can't even learn things by example."

Jeff Reade may have been slow in acquiring his education in women, but he wasn't dumb. He reached for this provocative blond darling and caught her almost fiercely by the shoulders.

"Listen to me, Toni," he said in a fervent voice. "This adventure is really just beginning for us. Who knows what mighty things lie ahead? Who knows whether we will even win this fight for man against the encroaching cold in this trackless water world? But we can't go back. What I said in that anteroom, just before

we tried to rescue poor Tom, I still mean. We started this trip together five thousand years ago. Let's finish it together."

"Jeff!" Toni exclaimed, her violet eyes shining as she lifted her face toward his. "You mean that? You love me, in spite of the fact that I was an enemy spy?"

"I love you with all my heart," he assured her solemnly. "I think I loved you from the moment you came running toward me on that London dock."

"Wait!" she whispered as she held her lips averted. "I'm glad you said that, but I must tell you something I've tried to tell you from the very beginning. I was a Nazi spy, but I was also British Intelligence, Ten."

"Bi-ten!" said Jeff Reade incredulously. "Well, by golly!"

"Pardon me," said the mild voice of Dr. Gross a long time later. "How am I to learn to operate this craft if you spend all your time like that?"

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NEXT ISSUE

THE GATEWAY TO PARADISE

An Amazing Complete Book-Length Scientifiction Novel of the Future

By JACK WILLIAMSON

PLUS OTHER STORIES AND FEATURES

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Counterfeiting a Golden Age

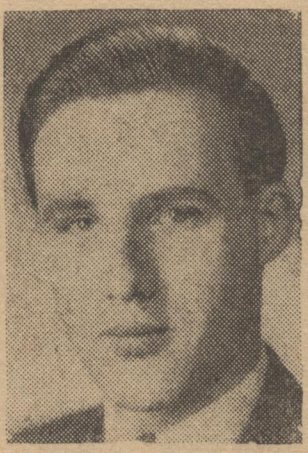
A Guest Editorial

By P. SCHUYLER MILLER

Famous Scientifiction Author

AS an amateur archeologist I like to imagine the effect which some of our time-resisting vaults and pyramids are going to have on the colleague of the future who, a few thousand years from now, opens one up and tries to puzzle out the story of the long-forgotten past.

In particular I am wondering what will happen if he chances to stumble on the super-collection of science-fiction, impregnated with synthetic resins or recorded on microfilm, which one of our more rabid fans will undoubtedly store away in his old age to insure the immortality of his hobby. Professor PXQ-2, who lives in an age when the history of the 20th Century has been completely lost and science-fiction never heard of, will click his venerable heels in glee and let out a couple of discrete whoops before settling down to the work of collating this priceless record of the lost past. After a while they will wheel him away, babbling of a lost race of miracle-workers who achieved unheard of scientific marvels before they killed themselves off or vanished under an invasion of still greater scientists from another universe.

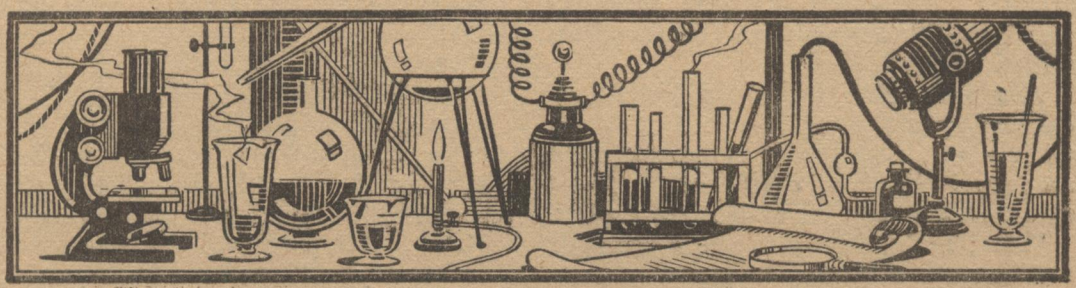


P. Schuyler Miller

A Weird, Wonderful World

It's a weird and wonderful world that we writers are putting together out of odd lots of possibility and probability. Brawny youths scoot from planet to planet and star to star in atomic rockets and geodesic chasers. They make gold, snatch jewels out of the Fourth Dimension, and pepper each other with deadly rays from behind invisible shields of crystallized space. They wander from past to future and back again, mowing down anatagonistic monstrosities, wiping out civilizations with a flick of the wrist, saving worlds before breakfast, and generally mucking up the scheme of things universal. Theirs is a Golden Age of science in which anything can happen and usually does, followed—the accounts agree on this—by swift dissolution and oblivion.

Imagine the consequences of taking present-day science-fiction as a literal chronicle of the human race. I suppose that no real archeologist of 5000, AD would long try to reconcile the innumerable conflicting accounts of presumably contemporary events, but he might conclude that he had found a mythology of the vanished supermen, and try to use it as a framework on which to hang whatever facts his excavations had produced. That is precisely what we are doing when we use our legends of gods and heroes, magic and lost races, as the basis for theories of Mu or Atlantis or other "forgotten" civilizations of the past. We all sigh for that long-gone Golden Age of youthful humanity—but it's picayune compared with the Golden Age which science-fiction is counterfeiting today, for the delectation and confusion of archeologists in days to come.



SUPERHUMAN

By JOHN RUSSELL FEARN

Author of "Beast of the Tarn," "The Misty Wilderness," etc.

They crushed people by the dozens beneath their titanic, steel-shod feet.

He Was a Giant Among Men, Not Only in Stature But in Brain Power—and He Planned to Usher in a New Era!

DOCTOR ADISON BOYD was a model husband, a consistent example of sobriety, tenderness and jovial spirits. But Doctor Boyd had two faults: one that he was a scientist, the other that he was extremely dissatisfied with the world in which he lived.

His wife, Ena, tolerated his angry outbursts against the world at large with true matrimonial subtlety. She remained passive until the day he sprang his terrifying bombshell on her.

"Ena, Teddy is two months old, isn't he?" he demanded.

She nodded, and cast a fond glance at the infant lying in the armchair opposite her own.

"Yes, Adison," she said. "Why?"

"I've been doing some hard thinking. Frankly, I believe he can save mankind!"

"Save mankind! Whatever is the matter with you, Ad? Besides—"

Ena stopped. Her husband was pacing the drawing-room with methodical steps, driving his right fist into his left palm with rhythmic precision.

"I've got it, I've got it!" he reiterated persistently. "I know I've got it!

Listen, Ena. . . ." He went down unceremoniously on his knees beside her chair and took her hand tightly.

"I want you to listen very carefully," he said, gravely. "I am a scientist, my main interests being biology and pathology—you know that. For years I have struggled to find a way to aid humanity out of its useless existence, to expand its knowledge. And in our son lies the solution . . . Ena, what do you know about the pituitary glands?"

"Pituitary glands?" she repeated, startled.

"I'll explain to you; it is imperative that you know what I'm talking about. The two pituitary glands in the neck control growth; the thyroid gland keeps us firm and supple of body; the parathyroid gland controls the blood-stream's lime supply; and the two supra-renal glands give strength and energy. These glands are the foundation of a powerful and well-developed body. You see?"

Ena nodded, but her face was still puzzled.

"Well, I propose to treat our son's various controlling glands in such a manner—with a compound having calcium as its base—that he will ultimately grow to a gigantic proportion among men. A creature of as yet indeterminable height, possessed of colossal strength, unshatterable endurance, and a super-mind. It is all in the glands—and I can do it!

"Now do you see how our son can become a leader among men? How he can perhaps straighten out the muddles of life and leave the way clear for similar gigantic creatures to follow him? Until—who knows?—the entire world may be peopled by such beings!"

"It's horrible!" Ena declared promptly, without hesitation. "You'll play no such pranks on my child! Find something else to experiment on!"

BUT Adison Boyd was determined. He tried every means he could to obtain his wife's consent, only to be met by stolid refusal. Finally he shrugged his shoulders and got to his feet.

"Very well, my dear," he said with ominous quietness. "For the moment you win." Then, more loudly and angry, "I, as a scientist and the inventor of the gland-treatment refuse to be stopped. I warn you!"

Ena nodded sweetly and resumed her sewing.

But the thought still flamed brilliantly in Doctor Boyd's mind as he studied his sleeping son.

Two nights later Ena Boyd received a telephone call from a friend who wanted Ena to accompany her to the theatre. Ena left the infant in charge of the nurse while she went out.

Half an hour after her departure, Adison Boyd returned from his daily round at the laboratory in company with his closest friend, Professor Bruce Kemphill, several years his senior. An air of innocent quietness hung over them as they ate a hasty dinner, but when the cigar stage was reached Boyd began to converse on more technical matters.

"My wife objected to the scheme, Bruce, so the only thing to do is to work without her knowledge. I'm rid of her for a couple of hours this evening on the strength of a fake telephone call from my secretary at the laboratory. In that time, while Ena is waiting for her 'friend', we can do all we need.

"The initial operation won't take longer than four minutes, if that. Years will pass before the results will begin to show. I don't like this trickery, but I could see no other way. She's with the baby night and day, and if he gets too old the experiment will be useless. Understand?"

Kemphill nodded. "Perfectly. Go on."

"It may be just a dream; the whole thing may fail," Adison Boyd went on grimly. "That is the chance we must take with such an experiment. This is my plan.

"I shall inject into the pituitary glands a drug, the basis being calcium, which by a process of natural expansion will cause the walls of these two glands to alter their natural dimensions, and so cause a different balance to be struck. The result will inevitably be giantism of enormous magnitude.

"It must be done with the greatest of care because a slight error might produce an excessive acromegaly. The

injections will continue afterwards at three-month intervals and should, if I'm right, produce the desired effects."

"It's a risk, Adison," Kemphill said pensively. "If you go wrong, you'll never forgive yourself."

"I won't go wrong. I've spent too much time on preliminary experimentation to do that. Besides, I hope that the enlargement of the pituitary glands will produce a tremendous brain-power and endurance beyond the normal. The only thing I am afraid of is that it will bring a cruelty and callousness, just as the opposite will bring over-sentimentality. We must watch that carefully.

"The thyroid gland, of course, will be treated the same way, and we hope, will produce enormous energy, which in turn will feed the brain and produce—a genius! Linked to this will be the treatment of the supra-renal glands, and so on . . . Yes, I have great hopes!"

"When do we start?" Kemphill wanted to know.

"Tonight—now! Nurse is caring for the baby, but I think I can manage her all right. Just wait here a moment."

DOCTOR BOYD left the room, full of purpose. Professor Kemphill rose slowly to his feet and stroked his chin. He was a much older man than Boyd; had, perhaps, more matured perceptions of the future, and to judge from his expression his present perceptions were none to sanguine. A troubled light rested in his kindly, gray eyes.

Presently Adison Boyd returned, bearing his son in his arms. The child was crying a little, but at length its bright blue eyes alighted on Professor Kemphill's heavy watch-chain. Immediately the crying ceased.

"I managed it!" Boyd said delightedly. "Come into the lab."

The two men passed in the adjoining laboratory, where the baby was laid on a table-top upon a soft blanket. Kemphill fondled its head thoughtfully, then glanced at the child.

"You're not going to use the hypodermic syringe, are you?" he inquired.

"Good heavens, no! My drug is taken in the ordinary way, by the mouth, but I could not administer the first lot—pure drug—without bringing the baby in the laboratory here. After this, at three-month intervals, small amounts of the drug in milk or food can be administered. Now, Bruce, keep him occupied and I'll get busy."

The professor complied, and amused himself playing with the infant while Boyd busied himself amongst test-tubes, jars and bottles, finally holding up a long, thin phial containing a liquid resembling very pale port wine. With great care he poured this into a small feeding-bottle; then, bracing himself in the manner of a man who plunges into an icy river, he very delicately allowed his son to swallow the liquid drop by drop.

"I'm sure it's all wrong, Adison," Kemphill muttered. "You're messing in things far beyond the realm of your knowledge, man!"

"Oh, hell!" Boyd retorted, without turning from his task. "What's come over you tonight? Where's your love of scientific progress?"

Kemphill shrugged, but did not reply. Soon the feeding-bottle was empty.

"There we are!" the doctor chuckled, lifting the cooing child in his arms. "It didn't take more than four minutes, Bruce, but it may change the destiny of mankind . . . Now, back to bed you go."

The infant safely returned to its cot and the care of the unsuspecting nurse, the two men returned to the drawing-room. They had hardly been seated ten minutes when Ena returned, irritated and sharp in her movements.

"I wish when people make appointments they'd keep them!" she snapped. "Louise didn't come, and I've been cooling my heels all this time. Next time I see her— Oh, good-evening, Professor. I didn't notice you behind the high back of that chair. How are you? Some time since you've been over."

Kemphill rose courteously to his feet. "Ad and I have been discussing the progress of humanity."

Ena smiled cynically. "Really? That's Ad's pet subject. He had the audacity, a few days ago, to ask me to lend him my child to the cause of science. What do you think of that?"

"Science never accepts defeat, Mrs. Boyd," the professor answered gravely.

Ena drew off her gloves, shrugging irritably.

* * * * *

The gland drug had been administered on the night of June 21st, 1940. But it wasn't until the night of June 21st, 1943, that distinct evidences of the strange drug that Boyd had administered surreptitiously for three years began to become noticeable.

Throughout this period, Professor Kemphill was a constant visitor to the Boyd home, much to Mrs. Boyd's growing puzzlement. She, however, gave no thought to a possible connection between her son and the professor. How could she? Besides, the presence of a now one-year-old daughter occupied much of her time, deflecting her attention a good deal from her first-born.

"IT'S showing!" Adison Boyd breathed in Kemphill's ear, on the evening of June 21st, 1943, as they watched the child playing on the rug. "Notice anything?"

"He's big for his age—very big. He has a bright, intelligent face, too, and good cranial development. And look at those biceps of his! I wonder, Ad, if you've actually managed it? Beaten Nature at her own game?"

"I'm sure of it," Boyd answered confidently. "I measured him today and he's two feet nine inches, which is a lot for a child of three and a half years."

Kemphill nodded slowly. The conversation assumed different channels as Mrs. Boyd walked in, bearing her daughter in her arms. For quite a while she sat in a chair looking at her son, as though some feminine intuition was deeply disturbed. Abruptly she looked up to find her husband's eyes upon her.

"It looks as though Teddy will be big, doesn't it?" she said with pride. "You know, there are times when he looks at me with an expression that almost scares me. His blue eyes are so wide and round and full of intent, as though he's trying to read my mind. Somehow he never has seemed an ordinary, commonplace child, like Mary here."

"He is merely a very healthy child," Kemphill commented, with a saturnine and professional detachment. "You are both to be congratulated on so fine a son."

Ena nodded and studied the boy again, a puzzled frown on her face—a frown that deepened as the weeks went by and Edward began to grow with a rapidity which was nothing short of phenomenal. In the space of a month he added four more inches to his height. And three feet one inch was a remarkable height for a child of three years and seven months.

As he grew, his appetite increased. Adison Boyd, understanding chemicals and knowing the course his experiment would take, provided his son with all the highly vitamized products he could devise, with the result that the young giant grew steadily and expansively day by day, increasing not only in stature but in mental power and endurance as time passed.

Mary, his sister, seemed singularly microscopic beside him, pursuing a natural line of growth from babyhood to maturity.

"By Jove, he is growing!" his father confided to Professor Kemphill, almost in alarm, as middle-aged scientist arrived on one of his visits of inspection. "I never for a moment expected such terrific growth. It's beyond all reason!"

"Well, I warned you," Kemphill answered quietly. But even his calm was shaken when he beheld the youngster on the lawn in the early summer sunlight, spending his time crushing small pieces of coal to powder by the sheer strength of his hands.

"What on Earth have we precipitated, I wonder?" Boyd muttered. "The boy has the grip of a Hercules already, and he's not five years old yet! The ghastly thing is, now I've started the trouble with the glands I can't stop it!

"Yet there is a way, I suppose, to turn the balance in the opposite direction, but I've never troubled to find it. I thought he might grow to, say, twelve feet, and be as intelligent again as a normal man . . . But this!"

Words failed him. He stood breathing hard.

"Russian scientists making similar experiments have grown mice the size of donkeys," murmured Kemphill. "On the same scale, I don't dare to think how big a human being might become."

THUS started the beginnings of discomfiture. But if Adison Boyd was troubled it was nothing compared to his wife's state of mind. She became almost distracted as her giant offspring began to cultivate the habit of sitting for hours on end in utter quiet, staring at her unwinkingly, hypnotically, like a cat watching a mouse.

And in those brilliant blue orbs there was such a kindled glow of intellect, such a suggestion of mental force and genius undreamed of, that her own normal will-power more often than not came near to breaking under the strain.

Hypnotized by a child of five! Only this astounding thought enabled her to overcome her son's mental grip upon her. . . .

The addition of another six and a half inches was too much! And at last she went and sought out her husband in his small study.

"Ad I want you to tell me something," she said curtly. "It's about Teddy. Something is wrong with him. A few years ago you said something about a fool experiment to produce a superhuman man, and I refused to grant your request that you should experiment on Edward. . . Did you experiment on him secretly?"

Adison Boyd rose slowly from his chair, took his wife's shoulders in a firm grip.

"Ena, my dear, I have a confession to make," he answered quietly. "I've been a fool—an idiot! That night you had a 'phone call and went to meet Louise—it was all arranged. You remember how, when you questioned her, Louise did not know anything about it? My secretary put the call through from the lab. That night I experimented on Edward, with the professor—and this is the result of it!"

Ena recoiled. "Ad, you don't mean you—? You mean he will be exactly what you planned?"

"Maybe even more than that," he muttered. "You see, he's exceeding everything I expected. It is a well-known scientific fact that accumulation of bodily structure and the cells has no limit except that set by Nature. And when Nature is discounted, as in Teddy's case, heaven knows what will happen. There must be a limit, but the varying metabolism and formation of cellular structure through which he is passing is beyond all calculation.

"I cannot undo the wrong I've done except in one way. That way, my dear is—death!" He said the word almost inaudibly.

"Oh, Ad, Ad! Why did you have to do it?" Ena's face was suddenly wet with tears. "Why did you have to ruin him? Turn him into a caricature of a human being? Our child, a freak! You have defied Nature, Ad, and for that there must be a penalty."

"I know—I know. But what can we do? Let him go on like this until he's finished when he's twenty-one years old, or stop him before it's too late?"

Ena Boyd regained a grip on herself.

"I can never forgive you, Ad," she said brokenly. "All the same, as your wife, I shall stand by you, because Teddy is our child. For no other reason . . . Let him finish his course."

And with her face bathed in tears, she went swiftly from the room.

There being no need for further secrecy now, Boyd, Ena and Professor Kemphill viewed the progress of the gigantic child with more amazement on each occasion, until they reached the state when they were beyond expressing any words at all. To say that they were astonished, is putting it mildly.

Another year brought tremendous transformations in Edward Boyd. A few months added to that produced even more. Until, at six years of age, he was eight feet two inches, possessing a proportionate strength, and the mind and face of a fully matured man; indeed, a mind far superior to that of the cleverest. Childhood had never existed for him; adolescence had passed him completely by.

HIS gigantic powerful figure stalked about the fairly comfortable residence of his father as though he were constantly on the prowl for intruders. His baby sister, a little over two feet high, he regarded with a growing irritation each passing day. She, for her part, still half-formed in intelligence, considered him a lumbering enigma who often trod on her or lifted her playfully through space.

When he spoke, which was rarely, he

assumed a very deep and pleasant tone, using perfect English, defying the usual restrictions of age.

"Father," he said, on his sixth birthday, "for some reason I seem to have accomplishments which ordinary people haven't. For one thing I can read people's minds without any trouble. I have read your mind and Mother's, and know all there is to know—and a great deal more.

"You've made me a giant, superhumanly strong and endowed with a high intelligence. Your purpose was for me to improve humanity, and I shall do so. But it won't be for another fifteen years yet. Not until I become mature. I'll have fifteen more years of physical growth and expansion of knowledge. I haven't the slightest idea how big I'll be then and I tremble to think of it. I curse the day your warped mind made you do this to me!"

"Why?" Boyd demanded. "You have enormous advantages, Edward."

"And enormous disadvantages," the six-year-old voice growled back. "It is the same with all such experiments. You forgot to provide me with a companion—of the opposite sex! You forget that all my emotions now are those of a fully developed man.

"I have read from your minds that you hope to produce a race of monsters like me; but you did not provide the wherewithal with which to do it! You are an idiot, Father! I shall correct the error myself, that's all."

"How?" Boyd asked, paling slightly.

"I will find a female somewhere. She will be only five years or so younger than I at my maturity. I will give her an injection of the drug . . . Oh, yes, I know the formula. I read it from your mind long ago.

"Which reminds me. There is a baby girl at the house across the way—the Morgans'. I've seen her in her baby-carriage. She'll do!"

"But Edward, for the love of heaven —" Adison began, then stopped, lost for words, as the giant turned and, stooping beneath the door, walked into the hall and out of the house.

Such was the beginning. An angry cry was raised when the baby daughter of Mr. and Mrs. Harvey Morgan suddenly disappeared one day from her baby-carriage. She was found again shortly afterwards, apparently quite unharmed, on the garage roof. How she got there remained an unsolved mystery to everybody, save Edward Boyd.

From then on, despite constant precautions, she was subject to mysterious disappearances at three-month intervals. Nobody guessed it was for the purpose of injections by Edward Boyd. And, though suspicion did rest on him, due to his abnormal height, there was never any proof.

And so, after a while, Grace Morgan began to develop the same astounding characteristics as the mighty Edward Boyd.

Within another year Edward was twelve feet seven in height—a colossal monster, likewise increased in intellect as in stature. Grace, of course, being so far behind him, was a mere four feet, but her intelligence, if anything, was even quicker than his had been. She held conversations with him on scientific topics over the adjoining garden wall, and Edward in turn discoursed on subjects that were beyond the ken of normalcy.

THE years rolled on. Edward took to sleeping outdoors, being too large for interior accommodations. He covered himself only with a huge blanket in the thickest frost of winter, and lay almost naked in summer.

Two sets of parents found their faces more deeply chiselled with worry as the years passed. They lived in a world where they had suddenly become miserable and unimportant. The Boyds, united again now by a common fear, and the quiet but speculative Professor Kemphill, were overshadowed mentally and physically by the stupendous Edward.

The Morgans tried in vain to conceive what had happened to produce about their home a full thirteen feet of massive-shouldered blond-headed girlhood, shrewd and calculating, having claims even to beauty, and walking when outdoors with ramrod erectness. That was when she was nine, and Edward just over fifteen.

It came as a cold, stunning shock to Adison Boyd when he realized that the

two young people, now almost constantly in each other's company, compatriots in giantism, talking on topics so advanced that nobody could understand them, had still another nine years or so left to reach actual maturity—if maturity could be applied to such hypertrophied creatures.

The giant Edward now had some regard for his sister, and listened patiently on many occasions to her pleas. In some way she seemed to understand the trend of his nature toward cold-blooded, merciless achievement, and tried to divert it into more useful channels. But her noble efforts to steer him right were wasted on him.

It was odd to see them holding these discussions. She, four feet six, he nearly twenty-one feet, squatting on the lawn with her standing by his shoulder.

Doctor Boyd came near to weeping as he saw the sight. Ena actually did weep. They both felt their utter helplessness, and wondered how Mary managed to keep in her brother's good graces at all. Evidently she had some strain in her nature that appealed to the young monster's ruthlessly penetrating mind.

Year succeeded year. Steadily and inevitably the young man and woman grew. Onward and onward, until a broiling June day in 1959. On the 15th of that month the leading London papers were bedecked with raging headlines.

GIGANTIC MONSTER INVADES LONDON

100-FOOT MAN TERRORIZES CROWDS

Subsequent details revealed that a gigantic man, all of one hundred feet in height, and attired in a suit of what appeared to be solid steel casing, had been sighted amidst London's buildings. A creature so vast, so huge that the tallest prehistoric monster passed into insignificance by comparison.

True, he had done no harm as yet, picking his way with mammoth feet through the fleeing people. Where he had gone, what his object was, nobody seemed to know—except a grey-haired man and woman and their daughter, and an old professor, in the comfortable residence on London's outskirts.

Adison Boyd, incredibly aged with the passing years, was talking with his daughter, now nineteen years of age. She was slim, intelligent, and possessed a great love of science and ability to utilize its limitless powers.

"Father, Edward and Grace Morgan begin their campaign for world-subjection tomorrow—you know that," she said steadily. "Edward will be twenty-one tomorrow, and, we hope, at the end of his wild growth. Grace, of course, is fifteen, but possessing all the characteristics of a woman of twenty-five.

"Do not forget their intelligence. Between them they can crush the world! Do not forget their uncanny knowledge of dimensions, atomic structures, light-waves, sound-vibrations and a thousand other astounding things. Nobody in this world will be able to stand against them!"

HER father shrugged. "Mary, you used to have some sort of influence over Edward, but since he went his own way four years ago that influence has been broken. What do you propose doing?"

Mary seated herself composedly and took hold of her father's hand.

"I've thought of a way, father, but I must work fast and have your aid to do it. It will mean the death of Edward, but it has to be done if the world is to be saved. That woman Grace Morgan will also be extinguished.

"When I was a young girl I used to talk to Edward a lot, and during those talks I learned all about the formula that caused the trouble. He told me calcium was the basis. Is that right?"

Adison Boyd nodded dully. "Quite right, Mary—but what of it?"

"It will save the world from Edward and Grace," Mary replied calmly. "That may sound wild, but it's true—and ultimately you'll see why. For the time being, we don't need to keep on their track. I know where they are hiding because I've made it my business to find out. Then we've got to get through those steel coverings of theirs, and you can leave the rest to me.

"Before we start off to find them I

have some calcium experiments, to complete, experiments which will speed up the known efficiency of calcium by something like one hundred times."

"And what good is that?" Boyd demanded helplessly. "You talk in riddles, Mary. Which reminds me! Why do Edward and Grace wear those coverings, anyhow?"

"Because they are so stupendously tall. If they didn't they would fall to pieces by their own weight. That's why they have to have rigid, immovable support. Those suits, I presume, are hinged at the necessary joints, otherwise quite inflexible. I imagine that the only time Edward and Grace take them off is when they are resting. Lying down they would be all right.

"Now, Father, don't worry me while I finish off my calcium experiment. Calcium it must be; I'd thought of poison, but it would have no lasting effect. And tonight we'll get busy . . . You know, Father, you ought to have checked this in its incipiency!"

"I know," Boyd agreed in a low voice. "It was only for your Mother's sake that I refrained . . ."

In the depths of the wood, twenty-five miles south of London, a titanic figure laid himself flat on the warm, leafy ground, crushing down saplings and small trees beneath his stupendous weight. A moment or two elapsed, then another figure, less tall but still gigantic, came into view and lay down beside him.

Strange clicking noises sounded and the steel coverings fell apart along unexpected seams and dropped noisily to one side. The now white-garbed figures turned and looked at each other from their supine positions.

"Grace, we begin tomorrow," rumbled Edward's deep bass voice. "I have it all planned. We will begin with London itself and force the inhabitants to do our bidding. The mere sight of us will cow them into obedience. If they refuse, we'll start a reign of terror that will force them to be our slaves.

"We have one weapon that should sway them without any trouble—remember? The one I made in my father's lab. It is so powerful that it splits the atomic structure of light-mass by the use of force and causes instant disintegration of any object over any predetermined distance. I do not expect any resistance. We've easily managed to evade police so far."

"And then what?" asked Grace, passing her mammoth hand through her jungle of golden hair. "Conquest of the Earth?"

"Why not? Who's to stop us? Our knowledge, our size, everything is in our favor. The strongest shell made would bounce off our steel coatings like rocks hurled at a fast-moving express train. We're normal human beings in a toy world, Grace. There's nothing we can't do! To reach countries across the sea, we will tie ocean-liners together and use them as a raft."

GRACE looked determined.

"What about all those strange-looking weapons that we've built to destroy man? Are we going to use them?" Grace asked, her massive lips curling back in a hideous smile from eight-inch teeth.

Edward nodded. "Exactly. We begin tomorrow. Now we need sleep . . ." . . ."

So the two giant figures dragged themselves along the ground, by sheer muscular effort, to a clearing which they had chosen as their rendezvous many months before. There, impervious to cold or heat, they sank down on the grass at full length, to presently fall into deep slumber; chests rising and falling like small hills.

The sun had been set half an hour when they went to sleep; and it was the closest approach to the darkness of a summer night when four tiny figures crept up with infinite caution through the trees, paused at the sight of the sleeping titans, and engaged in whispered conversation.

Dr. Boyd, Mary, Mrs. Boyd, and, as ever, Professor Kemphill, comprised the quartette.

"You knew their hide-out all right, Mary," Adison Boyd murmured. "They've got those steel coverings off, too. That's luck!"

"No—judgment," Mary answered calmly. "I assumed that they would discard them when lying down. Now is our chance!"

From under her coat she brought out an object resembling a garden-syringe and looked pensively at the needle-like point with the open-nozzle.

"Excessively energized calcium contained in liquid," she said, in response to the questioning looks directed at her in the starlight. "Unless my scientific training is all wrong, this will bring about the end of these two. I don't regard Ted as my brother any longer, but as a dangerous monstrosity. You see, bullets or cannons or poisons can never hurt them. Nothing normal can destroy them. It has got to be something abnormal — inside them. Now comes the difficult part of the job. Come with me."

Silently, though still mystified as to the girl's real intentions, her father, mother and the professor crept silently after her through the shadows, until they came within three feet of those stupendous masses of sleeping flesh. Edward's right arm, a corded mass of iron muscle, lay stretched in the grass like the trunk of some pink-colored tree.

For a moment his sister stood looking at him. Then, steeling herself, she pushed the syringe instrument forward, pulling the long pressure-handle out to its fullest extent. Mary hesitated for an instant, then she sank the needle-pointed tip into a vein of his arm, distinguishable like knotted cable.

The giant moved slightly, but did not waken. His deep breathing drowned the sighing of the night breeze through the foliage of the trees.

By the united efforts of the four tiny figures, the pressure-handle was pushed down half-way, until a bulge appeared under the skin of Edward's arms, to gradually disappear as the liquid assimilated itself into the blood-stream. At this point Mary desisted, withdrew the huge hypodermic syringe, and walked over to where Grace lay.

With infinite care, the same treatment was meted out to the girl Colossus.

"Our work is finished," Mary breathed tensely. "We can only await results. Come, before we are discovered."

Without a second's hesitation the four conspirators made their way back through the trees until they reached the fast car in which they had come, parked by the side of the main highway . . .

THE following morning London awoke to a reign of terror. At eight o'clock, when sleepy-eyed people were congregated on station platforms waiting for their trains to take them to work, Edward and Grace stalked into the city. Wading through the traffic about Trafalgar Square, the two monsters could be seen, their steel coverings glittering in the sun. Each carried a strange-looking weapon.

The hurrying panic-stricken crowds emerged from buses and trains and fled in mortal terror. But they were brought to a sudden, abrupt halt by a tremendous wave of mental force. The mighty brains of Edward and Grace, working in unison and possessed of five hundred times more power than the average person, produced a terrific effect. Everybody within radius was held spellbound, gazing up at the fantastic creatures subjecting them to their will.

"This is the era of the giants!" thundered Edward's voice at length. "The time has come for the little people who dwell in the dark and small places of the Earth to be destroyed. The entire Earth is destined to become a habitation fit for monsters such as my companion and me. The day of the Little is over; it is now the day of the Big!

"You are tiny — unintelligent — incapable! We can, and will, transform the world. And unless we are voluntarily permitted to do this we will do it by force, which will mean war of a type you have never yet encountered. You will be crushed and obliterated into extinction, your homes and buildings torn down. Your friends and children ripped to shreds, until you learn! Learn that we are the masters!

"Because of the fact that our brain-powers, tremendous though they are, do not permit us to rule the entire world by mental force alone, we shall match the physical with the mental and thereby produce an invincible strength. Our first command is the relinquishment of London to us, and

we shall determine what is to be done and choose suitable people to carry out our plans. The second command is the voluntary surrender of all babies, male and female, under one year old, to the care of laboratory technicians whom we shall appoint, and whom we shall instruct in the uses and effects of giantism and excessive hypertrophy.

"These two commands must be obeyed, and from your acquiescence there will grow up through the years a new era—the day of the Big, a world of strength, power and invincible formidability!"

AS his words died away, Edward relaxed his mental forces that he might hear the people answer, and their voices floated up to him and Grace in a babel of unintelligible sound. Then came the answer—very effectively. Missiles of all descriptions began to hurtle through the air, glancing off the steel coverings, and at best hitting no higher than the knees.

"They refuse!" Edward snapped curtly. "Use force!"

Saying that, he strode forward, Grace by his side, and between them they crushed people by the dozen beneath their titanic, steel-shod feet. Pausing a moment, they switched on the instruments they carried. Immediately, stabbing blasts of force split the air—the instant disintegration of light-mass. In a vicious circle of destruction the invisible power beams swept round, razing tall buildings to the ground in clouds of dust and spreading immeasurable havoc over a wide area.

Swelling uproar rose to the giants as they went grimly on, striding over the smaller buildings, smashing some of them down like cardboard boxes. Because of their size, the movements of the colossal pair were slow and ponderous.

Only their steel supports kept them upright at all, and even that was with great difficulty.

The orgy of destruction and massacre was halted for a time by the arrival of a brave army of police, who fired bombs at the monsters. But they exploded harmlessly, with no more effect than cheap fire crackers about the waists of the impregnable invaders.

LATER, as the uncanny battle raged, anti-aircraft guns came into play, and for a while shells whistled dangerously near the heads of the two giants. Until, with one huge hand, Edward bent down and snuffed the aggressors into extinction, as a normal man would a garden worm.

By noon London became a city of panic and destruction. The giants, only beaten in height by the tallest buildings, were wreaking incalculable damage on all sides. The whole western section of the metropolis was smashing visibly under the onslaught of light-mass destroyers and steel-clad, pile-driving fists. Even the airplanes that flew to the attack were reduced to wreckage, Edward and Grace dealing with them with their force rays as though the powerful machines were nothing more than slow-moving house flies . . .

Mary Boyd, her father, mother, and the professor, could distinctly see the huge figures against the skyline from their home, and watched with growing anxiety as they beheld building after building hurtle down to destruction. Through the entire day they watched, scarcely moving, binoculars glued to their eyes.

Then, towards sunset, when the red glare was flooding across from the battered silhouettes of the city, the two gigantic figures were seen to suddenly become curiously rigid. Both of them stood quite still with arms upraised in mid-air preparatory to destroying a building!

"I—I believe it's worked!" Mary gasped hoarsely. "Come on. Get in the car and we'll go and see."

At top speed they headed for the city, where they left the car and joined the milling multitudes of people who were gazing in awe at two rigid, immovable figures, each with one foot planted in one street and the other in a neighbouring one, mighty arms raised to the darkening skies.

"What's happened to them?" Adison Boyd breathed at last. "Mary! What did you do?"

A light of infinite relief was in his daughter's eyes as she turned to him.

"The calcium I used and energized to become one hundred times more ef-

fective than normal, entered the bloodstreams of Edward and Grace and following chemical law, turned their flesh and blood into the basis of lime. That went on until—well, surely you can see for yourself?"

"By Jove, yes!" Kemphill ejaculated. "I understand, Mary. Either these two will stand here forever, or they'll have to be removed and destroyed. It depends how the people feel about it."

"But I still don't understand!" Boyd protested.

"They have been turned to stone!" Mary replied quietly. "It is a chemical fact that flesh and blood containing an abnormal amount of calcium will cause the limbs and organs to actually turn to stone with the passage of time. I could quote many instances. Death follows, of course, when a vital organ is affected.

"In this case I used calcium speeded up exactly one hundred times, by laboratory processes, and injected it into the arms of both of them. Until the stuff was equally distributed over their bodies they felt nothing. Then suddenly it took devastating effect, halting them in mid-action, turning them to figures of stone!"

Adison Boyd gazed up once more at the rigid, glittering figures.

"Then they are dead?"

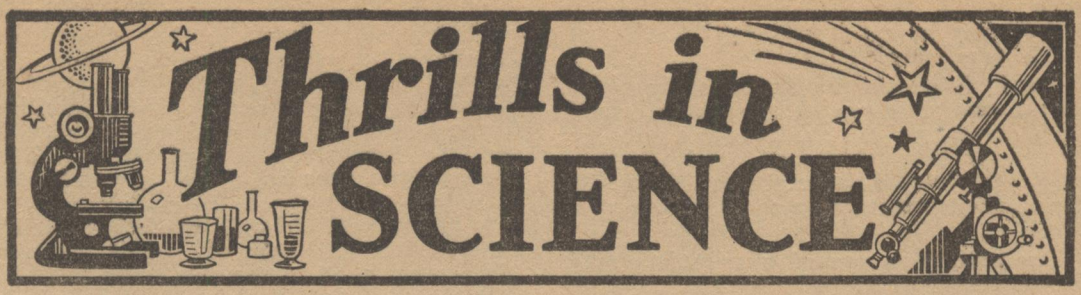
"Utterly," the girl answered in a sombre voice.

* * * * *

The figures of stone, by popular assent, remained where they were, and London grew up again around them. Twenty years later they were still standing in the same position, mighty monuments to a strange and weird invasion—a stupendous man and woman whose heads seemed wreathed in clouds; carved, granite faces staring into the sky.

The world went on its way, the affair of the giants forgotten. But the figures still stood on, the steel integuments rusted with the elements; behemoth arms upraised as though poised ready for destruction, above the teeming, midget world below.

Next Issue's Novel: THE GATEWAY TO PARADISE



Thumbnail Sketches of Great Men and Achievements

By MORT WEISINGER

THE TOY HEARD 'ROUND THE WORLD

ALEXANDER GRAHAM BELL, the inventor of the telephone, was puzzled. Standing before an exhibit of his device at the great Centennial Exposition at Philadelphia in 1876, the brilliant inventor summoned over one of the guards that patrolled the grounds.

"Guard," he addressed the uniformed man, "are you sure that the sign outside this hall says 'Admission Free'?"

The guard tilted his cap, scratched his head, and smiled.

"Sure, Professor Bell. The letters on the sign are so big you can read 'em a hundred yards away."

"That's funny," said the man who had perfected the first instrument capable of transmitting human speech instantaneously over great distances. "No one has walked in here to look over my exhibit all afternoon. And I know there's a large attendance at the Exposition today."

"Well, you had some customers this morning, didn't you?" the guard commented. "I saw a school teacher and her whole class of students hanging around your exhibit."

"You saw them, yes. But you didn't hear them, did you?" Professor Bell said sadly. "The only reason they came in to see the telephone was because the school teacher was a former pupil of mine, when I taught at the Clarke School for the Deaf, at Northampton, Massachusetts. All the children in that class were deaf. They couldn't hear over my telephone." The professor sighed. "I wonder whether anyone ever will."

"Psss-t," whispered the guard. "Here come a couple of folks, Professor."

Professor Bell looked up to see a young couple and their six-year-old son. The inventor smiled benignly at the man and his wife, pointing to his exhibit.

"Would you be interested in witnessing a demonstration of the telephone?" he said invitingly, like a salesman about to hand out a free sample of his wares.

"Dunno," said the young man warily. "Tel-e-phone? What is it?"

Professor Bell went into his song-and-dance. In brief, simple language, he explained the principles of his device, pointing out how long-distance communication could be achieved with his invention.

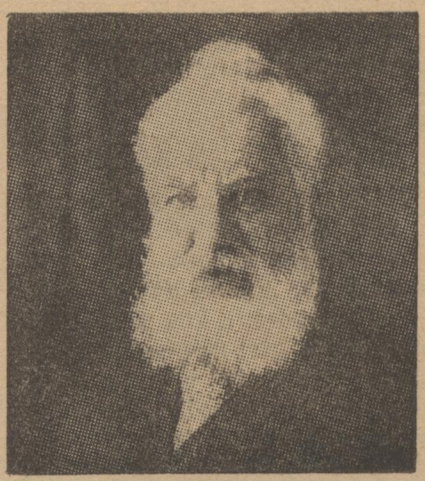
"Want to try it, sir?" he concluded.

The man eyed the instrument cagily.

"Won't give me one of those newfangled electric shocks, will it?" he asked, inspecting the various batteries and coils.

Bell drew in a deep breath.

"No, no," he said tolerantly. "It's absolutely safe. Here, hold this receiver to your ear. Tell your wife to say 'Hello' into the mouthpiece over there." Bell indicated the transmitting end of the phone, many feet away.



Alexander Graham Bell

The couple did as they were instructed. The young wife walked over to the transmitter, spoke "Hello" into the mouthpiece.

"Well, what do you think of the telephone, now that you've tested it?" Bell asked the young man.

"Sure is fun," the man said. "How much

does one of these gadgets cost? I'd like to buy one for my kid for next Christmas. It's a swell toy."

Toy! Professor Bell groaned inwardly, cast a woeful glance at the nearby guard. Here was one of civilization's greatest inventions, and this man, typical of so many people who had come to witness the Exposition, regarded the telephone as a toy!

The afternoon passed uneventfully. Of eleven people who had wandered over to Bell's exhibit, six had stayed for a demonstration. Only one man had been impressed by the possibilities of the instrument.

It was near closing time when the guard came over to Professor Bell once again.

"Here come the judges, Professor Bell," he said pointing to a group of graybeards approaching from the distance. "They're supposed to hand out medals and awards to the most important exhibits at the Exposition."

Professor Bell held his breath as the delegation of judges came near his exhibit. Surely some of the men there had heard of his invention. Surely they would be interested in participating in a demonstration of the device. If they liked it, if he rated an award, the telephone would automatically win the stamp of public approval. But if they thought his invention just another gadget. . . . Professor Bell didn't dare to think.

The committee of judges advanced to Bell's exhibit—and passed it! It was a hot day and they were tired and exhausted from hours of tramping over the Exposition grounds. They were more intent on getting home to a bath and dinner than on listening to windy, scientific explanations of eccentric, complicated devices.

Professor Bell watched the retinue file past him. His last chance for national publicity for his invention had slipped by. It might be years before he could get another opportunity.

Suddenly the professor spied a familiar figure trailing the judges' entourage. It was the Emperor Pedro of Brazil. The emperor had once heard Bell give a lesson at a deaf-mute school.

"Ah, my old friend, Professor Bell," greeted the Emperor of Brazil warmly. "It is very good to see you again."

Professor Bell returned the ruler's greetings.

"What are you doing here?" the emperor inquired.

Professor Bell pointed to his telephone, told the visiting monarch how it functioned. Meanwhile, the group of judges, observing the attention given the exhibit by the emperor, sheepishly strayed back to the telephone exhibit.

"Your invention sounds wonderful," the judges heard the emperor tell Bell. "I would like to have a demonstration."

Bell gave him the receiver.

"Put it to your ear, your highness," he said, and then went to the other end of the wire and spoke into the transmitter. The emperor looked around at the judges. The receiver dropped abruptly from his hands, dangled from its wire.

"It talks!" was all he could say.

Alexander Graham Bell's heart somersaulted as he noted how favorably impressed the judges were by the emperor's enthusiastic reaction. Failure had been metamorphosed into thrilling triumph.

The very next day the nation's newspapers reported the emperor's experience. Alexander Bell had become world-famous overnight. And his "toy" was destined to become the Centennial Exposition's most thrilling contribution to America's one hundred years of progress.

STARS IN HIS EYES

THE man beside the work-bench stood as rigid as a stone statue. It had been more than four hours since he had last moved a hand, stretched a foot. He wanted to mop his forehead, but he didn't dare. If he took his hands away from the figuring tools on the bench before him, for even a moment, his whole work might be ruined.

Suddenly a girl appeared at the doorway of the laboratory, a bowl of soup in her hands.

"William Herschel," she called out softly, fearful lest her voice startle him into mobility, "it's way past your meal-time. You've got to eat something, or you'll drop from exhaustion."

"I'm sorry, sis," the man told the girl. "But you know how it is. If I take my hands away from these tools for even a second this whole mirror job may turn out to be a failure. I can't take a chance. A slip now would spoil the work of months."

"Well, then," said the girl chirpily, advancing toward her brother, "if the mountain won't come to Caroline, I'm going to feed you myself. All you have to do is open that big mouth of yours."

The man laughed. "All right, Caroline, go ahead and slip me some spoonfuls. But be careful. One false move and we might just as well forget about the mirror —and the telescope."

William Herschel was not exaggerating. He was in the process of fashioning the largest reflecting mirror the world had ever seen. In the difficult work of fashioning a telescope mirror, it is at times necessary for the workman to remain with his hand on the figuring tools for hours at a time.

"Cheer up, sis," Herschel told the girl between mouthfuls. "A week more and the job will be completed. We'll have

the most powerful telescope in all Germany . . . in all the world. Say, this soup is good. . . ."

Two weeks later, and brother and sister stood on the roof of their house, the completed new telescope before them. The man focused the telescope's lens at the starry heavens, turned to his hister.

"Caroline, I want you to take the first look," he said sincerely. "Without your help I could never have constructed so fine an instrument."

"Thank you, kind sir," the girl said merrily, making a little curtsy. She bent her head over the eyepiece of the telescope, peered into it. For a few moments she was silent, busy adjusting the focus to suit her vision.

"Oh, William," she suddenly exclaimed. "It's magnificent. I've never seen the Moon so close before. It's thrilling . . . majestic. Here, take a look yourself."

William Herschel was at her side in a moment. He glued one eye to the eyepiece, and seconds later he was beholding the panorama of the heavens brought to a range closer than that ever achieved by any other astronomer.

Minutes sped by before Herschel could tear himself away from the telescope.

"It's great, sis!" he cried. "Now we'll be able to study every body in the sky. With so fine an instrument as we have, we'll discover new worlds. We'll comb the heavens every night until we find a new planet!"

The Herschels stayed up all that night, scanning the cosmos until the jealous morning sun finally made further observation impossible.

Tired, sleepy-eyed, but frenziedly happy, the enthusiastic astronomer turned to his sister.

"You know, sis," he said, "tired as I am, I can't wait for night to come. There's no reason now why we can't make some startling astronomical discovery!"

William Herschel kept his word. Every single night he was at his telescope, searching the firmament methodically. The stellar sleuth examined every star above a certain magnitude, keeping at his instrument until dawn would break. Caroline cheered her brother in these long hours with her presence, and recorded his observations. Often the ink froze in her pen, so cold was the night.

Years went by. Still William Herschel persisted in his celestial vigil. He probed the cosmic vault by night, rested during the day. The citizens of Hanover, learning about Herschel's constant midnight post, dubbed him "The Silent Watcher of the Night."

Then one evening, as the astronomer called off star after star to his sister, Caroline interrupted.

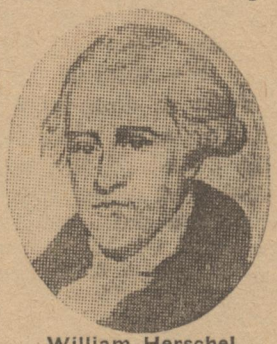
"Wait a minute, William," she said. "Do you know how many stars we've checked so far? This last one made four thousand!"

William Herschel started. "Four thousand! It seems incredible that I could have examined so many. Four thousand —yet every one of the stars observed is an old one, known to astronomers for years!"

Herschel paused, fondled the barrel of his 'scope.

"Honey, I'm wasting my time—and yours," he said. "For years I've searched the heavens. Yet in all that time I haven't found a single new body. Nothing but stars, stars, stars, and the five planets. Maybe there aren't any new worlds left to discover!"

Caroline Herschel stood up from her



William Herschel

chair, walked over to her brother and looked tenderly into his eyes.

"William," she said softly, "do you remember the first night on this roof . . . what you said after you had taken your first look through the telescope? Remember?"

Herschel thought a moment, shrugged his head. "I can't remember, sis. What did I say?"

"You made a promise. You told me that you'd comb the heavens every night until you discovered a new world. You can't quit now, dear. You've got to see this thing through."

The weary astronomer grasped his sister's hand.

"You're right, Caroline," he said throatily. "Thanks a lot. You've been swell to me all these years . . . taking notes for me . . . keeping house. Without you I would have quit long ago."

So Herschel went back to his telescope, and every night thereafter trained his instrument at the heavens, his devoted sister beside him. Every pinpoint in the visible Universe became the object of his attention. He studied star-clusters, nebulae, double-stars, comets. And still there was nothing new to be seen. He was well past the half-century mark now, a hunter of the unknown who refused to take no for an answer. A man who hoped to find a planetary needle in a star-spangled haystack.

Then, one night in March, 1781, Herschel turned his telescope upon the stars in the constellation of Gemini. Suddenly his trained eye observed a star that arrested his attention. He called for a higher magnifying power, and to his extreme delight, instead of the usual brilliant point that signified a star, he beheld a shiny disc that was totally different from the myriad of stars about it.

Herschel trembled with excitement as he beheld the strange sphere. He knew it wasn't a star, for even the largest tele-

scope is unable to magnify a star, at such an infinite distance is it from Earth. Telescopes only serve to gather more light and thus make the stars appear more brightly.

Herschel didn't dare tell his sister about his find. He didn't want to build up her hopes until he was absolutely certain. He watched the alien orb night after night. Then, when he noted that its position had shifted, he knew that there could no longer be any doubt about his discovery.

William Herschel had discovered the seventh planet—Uranus! Another member had been added to the family of the Solar System—a world discovered by two members of a very different family!

A PIECE OF WOOD

MARC ISAMBARD BRUNEL lay on the wooden cot in his prison cell and stared into the darkness, wishing. He wished that he might once again know what it was to rest on a feather mattress instead of a straw one. He wished that when morning came he would not have to open his eyes to face again his cell's familiar furnishings—a stool, a jug for water, and a wooden refuse bucket. And he wished that just once, when the sliding panel of the cell-door opened, the jailer would extend a tray of cooked meat and wine, instead of the usual slop.

Marc Brunel put out a hand, rubbed the uneven cut stone of his prison cell like an Aladdin stroking a magic lamp. Then suddenly he got his wishes!

The ponderous oaken door that separated him from the world of man outside clanged open. The swart features of the jailer stood revealed in the gloomy light of an oil-lamp suspended nearby.

"Come with me, Marc Brunel," the jailer said gruffly. "You're a free man!"

Marc Brunel leaped to his feet, followed the jailer into a corridor lined on either side with locked doors, and full of a musty, sweaty prison smell. Suddenly Brunel stopped in his tracks.

"One moment," he told the jailer. "I forgot something back in my cell."

Without waiting for the guard to sanction permission, Brunel went back to his former dungeon. He stooped beside the wooden cot, then swept the surface of the stone floor beneath it with his fingers. In a moment he had found what he was searching for, a small object about ten inches in length.

The jailer stared suspiciously at Brunel as he came out of the cell, the retrieved object clutched in his hand.

"What's that you've got there" he growled, snatching the thing from Brunel's clasp.

Brunel smiled. "It's nothing. Just a piece of wood."

The jailer held the wood up to the light of the oil-lamp. His brows furrowed in perplexity as he examined the strip of wood, turned it over carefully in his hands.

"Yes, it's a piece of wood, all right," he said sullenly. "But it's got a hole at each end. The hole goes right through the length of the timber." The jailer regarded his prisoner curiously. "What's it mean, and why do you want it?"

Marc Brunel reached out for the strip of wood, tucked it into his pocket.

"It's just a piece of wood . . . yes. But it will help me accomplish one of the greatest engineering feats England has ever seen!"

The jailer pounded Brunel on the back, broke into hearty laughter.

"Sure, I know," he guffawed. "Just like all your other inventions. You'll be back here before you know it, fellow, if your new scheme turns out to be a flop like the others. It's not every day the Crown pardons debtors."

Marc Isambard Brunel ignored the jailer's jibes. Anticipation of the future was what interested him now. He wanted to forget the disappointments of his past. He tried not to think of the crazy ups and downs that had ruined his life. How he had sold the British Admiralty an invention for cutting blocks for ships' rigging for $85,000. How, through the use of this invention, the British Government made a saving of $120,000 a year for a generation.

He tried not to think how this invention had brought disaster to himself, for the sawmills which he had erected in connection with this and other works had burned down, thus ruining him. Brunel was working at the time on what might have been the first steamship. The British Government, having encouraged the engineer up to a certain point, had suddenly revoked his authority, so that in the midst of his project he was left to bear the expenses. Unable to meet them, the inventor was seized and imprisoned for debt.

With an effort, Brunel thrust the past out of his mind. The world called his various inventions failures. Well, he'd show them. He still had ideas, he assured himself, fingering the piece of wood. And he wasn't so old, even if he did have a grown son.

His son Isambar Kingdom Brunel should be a big lad by now. He was a fine boy. Would he be at the prison gate, waiting for his father? Marc Brunel wondered, quickened his stride.

Marc Brunel was not disappointed. Outside the prison, pacing nervously up and down, he saw the boy. Father gripped son in a firm handclasp, and the two embraced each other affectionately. Slowly, they walked up the street to a waiting carriage that the boy had engaged. Neither said a word. At that moment speech was unnecessary. The feeling of reunion between the parent and son made a stronger bond than words could bridge.

Minutes later, comfortably relaxed against the leather upholstery of the carriage, the elder Brunel reached for his son's arm, pressed it gently.

"Tell me, boy," he said huskily. "Why did they let me out?"

"The public, Dad," the young man said. "The public and the newspapers shamed the Government into paying your twenty-five thousand dollar debt. Don't you see, Father—the world still believes in you. The people realized that your indebtedness was the result of the Government's stupidity, not your fault. You're free now—to build again!"

"And I will build again, son!" Marc Brunel said earnestly. "England will see the mightiest engineering feat ever undertaken in our age. I will build the first underground tunnel—a tunnel under the Thames River!"

Young Kingdom Brunel stared incredulously at his father. He tried to mask his feelings of disbelief, but his eyes betrayed him.

"You don't believe me, eh?" the father said. "You think that the years in prison have turned my mind. No, son, I'm sane. I will build a tunnel under the Thames River—a tunnel that will be a boon to commerce. A tunnel that will be the first of such tunnels in every land all over the world."

"But, Father, that's impossible—"

Brunel the elder gestured his son to silence, extracted a piece of wood from his pocket.

"It is possible, son," he told the youth. "See this piece of wood? That's what gave me the idea."

Kingdom Brunel looked the piece of wood over, noted the hole that ran from one end to the other. Like the jailer, the boy, too, failed to grasp the significance of the thing.

"Look, son," Brunel said softly, "do you know what drilled the hole in that piece of wood?"

The boy shrugged his head negatively.

"A worm did it. A marine worm which tunnels timber and other substances bored that hole."

The boy nodded eagerly. He was beginning to understand now what his father was driving at.

"Why have all previous attempts at building a tunnel been unsuccessful?" the father asked rhetorically. "Because as we dig under the earth, the soil caves in. Now examine the hole in that wood more carefully. What do you see?"

The boy squinted one eye near the aperture at one end of the wood, held it up in the light of a street lamp they were just passing.

"The rim of the hole seems coated with some substance," he observed.

"Exactly!" concurred Marc Brunel. "You see, son, as the worm tunnels through the wood it builds, as it penetrates, a limy cell of its own secretion so that the hollow material cannot collapse on it. In building a tunnel under the Thames, we must apply the engineering principle used by the worm! As we bore through the soft earth beneath the river we must copy the worm by building up the walls and roof with masonry!"

"You're right, Father," the son said excitedly. "It can be done. And I'll be working with you on the project until the day the tunnel is finished!"

Father and son shook hands, grinned at each other. A few minutes later, the carriage rolled up in front of their house. The son paid the driver and both men hopped out.

As the two made their way toward their residence, the voice of the driver called out after them.

"Mr. Brunel," he cried out. "You left something in the back of the carriage. A piece of wood. . . ."

Eighteen years later the tunnel was completed. The younger Brunel had toiled like a giant in the tunnel, sometimes working there night and day for ninety hours at a stretch. The completed job was Marc Brunel's greatest achievement and his monument, a pattern for the world to copy. It was an epoch-making work, for all tunneling inventions in yielding soil have been modeled on it ever since.

And as father and son stood watching the ceremonies that attended the opening of the tunnel, arms linked together, the thrill of success pervaded the hearts of both men.

As a band began to strike up a tune, signifying that the tunnel was officially open, Marc Brunel gripped his loyal son's arm tightly with his left hand. His right hand fumbled in his pocket, where reposed a piece of wood. . . .

Interplanetary Reporter

By LEIGH BRACKETT

Author of "Martian Quest," "Treasure of Ptakuth," etc.

The shuddering roar of the rockets was brain-numbing in the sealed air of the cabin

The System's Ruthless Wars Kill Barton's Ideals—Till a Martian Girl Makes Him Fight for His Dead Beliefs!

THE news broke just after Chris Barton left the *Stellar Queen* at Vhia, the trade city for Venus. He stood on the steps of the spaceport. Looking out over the white city under its pearly dome, he breathed the cooled, scented air. As he listened, his thin mouth was set in

a bitter smile of complete cynicism.

Silence had settled over Vhia, a silence of pent breath and tautened nerves, of ears strained to catch every word from the great newscasters in every green square. People were converging in soft-footed multitudes on the three-dimensional, full-color television screens. The marts that supplied all Venus with the treasures of the Solar System had stopped in mid-career, to listen.

"I could have told them," Chris Barton thought. "I saw it coming, out in the asteroids. I can smell it the way a vulture smells death."

Still the men on the vision screens talked on, curiously low and hurried. The people of Vhia stood frozen in a kind of incredulous daze, through which realization began to seep like pain through a new wound.

"Jupiter has declared war on Venus! Instructions will be given to the civilian population as soon as possible. Military classes will report at once . . ."

"For what?" muttered Chris Barton. "These people are like sheep. They can't fight. Most of them aren't even Venusians. Poor fools, they'd better just run, because Vhia is the first place the Jovians will lay eggs on. Hang it, I've got to stay and watch!"

HE went down the steps. Among the stunned, unmoving mob, he walked like a lean old he-wolf among domestic cattle.

Something about him seemed to penetrate the stricken daze that held them. Perhaps it was his careless, piratical dress, or the hard-bitten arrogance of his walk. It might have been that the outland suns which had burned his skin to dark leather had also burned out all the soft places and left only the steel. Whatever it was, he attracted their eyes, and they drew back from him. He heard his name, tossed between white lips.

"Chris Barton, war correspondent for Interplanetary Press, the Sexton Syndicate. Wherever he goes, it means trouble."

Chris Barton smiled—bird of ill-omen, vulture of pain. Beyond the dome of pearly glass, on the other side of Venus, lay the swamp where he had left his boyish illusions, covering the Leng campaigns. Out beyond the steamy canopy of clouds was Mars, where he had stood by a tele-transmitter until it was blown up under him, covering the Martian World War of 2504.

There was Earth, where he had dodged bullets and poisoned darts to inform the people of the Solar System how the Dark Invasion was going. And there was the Asteroid Belt, where he had just televised a vicious, small-scale war.

Forty-three years of life, and he was alone. The men who had started with him were dead, but his fatalistic contempt of death had pulled him through. There was not a man in the news world who didn't resent or dislike him. There had never been a woman.

Chris Barton stopped. An I. P. man pictured above his head was rehashing the situation—the Venusian defenses, the population of the Jovian moons, the boundaries of the Jovian Mandate in the Asteroid Belt, where the trouble had started. The same words, with different names, that he himself had said so many times.

Standing on the feathery Venusian grass, under the dome of a city listening to its death sentence, Barton felt the weight of those forty-three years increase to a hundred. The sordidness of them made him sick.

Battle, news, death, and more news, endlessly. For what? Though he was a legend in newspaperdom, for all the thrills he had given the boobs, he was a pariah.

Fear-whitened faces. Voices tight with hysteria. Newscasters droning out death and suffering. They tripped a spring somewhere in Barton's mind, brought to light the worm that had been gnawing at his subconscious. He was tired, old and alone. And there was another war on, which only Chris Barton could give to the people.

His hard, light-blue eyes narrowed. He went on again, across the breathless city, with a sort of grim ruthlessness. He knew quite suddenly what

he was going to say. Sanger could take his war and go to blazes with it.

The fine white building that housed the Venusian headquarters of the Sexton Syndicate was in chaos. Reporters, rewrite men, telecasters, copy boys, technicians—wherever possible, the Syndicate employs native men—were swarming out into the streets, to find loved ones, to report for duty. Down below, where the great silent presses turned out the indispensable papers in the universal language of the trade cities, it was the same. Only the robot teletypists remained.

Barton shouldered through the mob, heading for the office of John Sanger, I. P. head for Venus. Halfway across the anteroom, he stopped. For a moment he didn't know why. Then his mind, fixed on one urgent goal, registered dimly.

It was a woman who had swung from a window at his entrance. She was tall and wide-shouldered and lithe, dressed in a spaceman's dark coverall. Barton saw green, slanting Martian eyes set startlingly in a tanned, heart-shaped face, and hair that was the soft white-gold of Venus.

Confusedly he knew that she was familiar, yet he knew he had never seen her before. His eyes met hers, held them. For one electric instant he was lost, disoriented, charged with a queer fascination. Then the bitter urge in his heart drove him on without speaking, and the thread was broken. The closing of Sanger's door behind him shut her out of his mind.

"Sanger," said Chris Barton grimly, "I quit."

JOHN SANGER froze, half risen in welcome. A well built, well kept man, his dark hair had gone gray at the temples, and his clean-cut face was scored deep with weariness. He sank back into his chair.

"Why, Barton? What's the reason?"

Barton's lips twisted. "Getting old, I guess. Cracking at the seams. Anyway, I'm through."

"With reporting?"

"With the whole rotten game!"

John Sanger was silent, looking into Barton's bitter, stubborn face. Then he shook his head in bewilderment.

"You can't quit. I don't know what's the matter with you, but you're a newspaper man. You have your duty, as well as a job. There's a war on. The people have a right . . ."

"Blast the people!" snarled Chris Barton. "A bunch of fat fools, getting a thrill out of other people's suffering and hating you when the thrill comes home to them. No need to preach, Sanger. I learned all about the sanctity of the press with my ABCs—and forgot about it with my second war. I'm sorry if it leaves you in a hole, but I'm finished."

"Be sensible, Barton!" said Sanger irritably. "You've been in this too long. It's all you know. You wouldn't fit anywhere else."

"You let me worry about that."

Sanger suddenly looked what he was, a tired man. He passed a hand across his eyes.

"I was counting on you. I've got a newspaper to run, and I'm going to have to do it almost single-handed. There's no one else. . . ." He broke off and shook himself erect. "Why not? There were reporters before you were born!"

He flipped a connection open, and Barton knew his voice was booming out along the empty corridors.

"Bobby Lance! Report to Sanger's office, at once!"

Barton shrugged and turned away. As he did so, a picture on a paper spread on Sanger's desk caught his eye. Picking it up unceremoniously, he stood staring at it.

Slanting green eyes looked back at him out of a heart-shaped face. Pale-gold Venusian hair fell to wide, coverall-clad shoulders. The three-dimensional, natural-color photograph brought her almost to life. The caption read:

Kei Volhan, socialite adventuress of Vhia, who, it is rumored, is prepared for a take-off despite the Venusian Space Committee's injunction. She will try to shatter the existing record for a three-point, non-stop flight—Venus, Earth, Mars, and back.

That was where he had seen her. In the brief lulls between wars and their rumors, he had read casually of her

wild exploits along the spaceways. He had put her down as a feather-brained brat, product of the soft, over-stimulated trade cities, and forgotten her. Now he knew he couldn't forget her again.

"What's she doing out there?" he asked abruptly.

Sanger shrugged. "Came to raise a fuss about that story. The war changes all that, anyway. She'll probably take it out on young Lance. They're engaged to be married."

Still the enigmatic phantom pulled at Barton. He knew dimly that it wanted him to stay, because of Kei Volhan.

"I still quit!" he grunted, flinging the paper down.

YANKING his piratical old hat down over his eyes, he started out. He was through, finished, fed up. He hated himself and the world. He was going to get drunk, or die, or both. What difference did a green-eyed girl make?

The door opened before he reached it. She was there, and a tall young man was with her, his arm about her waist. Chris Barton stopped.

"Come in, Lance," Sanger said. "You too, Miss Volhan, if you wish."

Those disturbing green eyes met Barton's again, held them, sent an almost electric current through his blood. Something in the girl rose to the emotions in him that everyone else turned away from. It was strange how strongly he felt that, because he didn't know women, didn't like them. He wrenched his gaze away, let it waver back.

It was then that the first Jovian bomb struck!

The instant his ears registered the first reverberations, Barton realized that the Jovians must have had a fleet waiting, invisible somehow from the charted space-lanes. Briefly he wondered how. With the growing tension in the Asteroids, each world had kept a doubly sharp watch, and there had not been even the rumor of a fleet. But it must have been there. With the declaration of war it had swooped, catching the peaceable Venusians unprepared.

There was a splintering crash as the dome was ruptured, a vast ripping sound as the tough glassite starred and cracked away from the hole. The office windows rattled with the change of pressure, as the wet, heavy outer air rushed into the cooler, thinner Vhian atmosphere. Then the shell burst. Chris Barton fell in a shower of plaster.

From the sound, Barton knew that the shell had struck on the far side of the city. Three more of them came in quick succession. The power of the sub-atomic explosive was strong enough to rock the heavy I. P. building like a cardboard toy. He nodded a brief acknowledgment of Jovian marksmanship. The invaders were out beyond the atmosphere, sending the heavy eggs down with a self-contained direction unit.

"Sanger!" he called out. "Have you got a cellar?"

The I. P. head pulled himself up from behind the desk, bleeding from a nasty gash over the eye.

"You know quite well there are cellars," he grunted. Glaring upward, he added: "This is the lowest, dirty-dog trick anyone's pulled in a century!"

"I'd still like to know where they hid their fleet."

Barton scrambled up, coughing, and gave his hand to Kei Volhan. She didn't need his help, but she held his hand and looked at him while she rose. He knew that she was no more afraid than he was. Sanger joined them, wiping blood from his face.

"Hurry up. The skunks'll shell Hades out of us before the Venusian fleet wakes up. Hey, Bobby, are you hurt?"

BARTON had forgotten Bobby Lance. He was half-crouched against the wall, his gray eyes dazed and staring in a bloodless face. For an instant Barton thought he was hurt, and was vaguely sorry. Lance looked like a promising youngster, well built, with a keen, intelligent face. But he wasn't hurt. He got up jerkily, bending his head to hide his face, running shaky hands through his dusty yellow hair.

"Come on, Kei," he muttered, and started for the door.

Barton knew, then. Lance was scared. Barton shrugged cynically as they hurried down the corridor. Lance was young. Eventually you either got the fear hammered out of you, or you let it get you. Either way, it didn't matter, for the System didn't give a hang. All it wanted was thrills at a distance.

They didn't dare use the lifts. Bombs began to fall again, cracking the steps under them as they ran down. Already the temperature was rising as the hot Venusian air steamed in. Barton thought of all the soft Vhians who had never been beyond the dome. They looked upon the hardy outsiders as barbarians, while they built their own polyglot civilization in a manufactured comfort. It was the same on all the planets. The trade cities are alien, a law and a race unto themselves. Vhia, at last, was going to get a taste of the real Venus.

"Nuts!" cried Sanger abruptly. "The summer rains are on Outside. With the dome broken, Vhia will be flooded out!"

"Perhaps," said Bobby Lance too loudly, "the cellars aren't such a good idea, after all."

"Perhaps," suggested Kei Volhan, "you ought to join the refugees. They'll be evacuating women and children."

Chris Barton's thin brows went up at the savage contempt in her voice. She didn't sound much in love with Lance. Lance looked at her. There was something in his gray eyes that penetrated even Barton's armor.

"That's not fair, Kei. You know I won't leave. There's the newspaper. There'll be a battle up there. Somebody's got to take the ship up and televise it."

"Why?" demanded Barton. His harsh voice brought Kei's green eyes around, and he felt that stimulating leap along his veins.

"Why?" said Lance simply. "The news has to be broadcast. The people have a right to know what's going on."

Chris Barton laughed, a sardonic bark. Kei's fingers fastened on his wrist. He felt the tingling strength of them answered in himself. Her brown, heart-shaped face was level with his own.

"You'll take the ship up, Chris Barton," she said.

For some reason, he didn't tell her he was through with reporting. His hard, dark face went quizzical.

"Who'd fly me?" he demanded, knowing the answer. "I couldn't do it all alone."

"I will," said Kei Volhan.

"Kei!"

Incredulous hurt bleated almost comically in Lance's cry. But he wasn't comical. Barton had seen it before—a kid under fire for the first time, having a hard enough time without his girl going back on him. But those were the breaks. You had to take them, beat them down and go on, or quit. It was up to Lance.

Barton's gaze held Kei's. His world had exploded in his face. Why not have a last fling? Besides, those green eyes promised something. He didn't know what, but he wanted to find out.

"Okay, sister," he said. "I might as well die that way as any other."

Three steps below them, still running down, Sanger laughed.

THE I. P. newscasting ship was in a hangar at the Dehra Spaceport, a private field beyond the dome. Normally it was an easy half-mile jaunt in a car.

"Take it up if you can get it, Barton," Sanger said. "I've got to stay here."

They stood in a side entrance at street level, staring out. Barton's harsh face was grim. The pearly dome was cracked and shattered. Through the breaks, the outer air poured in like fog, smelling of jungle and swamp and lush-grassed uplands. There were growing pools of water where the hot rain splashed through. Barton could see smoke and broken buildings to the south, where the heaviest bombing had been. Rain was falling in torrents through a vast hole in the dome.

Refugees jammed the streets, pushing toward the outlets and safety. Men who handled the System's trade with Venus. Women whose lives had

been smooth, easy and unruffled. People who had worked in peace and plenty, and ignored the storm signals too long. Barton had coldly seen it a hundred times before, yet this time it made him feel as he had felt in the square—old, tired and alone in a system that was doubly ugly, with this cowardly brutality of the Jovians.

He sighed. Then he saw Kei's tumbled pale-gold hair, the brown arrogance of her heart-shaped face, and felt life stealing through him again.

"Come on," he said, "if you're not afraid."

She laughed at him like a Martian cat. She must have forgotten Bobby Lance, for she started when he spoke.

"I'm coming, too!"

Barton stared at him. Years of judging kings, dictators and presidents, warlords and treaty-makers, had given him a clinical insight into people. His cold, impersonal judgment managed to be uncannily accurate. When he had first seen Bobby Lance in the doorway with Kei, he had seen only a good-looking young masculine body. After the bombing, he had seen a youngster scared half out of his wits by his first taste of war.

Now he saw a man, disheveled and pale as death, his muscles jerking involuntarily as though with a high-tension current. Sick with fear, he was even sicker with rage against Kei Volhan, for turning her back on him because he was afraid. He raged against Barton as any man would hate the object of his fiancee's sudden favor.

Barton smiled. It was the first time any man had had occasion to feel that way about him. It was a stimulating experience, made him feel as though he were not really dead. He felt that Kei was being hard on Lance, and yet he could understand it. It was his own cynical ruthlessness, the impersonal harshness of a nature that asked no quarter and could see no reason for giving it. Kei had no fear, and she was savagely disappointed in Lance.

"I'm going, too," repeated the young man stubbornly, and his jaw was set and ugly.

"Why?" demanded Kei. "You—"

Her words were drowned in a thundering fury of sound. Great jagged pieces of the dome showered down, meeting an upflung geyser of plastic and concrete where two whole blocks vanished in oily smoke. It was close. Debris fell in the streets around the I. P. building. People screamed and fell, broken like dolls, and the whole mass of refugees surged forward in a frantic wave, mad with fear.

LANCE was whiter than the cracked white terrace he lay on. He didn't seem to realize the time-lag between her question and his answer.

"It's my job. All this is happening. The people have a right to know the truth. The ship needs three—one to fly, one to broadcast, one to handle the equipment. There's no one else, even if it weren't my job."

Rising cautiously from the rocking terrace, Chris Barton stopped long enough to meet Lance's gaze.

"I didn't know they still made people like you," he grunted, shaking his head. "Idealism's a bad thing. Quicker you get over it, the better. Not so tough, then. The boobs can't hurt you."

The barrage had started again, and this time it was too close for comfort. Barton saw water running in ominous little rivers down the streets. Vhia, without gutters or storm drains, was in for a wetting.

"You can't stay, Sanger," he said abruptly. "Even if the bombs didn't smash this place to glory, you'd drown in the cellars."

John Sanger sighed. "You're right. I'd hoped. . . . Oh, well, I can probably get over to Lhash. Our nearest branch is there, and I can carry on all right from it, thanks to you." Unexpectedly he gripped Barton's hand. "I knew you'd realize you couldn't quit. Good luck, Chris, and thanks."

He plunged out into the rushing human sea before Barton could open his mouth.

"Well?" snapped Bobby Lance. "Are we going?"

Barton was still staring after Sanger.

"What?" he muttered absently. Then, jerking himself back, he

rasped: "Come on!"

He led the way off the terrace. It was nightmarish, that struggle toward Dehra Spaceport. The three kept close together, Barton's shoulder touching Kei's. Water ran deeper and deeper in the streets as more of the dome fell in. Bombs were razing Vhia behind them.

The wild stampede slackened somewhat, slowed by the rain. Barton knew that it was thinning out. Most of those untouched by the first bombings had got out. He prayed they hadn't taken the I. P. ship for transport. Then, remembering that it only held two besides the pilot, he decided they probably wouldn't.

They came to the smashed pressure-lock in the base of the riven dome, and were carried through with the outgoing press of people. Over in the main hangars and out on the field, people were fighting for space on any kind of ship going anywhere, away from Vhia. Barton's eyes went anxiously to the little private combination hangar and launching rack. He saw with relief that it was still locked.

"This way!" he called, and battled across the stream.

Kei squared her shoulders like a man, staying at his side. Lance was taking out some of his inner turmoil with his fists. They won clear at last and broke into a run. The mob, intent upon escape, never noticed them.

In five minutes, Kei Volhan had the retractable plastic roof slid back, the motors roaring to life. The trim little Fitts-Sothern quivered on the launching rack. Then it shot up through the rain, past the miles-thick layers of steaming clouds, out into the star-shot black of space.

IN those brief moments of acceleration, Barton's lungs felt crushed, his eyeballs bursting. The seat straps were cutting his flesh. He cursed himself, wondering why a green-eyed girl had been able to make him do something he had sworn never to do again. He was used to having his brain clear, like a cold, accurate machine. Since he had stood in the square in Vhia, feeling the Old Man of the Sea that was his life fasten on his shoulders, his mind had been confused. Kei hadn't helped any. It gave him an angry feeling of helplessness, as though he no longer controlled his actions.

The pressure slacked abruptly, and he could see again. The Fitts-Sothern was a sweet little ship. Sanger had evidently wanted the most modern newscasting ship in his territory.

Electronic cameras of the newest type were mounted in nose and keel. The transmitter was compact and powerful, operating on an ultra-short wave controlled beam. Tight and strong enough to pierce the heavy Venusian atmosphere, it would be comparatively unaffected by ionization in the upper layers. Automatic full-color, three-dimensional cameras were mounted with the electronics, along with sound-recording apparatus to make a permanent record of what the reporter sent out to the world.

An extra, independent camera was in the pilot's bay, to be used at the reporter's discretion. All had infra-red and ultra-violet filters to take care of various conditions of light, as well as long-range lenses and telescopic sights.

Barton unstrapped himself, for they were in free space now. He went up beside Kei, noting that Lance, still pale and grimly silent, was already at the instrument panel. Looking out, he frowned.

"Where are the blighters?" he grunted.

Space was black and empty, except for the stars and the great cloudy ball of Venus. There was no fleet, no sign of anything at all. But the meteoric mass-detectors on the board showed the close presence of a small metallic body.

"What the—" shouted Chris Barton.

He was flung back violently, striking against the transmitter panel. Lance was already crumpled brutally against the stern bulkhead. Barton felt the wild, reverberant shuddering of the ship's metal sides.

"Space torpedo!" groaned Lance.

Strapped in her seat, Kei fought the ship to an even keel, shot away in a screaming tangent. Barton got to his

feet shakily, hugging his bruised ribs and swearing. That had been much too close, and it had come from nowhere.

"Something funny," Kei said evenly. "Why can't we see the ship?"

"I don't know."

The pilot's bay gave full vision, and there was absolutely no ship. On an impulse, Barton switched on the infra-red projector, a lamp which shot a powerful beam of "black light" that helped in taking pictures in world-shadow areas or heavy atmosphere. It was a nasty feeling, waiting for another torpedo to fly out of nothing. This time it might not be a miss.

The little visi-plate of the infra-beam showed a small, dim shape, off to sunward of them, lying still in space. It showed another, a tiny shape, streaking. . . .

"Kei!" Barton almost screamed. "Ahead, fast!"

THE Fitts-Sothern shrieked in agony at the sudden acceleration, but they made it. They were bathed in the red flare of the torpedo that had been fired by a timing device.

Bobby Lance spoke from the transmitter panel. It had taken him a long time to get there. He sat straight in his chair, gripping the arms, and his young face was bone-white under his tumbled yellow hair.

"Can't they see our badge?" he asked flatly.

All news ships carried a broad band of white paint, to mark them plainly as non-combatant neutrals. If the reporter were cautious, he could televise his battle from a distance in reasonable safety. Barton knew from experience that an incautious correspondent took the same risks as anyone else.

"Yes," he answered. "Sure they can see it."

Whoever they were, they had a reason for ignoring it. Finding them again with the infra-beam, he flipped on the cameras and motioned to Lance. The young man's fingers quivered on the dials and verniers, but in a moment Barton's screen came clear. The man at the I. P. station at Lhash was speaking.

"You've got a System-wide hookup. Go ahead, but watch out for the Venusian fleet. It's on its way up. After what the Jovians did to Vhia, I hope we knock the devil out of 'em!"

"Okay."

Barton flipped the connection over, cuddled the mike in his palm. Then, with his eyes still glued to that enigmatic little blot of darkness in the lens, his mind began to race perversely.

"No more torpedoes," he thought. "Ship's no bigger than ours. No room for more. Why don't I hate this? I hated it back in Vhia. Was Sanger right? It was Kei that made me come, but why did Kei make any difference? And I don't understand young Lance. Could I have understood him once? Did I ever feel that way?"

Then his mind was hard and clear again. There was news, a story in that strange black ship.

"Mr. and Mrs. Solar System!" he began. His voice went on, almost of itself, pouring out those short, electric sentences that had kept people glued to their televisors for twenty years, whenever something exciting was going on.

Pale but unshaken, Kei sent the ship arcing toward the black one in obedience to his gesture. Infra-red beams and filters were raking it, pinning it indelibly to sensitive film. Abruptly its rocket tubes burst into flame.

"They know we've seen them," said Barton. "They've been quiet up to now, hoping to destroy us without betraying their position. They didn't count on the infra-red beam. Now. . . . Hold on. They're not Jovians! Their rocket gases—"

A bolt of vivid violet shot away from the black ship. Kei lurched the ship violently aside, but there was no escaping. The purple light was drawn to them. Before Barton could finish his sentence, it struck with a blinding flare of electric blue. In airless space, there was no sound, but the light lasted so long that Barton had an eerie feeling of fire. Fire in space?

"Lance, try to contact Lhash!"

The young man's face was ghastly. Barton hadn't believed fear could produce that gray, deathly pallor. Lance's fingers fumbled uncertainly.

Barton heard Kei's bitter little snort of disgust.

"It's dead," Lance whispered. "Antenna fused."

BARTON grunted. No more broadcasting, so the boobs would have to do without their thrill.

"What did you mean, Chris?" Kei spoke over her shoulder, watching the rocket flare of the black ship intently.

"Jovian ships use a fuel mixture that produces a red exhaust flare. If you'll notice, this is yellow. What fuel makes a yellow exhaust?"

"The Martian liquid-hydrogen mixture! You don't mean. . . ."

"I mean that's a Martian ship," Barton said, evenly. "The Jovians didn't bomb Vhia."

"Martians!" The enormity of the thing gradually took shape. Kei was half Martian, but she was Venusian-born. "They've been fighting us over water prices. They claim we victimize them, because they're dependent on us for water. So that's it—revenge!"

Barton shook his head. "There's more to it than that. You are pretty hard on them, you know. They need water badly, especially with these new reclaimed areas. The Jovian mandate in the Asteroid Belt contains three of the wettest little worlds in the System. If she could get hold of those, Mars would be practically independent."

"They'll be coming for us as soon as they break their orbital drag," said Kei quietly. "What should I do?"

Venus loomed, a vast cloudy disc, beside them. Barton shrugged.

"Run like fury. We can't fight 'em."

Bobby Lance spoke behind them. They both started at the vehemence of his labored whisper.

"You can't run. We still have a camera and the infra-beam. The cameras outside are ruined, and so are the films. That bolt of electricity—they planned on a camera ship. But we've got to take pictures of them that will prove the Jovians had nothing to do with Vhia!"

"If we did," said Barton slowly, "it would change the whole aspect of the war. Jupiter wants territory. That's where the fight started. Mars wants water, and Jupiter has it. So Mars deliberately infuriates Venus against Jupiter by committing such an outrage that even peace-loving Venus will never quit until Jupiter is licked.

"Now Mars can either abrogate her trade treaty with Jupiter in return for the Jovian mandate, which Venus will hand over after the war is won. Or, if Jupiter looks like winning, she can give active aid to Venus in return for the Jovian asteroids and water rights here. Either way, it's a filthy business. Vhia didn't have a chance. And Venus is out to smash Jupiter for good because of it."

"That's it. We've got to put the blame where it belongs. Perhaps we can save millions of people from dying." Lance dragged himself erect. "You've got to do it, Barton. Will you?"

Barton's hard, light eyes pinned him, trying to see through him.

"We'd be crazy to try. They're armed, we're not. What about Kei?"

The boy loked stubbornly past him at nothing.

"Kei got herself into this. And we have a duty to the world."

So Lance could be ruthless on his own account. Barton's thin, harsh face creased in a puzzled frown. What was it about Lance and Kei that set all his values askew?

"They're gaining speed," said Kei. "We haven't all day."

Barton cursed the new confusion of his brain, hesitated.

SUDDENLY Bobby Lance was gripping his shoulders with fingers that hurt, shouting at him in a hoarse, strangled voice.

"Curse you, Barton, haven't you got a heart? Why are you a newspaperman, if the truth doesn't mean anything to you?"

"It may mean your death."

"I don't care. We've got to try. . . ."

He fell abruptly, huddled at Barton's feet.

"They'll have enough velocity for fighting in a minute now," Kei said. "We won't be able to run much longer. What'll I do, Chris?" She hadn't noticed Lance's fall.

"Hang on a second longer." He was

staring down at Lance. Could the kid be right? "Nuts!" he snarled, kneeling. "What does he know? Passing out that way from fright."

He lay on his face. Barton caught his shoulder, pulled him over. Then Barton caught his breath with a sudden hiss, and ran his hand along Lance's side.

"Kei, we're both heels," he said, rising slowly.

"Why?"

The ship lurched upward in a shuddering arc. Something yellow and vicious licked past the starboard ports —just a practice stab with a heat beam, but it showed that the Martians were getting deadly serious.

"Lance is a star-spangled hero," rasped Barton wryly. "He was scared stiff, but he came, anyway. He's stuck to his job, egged me on to be a noble little boy. And all this time, half his ribs were stove in. The first torpedo did it."

Kei dared not leave the controls, but she looked over her shoulder. Barton saw her heart-shaped face, suddenly pale in spite of the tan, the fire softened and misty in her green eyes. Chris Barton nodded.

"You'll make him a good wife, Kei. He needs your strength and you need his idealism. You're too much like me. That's why we're so drawn to one another. But it wouldn't work, even if you didn't love Lance. We'd bring out the worst in each other. Well," he added irritably, "what are you waiting for? The Martians'll blow us out of the sky if you don't wake up. I've got some pictures to take before that happens."

They had a chance, Barton knew—a long one, but a chance. The atomic heat ray was mounted in the nose of the Martian ship, and a good pilot could keep clear for awhile. The Jovian fleet wasn't due from its base on Ceres for an hour or so, and the man at Lhash had said the Venusian fleet was coming up. With luck, he could get his pictures and make a run for it.

He could guess the first plan of the Martian raiders. They had meant to lie still, protected by their black paint, until the two fleets met in battle. After that, the flare of their rockets would not have been noticed. The I. P. ship had blundered too close. They had tried to finish it with torpedoes. Failing that, they had cut off communications and were out to prevent any word from getting back, even by word of mouth. But they had to work fast, because of the Venusian fleet.

BARTON grinned. "Go get 'em, Kei—for Bobby!"

The rockets roared into full power as he knelt again beside Bobby Lance. Not daring to lift him into a seat, because of the broken ribs, Barton wedged him under the transmitter panel.

Acceleration squeezed Barton like a giant press. He fought his way into the seat behind the remaining camera, mounted inside the pilot's bay. The infra-red beam still probed the sky, but they could follow the black ship now by its exhaust flare.

The Martian was equally good as pilot and bomber. Pulling his ship over in a skidding turn, he raked the Fitts-Sothern so closely with his heat beam, the hull glowed cherry-red along one side. Barton saw Kei's face settle into a hard grin. Her strong hands were firm on the controls, her green eyes a bright emerald. Barton nodded and turned all his attention to his camera. If anyone could bring them out alive it was Kei.

Infra-red beam, filters on the camera, black light pinning a black ship to three-dimensional, all-revealing color film. Barton got some striking shots as the two ships wheeled and arced across space under the vast bluish disc of Venus. Time and again the heat beam touched them, so close to destroying them that the hull went almost incandescent. But the Fitts-Sothern had a tough skin, built to resist the heat of atmospheric friction. The beam never found a real chance to eat through.

"Glory!" whispered Barton. "How the boobs will love this!"

Kei cried out, a shrill whoop of sheer excitement. The Martian had risked breaking the back of his ship to turn her in her own length. Now he was on their tail, with their already overheated rocket tubes square in his

sights. One tube blown or fused, and he could finish them off at his leisure.

Barton tensed his lean body against the sudden pressure. Kei was calling the final ounce of power, the last shred of endurance from the camera ship. Metal groaned and rang. The shuddering roar of the rockets was brain-numbing in the sealed air of the cabin. Back and up they went, in a shrieking arc that took them right over the black ship, so close that Barton felt he could have touched it. He saw something shining through the black paint, like water marks on silk.

The twin circles of Mars, emblem of her two moons. . . .

"Kei," he yelled. "There's our proof! Anybody might use Martian fuel, but not a Martian ship. I've got to get that shot. It'll be the biggest scoop in three centuries. Can you do it again?"

"Watch me!"

The Martian could not have been expecting that mad attack. Kei looped over, through the thinning flare of his rockets, shot under his belly and up in a tight curve, right across his nose. Barton went white, but his eyes never left the camera finder. Every rivet, every seam, every strut in the ship seemed ready to burst apart. And there came the heat beam—

BUT the Martian's hand was a second slow on the trigger. The beam caught one rocket tube as they shot past. Kei shut off the fuel stream before the metal was fused, and their momentum carried them over before the remaining rockets could force them off. Barton got his picture, clear and unmistakable.

Now they were finished, though. The Fitts-Sothern was too crippled for any quick maneuvering. Barton gripped Kei's shoulder, and she smiled at him.

Neither spoke.

The Martian swung around slowly, as though savoring his triumph. He could take his time now. Then he suddenly wavered.

"The Venusian fleet," Barton said coolly. "One more try, Kei."

Kei blasted her remaining rockets just as the heat beam licked out, then shut off her fuel. The tubes fused as the Martian ray caught them, but the unchecked velocity carried them wide. Then the black ship had no more time. Venusian ships were pouring out of the cloudy disc beside them, their sunward sides flashing. The black ship raced away. It was over. They were safe.

After awhile Barton's hand found Kei's.

"For the honor of the Fourth Estate," he muttered. "I'm all confused. It isn't easy for a man to change his ideas all at once. You and Bobby have shown me things I'd forgotten existed. Maybe those things make all the rest worthwhile—loving someone, believing in something. I think I've been alone too much. I think I've seen too much of the ugly things, with nothing to take the taste out of my mouth. I think I need friends, and perhaps . . ."

Kei turned her lovely face to him, and her green eyes were smiling. Barton kissed her, was surprised at what it did to him.

"Oh, yes," said Chris Barton. "I'm going to have to learn to live all over again!"

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SCIENCE Question BOX

WONDERS OF THE HUMAN BODY

Editor, SCIENCE QUESTION BOX:

I wonder if you can provide me with some statistics as to the amazing powers of the human body? How much does our heart pump during a lifetime? How efficient are our kidneys?—M. N., Lubeck, Maine.

Our heart fulfills the function of a power pumping station. After 70 years of activity, it has performed a task of pumping sufficient blood to fill a giant illuminating gas tank. Our kidneys can be likened to a filtering apparatus, Every day they filter about one and one-half quarts of liquid. After seventy years they have secreted about 40,000 quarts!

While you're going in for statistics, consider the loquacious salesman who, during the sixteen hours of his business and social life, speaks enough to deliver a six-hour lecture. Speaking at the rate of 120 words a minute for that six-hour period, we arrive at the sum total of 46,000 words. Roughly estimated this gives us a total of 16,000,000 words a year—the equivalent of a 20-volume dictionary!—Ed.

SYNTHETIC FOOD

Editor, SCIENCE QUESTION BOX:

We read of future man deriving his nourishment from synthetic food capsules, etc. Is such an eventuality possible?—G. C., New York, N.Y.

Whether some day a few synthetic tablets will take the place of the five pounds of natural chemical nourishment which the average person now consumes each day is another riddle that cannot be solved by knowledge now at hand. Synthetic production of at least some foods, however, appears likely to become an accomplished fact. The synthesis of all the vitamins in the laboratory appears to be a probability, and future generations may rely on a bottle of pills to protect them from all the vitamin-deficiency diseases. Already, pure synthetic Vitamin C may be obtained as ascorbic acid and irradiated ergosterol is a suitable replacement for cod liver oil as a source of Vitamin D, the sunshine vitamin which is least frequent in natural forms. German chemists during the last war succeeded in making sugar from sawdust.

Will the biologists of the future similarly turn the two billion tons of carbon dioxide now going to waste annually from our chimneys into carbohydrates and other complicated foods? Synthetic chemists of the future will be able to take a bit of sugar, some ammonia, a supply of such minerals as iron, phosphorus and sulphur, and a cup of water and transform the whole into a steak with uct at a fraction of the cost—at least, so all the nutritional value of the natural prodenthusiastic research men prophesy.—Ed.

LIFE ON VENUS

Editor, SCIENCE QUESTION BOX:

What is the latest verdict of science regarding the possibility of life on the planet Venus? What do we know of the atmosphere of that world?—L. S., Duluth, Minn.

Life on the planet Venus, under the clouds that perpetually veil its surface, now seems impossible, as a result of the studies by Dr. Rupert Wildt of the Princeton University Observatory. Dr. Wildt, who showed that Jupiter and Saturn are surrounded by clouds of ammonia, and that the atmosphere of these planets also contains methane, now advances the theory that the clouds of Venus are solidified formaldehyde. This is a poisonous and extremely irritating gas.

Dr. Wildt proposes a theory to explain the origin of the formaldehyde, and why it is not present in the atmosphere of the Earth.

According to a suggestion made in 1924 by a German scientist named Gustav Tammann, oxygen in our atmosphere originated when the surface of Earth was in a molten state. The high temperature, it is believed, caused the water vapor to break up into hydrogen and oxygen. The molecules of the former are in such rapid motion that they escaped into space. Some of the oxygen united chemically with the still molten crustal material. When this cooled and hardened some of the oxygen was left in the air.

On Venus, proposes Dr. Wildt, there was originally a considerably smaller quantity of water vapor than on Earth. Then, he believes, the oxygen would be used up as fast as it formed, and when the crust solidified, there would be a thin atmosphere of water vapor left.

Without Earth's protection by its oxygen, the ultraviolet light from the sun would be more intense. This would cause a reaction between the water vapor and the carbon dioxide which has actually been found in the atmosphere of Venus. Result would be the formation of formaldehyde and liberation of more oxygen.

In this department the editors of STARTLING STORIES will endeavor to answer your questions on modern scientific facts. Please do not submit more than three questions in your letter. As many questions as possible will be answered here, but the editors cannot undertake any personal correspondence. Naturally, questions of general interest will be given the preference. Address your questions to SCIENCE QUESTION BOX, STARTLING STORIES, 10 East 40th Street, New York City.

THE LITERARY CORKSCREW

A Hall of Fame Story

By DAVID H. KELLER, M.D.

Author of "The Human Termites," "The Evening Star," etc.

The Amazing Case of an Author Who Was Pained When He Couldn't Write—and Could Only Write When He Was Pained

THE last patient to enter Doctor Newberry's office that afternoon was a rather indefinite type. She had made a previous appointment for that late hour with the request that the specialist give her at least an hour of his time. This was so unusual a demand, coming from a person who was absolutely unknown and who had no letters of introduction, that Dr. Newberry had looked forward to the consultation with a certain amount of curiosity mingled with a peculiar dread.

The last lady who had asked for an hour of his time had tried to blackmail him, and since then the doctor had always been rather shy of unknown females who asked unusual favors.

This particular lady did not seem one to cause him fear or his wife jealousy. She was rather pathetic looking in many ways. But her plain face, when illuminated by emotion, softened till the lines of middle age faded into a glorified sunset. Her clothes were neat, dignified and yet somewhat old-fashioned. Compared with the average woman of middle age, she seemed to lack something. The doctor felt that in some way life had been unkind to her. Even before she had said a word he decided that he should pity rather than suspect her.

Silently, she handed him the letter which had confirmed the appointment, using the note as an introduction. The doctor took it and looked at it casually and then handed it back with a slight bow.

"So you are Mr. Henry Cecil's wife?" he said. "Please sit down, Mrs. Cecil, and tell me what I can do for you. It seems that you asked for an hour of my time. Is that correct?"

"Yes, I wanted to consult you. But first I want to pay you for the hour. How much is it?"

"That depends on what has to be done. I have no fixed charge for my service. Tell me your trouble."

"I would rather pay you in advance."

"All right, if you insist. Say twenty-five dollars."

"Here it is. Mr. Cecil and I are so afraid of debt that he made me promise not to confer with you until you were paid. The case is a very odd one. I presume that you are governed by the laws of medical secrecy in regard to your patients' histories?"

"Absolutely. It is particularly necessary in my specialty of neuro-psychiatry."

"Then I can start in and tell you all about it?"

"Yes. Start from the beginning, and give any detail that you wish. How long ago were you in perfect health?"

"I am not the one who needs your advice. It is my husband."

"Then why did you come?"

"We thought it best. We have been married a number of years and I understand his condition so well that it did not seem necessary for him to come—he is rather

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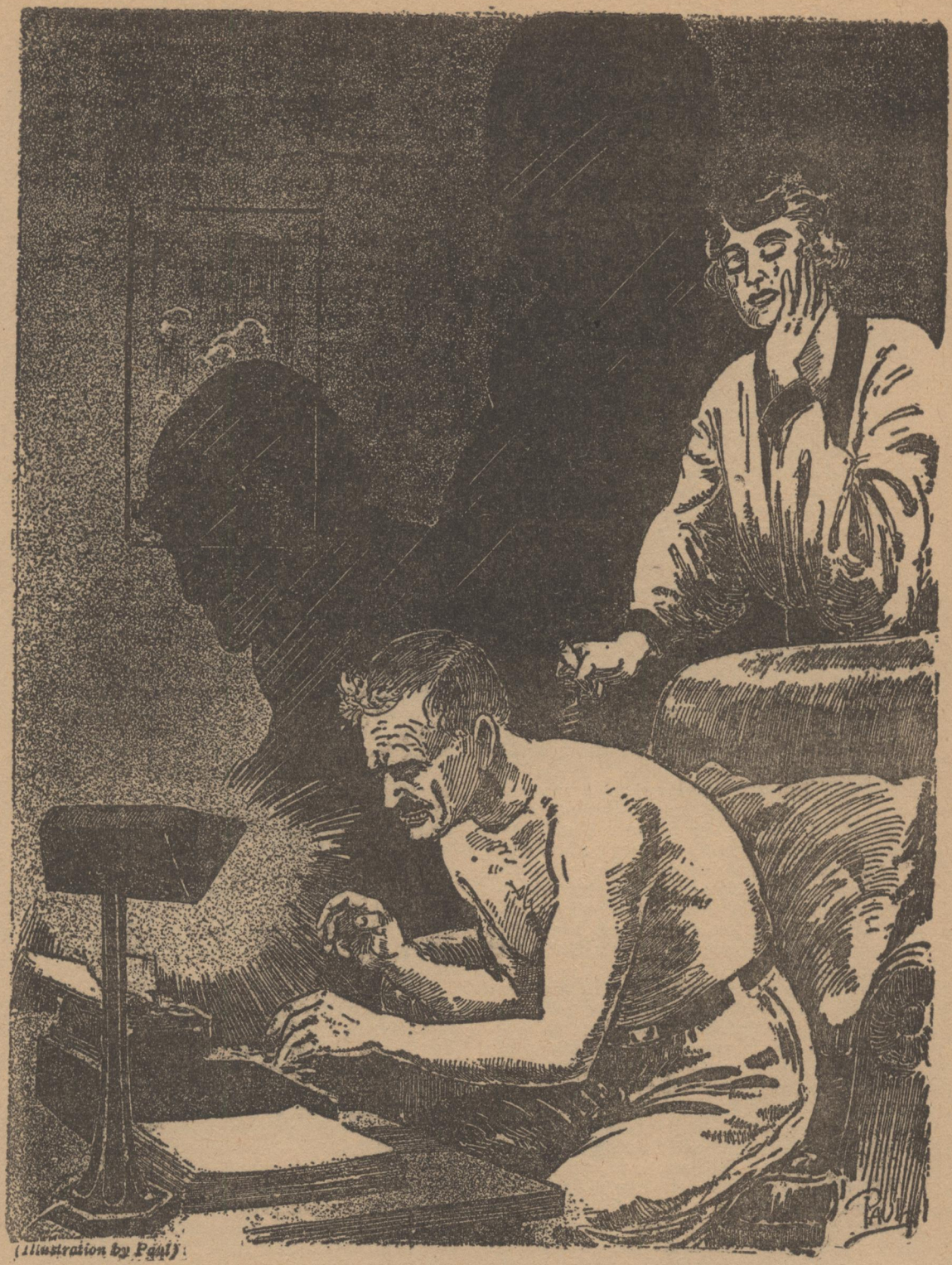
EDITOR'S NOTE

SOME stories are forgotten almost as soon as they are printed. Others stand the test of time.

Because "The Literary Corkscrew," by Dr. David H. Keller, has stood this test, one of the prominent figures in the world of fantasy fiction, Mr. Julius Schwartz, has nominated it for SCIENTIFICTION'S HALL OF FAME.

In each issue, for several forthcoming numbers, we will reprint one of the most outstanding fantasy classics of all time, as selected by our readers.

We hope in this way to bring a new permanence to the science fiction gems of yesterday and to perform a real service to the science fiction devotees of today and tomorrow.



The corkscrew penetrated, and he began to write

sensitive about it."

The doctor sighed as he looked at his desk clock. The minutes were passing and it seemed hard for the woman even to start with her story. He remained silent, however, as he had learned from experience that a hasty interruption often spoiled the entire story told by the patient. So he simply arranged the stationery on his desk and waited. Soon the woman started.

"You see, my husband's name is not really Henry Cecil. That is just a name that we use when I wrote asking for the appointment. The details of his illness are so peculiar that we felt it best to conceal his real name. It is one that is widely known in certain phases of our national life, and I am sure that you would be rather

astonished if you heard it. But it will make no difference in your analysis of the case whether you know his real name or not. At least I cannot see that it will make any difference. So, in any case-records you are forced to make, simply write his name as Henry Cecil, age fifty, married, and an author by occupation.

"My husband has always written. He began writing when he was fourteen years old. Of course, there were years when he did not produce very much, but in some of those early periods he seemed to love nothing so much as writing. After we were married I made a special study of all his stories. I was surprised at two things that were prominent. The first was my husband's desire to write and the second was his inability to do so.

"I do not mean that he was unable to write. But he was not able to write well. He wrote manuscripts like a man would play the piano, self-taught and without notes. He would make the worst mistakes in grammar. Not only was he unable to recognize his errors but he actually said they were correct because they sounded all right to him.

"FOR many years my husband spent all his spare time writing. Of course, he had an occupation that required a large part of his time and brought in a sufficient income to enable him to support the two of us. He was a clerk in a book store. The work was congenial, and he loved to live with books. He put in rather long hours at the store and would write most of the rest of the time.

"While he was working on a story or novel, he was a hopeless companion till he finished it. And then came the sad part. He would be so proud of what he had done that he would insist upon reading it to me. He always ended by asking me if I thought his work was good enough to submit to a publisher. I tried to conceal my feeling of disappointment about his efforts, but I was never successful.

"At first my husband tried in a rather half-hearted way to sell his material. But it always came back, rejected by all publishers. He pretended that he was glad; that he really did not want the children of his brain to be paraded before the curious average reader. But I knew that all the time his one ambition was to be able to write commercially. He wanted to get out of the book store and write at his leisure.

"At times I felt that if he was out of the book store, if he had plenty of leisure, that he might be able to do better than he had done in the past, when he had to write at night, exhausted after a tiring day in the store. But on the other hand, it was very satisfactory for him to bring home a salary check each month. Up to this time, if we had depended on his income from his literary work, I'm afraid we would have starved.

"Ten years ago he was taken suddenly ill with appendicitis. He was affected for several days before we realized how seriously ill he was. It was during his vacation. The organ ruptured before the physician realized the condition. But an operation saved him and, in a short while, he returned to work again. The day he left for the book store he handed me a manuscript. 'Mary,' he said, 'before that operation, I had a good deal of pain. It lasted for some days. I never said anything about it, because I did not want to worry you, but while I was in that condition I wrote a story. I wish you would look it over and tell me what you think of it. It seems to be different from the rest of my trash.' Well, Doctor Newberry, I read it that morning and there was no doubt that this story was different. It was really worthwhile. I sent the manuscript to a leading magazine. I received a check for one hundred dollars and the publishers said they would buy any number of similar stories at the same price.

"That was good news for my husband. He wanted to give up his position at the book store at once. It was all I could do to keep him from doing it. I finally promised him that if he could sell eleven more stories I would take a chance and let him write for a living. I actually cried that night when he took out his little portable typewriter and started to write.

"During the next month he worked hard, but he could not do it again. What he wrote was just the same poor stuff that he had been writing all his life. Against my will, I offered the stories for sale and found that they were absolutely unsaleable. My husband and I discussed the situation rather seriously. He insisted that if he had done it once, he could do it again. But I felt that his one effort was an isolated literary freak.

"Meantime, the publishers of that story clamored for more like it. Their readers had approved of it. It had caused countless letters of discussion and controversy to be written to the editor of the magazine. We were in a peculiar position; like that of a prospector who finds a solitary nugget of gold and cannot locate the lode from which it came.

"SIX months of discouraging effort passed, and then my husband became ill again. This time he had several infected teeth. There was some pain, a good deal of pain, and in every instance, after several days of useless effort to save the tooth, it had to be extracted, with more pain. There was one week when my husband suffered so much that he was unable to sleep. He sat up in bed with an electric pad tied to his face. During these two weeks of almost constant suffering, he tried to forget his ailment by working with his typewriter.

"He wrote six short stories. I read them after he went back to the book store. They were all excellent. They were even better than the one he had sold. I took all six of them to the editor who had bought the first. He read them and was really angry with me. 'You may think this is a joke, Madam,' he said, 'but it would have meant more money to both of you if you had sent these in one at a time. I am going to give you two hundred dollars each for

these if you will promise me not to hold back your husband's future stories." I did not argue the matter with him, nor try to explain. I did not really understand it myself.

"When I told my husband, we had another argument. He again wanted to quit his job. I wanted him to keep on a payroll. I told him that I was not sure that his writing could support us, and he pointed to the twelve hundred dollars earned in two weeks' time. However, we decided to put the matter to the test—and it worked out the same way it had before. Although in perfect health, back at work in the book store, he wrote terrible drivel.

"The publisher made a hit with those six stories. The circulation of his magazine increased one hundred percent. Naturally, he wanted more—and there were no more to be had. He absolutely refused to consider the other stories my husband wrote, and said they were not by the same author.

"The next five years were just a continuation of this sequence. Now and then my husband would have a bad tooth, violent pain, fever, and finally a painful extraction. During these periods of suffering, he would write and we had no trouble selling his efforts. They sold themselves. Editors bid against each other—but the production was limited, and all the time I forced my husband to remain in the book store. At the end of the five years, he had sold over ten thousand dollars' worth of manuscripts, but—his teeth were all gone!

"We realized by that time that there was a definite connection between his periods of illness and his ability to write material that could be sold. I tried to figure it out. Was it the infection, the pus, or was it the fever, or just pain? It certainly must have been one of them, or some combination. The fact was, that in health, under ordinary circumstances, he just could not write saleable stuff, but given certain conditions of disease, he wrote as though inspired by genius.

"I studied the matter from the standpoint of other authors, and I was surprised to find that something similar had happened to all of them. Robert Louis Stevenson could not write unless he had fever. If his temperature was normal, he loafed around, and did not even to attempt to write; but when the fever came, he was another man, a man who could, and did write brilliantly. De Maupassant and several other French writers did their best when they were dying from paresis. DeQuincy and Coleridge took opium; Burns and many others could only write when intoxicated; Mary Lamb was at her best when she was passing into an attack of insanity. Swift was insane. Burton a case of melancholia. So my husband was by no means an isolated case."

AT this point Dr. Newberry held up his hand to stop her.

"These men you mention were all great men, madam," he said.

The woman flushed as she softly replied.

"So is my husband. You will agree with me when you learn his real name. But allow me to go on with the story. The book store he clerked for went out of business and he was without a job. I asked him to try to secure a new position in another store, and they told him he was too old. He came home after several such rebuffs and said, 'Mary, this looks like the proper time to retire, and just spend my time writing and enjoying life with you.' It was horrible of me to say it, but I just had to,

Why "The Literary Corkscrew" Is My Favorite

By JULIUS SCHWARTZ

Julius Schwartz

JUST suppose that the publisher of a proposed omnibus to contain the outstanding example of each type of fiction asked you to make the choice of science fiction story. You wouldn't have to go through your file of magazines because any such outstanding story would already be on the tip of your tongue.

And haven't you often met a person who knows nothing of science fiction but because you rave so much about it he's willing to give it a trial? What story do you give him to read?

I've always maintained that all potential readers of science fiction should first be introduced to the stories of Dr. David H. Keller, based on the simple reasoning that John Jones will enjoy the stories because they are written about John Jones.

All of Dr. Keller's stories are uniformly good, but I have an extra warm spot in my heart for his "The Literary Corkscrew." Several years ago Dr. Keller was kind enough to have me spend a week-end at his home in Stroudsburg, Pennsylvania, which he fondly calls "Underwood" in honor of his typewriter. When I asked him how he worked out his plots he replied with a smile, "I spend hours telling myself stories. These I transfer to white paper and my wife does all the editing. She is my literary corkscrew. I wrote a story about that title. A man could not write without the stimulation of pain; so, his wife sterilized his back and bored a corkscrew into his backbone. The deeper it went the better he could write." Whereupon Dr. Keller permitted me to have a preview reading of "The Literary Corkscrew."

Because of my personal experience with this story and because I feel that it is a good example of science fiction to introduce to the non-initiate, I have made it my selection for THE HALL OF FAME.

so I replied, 'My dear, your teeth are all gone, your appendix has been removed, and your sinus trouble is cured. You know as well ask I do that you have to be taken ill in order to write.' He agreed with me, but felt that it was not the actual sickness, but the pain that helped him write.

"As far as I could see, it did not make any difference what the trouble was. The fact remained that it was either the pain or the fever or the pus. He had been in good health for over four months, and during that time his efforts were like those of a high-school boy. He even got so he could not think of a plot. Well, we had a little money, and our home was paid for, so I told him to take it easy and make it a real vacation. He was ambitious, never liked idleness, and so he started to do some of the floors over.

"He was at that one day when I heard him cry out in anguish. I ran to see what the matter was, and found he had run a pine splinter under his fingernail. Perhaps you know how it hurts. It used to be one of the old forms of torture. He just sat there holding his hand and making no effort to take it out. I asked him to let me see it, but he just smiled and shook his head, and told me to get a pencil and paper. So there he sat on the floor, holding his hand and trying to keep from crying as he dictated the best plot I had ever heard. I wrote for over half an hour, and then he said, 'Now, that is something like it. Will you see if you can remove this splinter?'

"He typed that story on his portable with the injured finger suspended in the air. I took it to one of the publishers and said, 'You know what my husband writes. Well, here is something that is better than anything he has ever done before.' The man took my word for it and gave me exactly one thousand dollars. He was afraid that I would take the story somewhere else.

"My husband and I talked the matter over a few weeks after that. He told me that the instant that splinter drove under his fingernail, something broke in his brain and the story was formed. That is why he left the splinter there, even if it did hurt. He wanted to be sure to get the story on paper before the worst of the pain stopped. He said to me, 'Mary, that is what made me write. It is not the pus or the temperature but it is physical pain!'

"I told him it was horrible to feel that way, but he said that he had to make a living somehow. I became a little suspicious, and asked him if he had run that splinter in on purpose. But he denied it. Three weeks after that, he developed a bone felon on that same finger. We had it treated, but for three weeks he suffered from it. During that time he dictated a novel to me. That novel has sold over one million copies. No, I am not going to tell you the name just yet, but you have no doubt read it. The point is this. He wrote that novel while he was in pain. The publishers asked him to write another. He did, after he had recovered. It was a flop—a genuine bust.

"By now we knew definitely what it was that permitted him to compose material that he could sell. We lived comfortably for a year, and then we invested our fortune in bonds and lost every cent. It started to look as though we soon might have to sell our house before the tide turned. My husband was in the best of health, so you can imagine what he was writing. He worked hard, three thousand words and better every day, but the publishers wouldn't even look at the stuff he produced, though they all were anxiously waiting for him to go up in the air, as they called it. He was desperate, and so was I, for I knew what was in his mind. I was willing to take in washing, anything, to keep him from it, but at last he said it. He asked me to hurt him.

"HONESTLY, Doctor Newberry. I love that man better than I do my own life. I would die for him. The very thought of deliberately hurting him made me heartsick and sick every other way. I offered to see if I could get work, asked him to let me sell my jewels, and always he was stubborn. He stopped eating and sleeping, and at last, in desperation, when he threatened to throw himself in front of an automobile, I told him I would help him. So we started to experiment, and I saw that he was in some way used to pain—like a drunkard used to alcohol. The little pains, like a needle prick, did not do any good. It had to be something grinding, continuous, something that would cause the average man to faint. The little things I did to him were just useless.

"So we evolved a technique. I do not blame you, Doctor, if you think us insane, but he would have died if he had failed to support me, and if he died, I would die, too. We had to do something. So we got a corkscrew and sterilized it, and sterilized his back as well as we could, and then he sat down at the typewriter and prepared to write—while I screwed that thing into his backbone!"

"I can't believe it!" said the doctor. "I never heard of it—why, the thing is impossible! How could you do it?"

"I don't know. I know that I cried all the time, but I never let him hear me. The corkscrew penetrated till it touched the bone, and he started to write slowly. Then I gave it another half turn, and he made his fingers race over the keyboard. He wrote for three hours and then came to the end of the story. I removed the corkscrew gently, painted the wound with iodine, placed a piece of adhesive over it—and fainted."

"I should think so."

"Well, we sold that story. It had the touch of genius, they said. Then they demanded another novel. They pleaded with us, offered us anything we wanted if only we would do it. And we did it. We went through weeks of torture, but we turned another best seller over and collected for it. That was a year ago. In that year we have not tried it again. My nerves were shattered. It was harder on me than my husband, because I had to stand behind him and determine just how far I had to put that confounded thing into him to keep him at his best. That is our story—that is my

story. The book that he wrote last you know, everybody knows—Oh! There is really no use in concealing it from you further. My husband wrote 'Deepening Shadows.' "

Dr. Newberry jumped from the chair.

"You do not mean to say that 'Deepening Shadows,' the book that has enchanted us all with its weird beauty, the book that has the Dunsany touch in a way that is greater than anything has ever been; you don't mean to tell me that Henry Le Kler is your husband, and that this book, in all its beauty, was written under such circumstances?"

"That is exactly what I mean, Doctor Newberry. I know my husband. He can write a dozen novels as fine and better than 'The Deepening Shadows.' He has the latent ability, the potential mentality. The public needs his work, they need him. He has been the one clear clarion call in American literature during the last five years. But we cannot keep on with the corkscrew. Here it is. I am through with it. There must be some other way. Something must be possible to help him write without sending us down to the bottomless pit so that America can breathe the clear, pure air of Eternity in his writings. I want you to take this. I want you to help us."

The woman tossed the corkscrew upon the doctor's desk and covered her face with her hands, sobbing violently.

DR. NEWBERRY picked up the shining instrument. He held it almost reverently. Then he spoke softly.

"Mrs. Le Kler, this little corkscrew should be carefully preserved. In spite of its usual disreputable associations with alcoholics, this story of yours invests it with a greatness and a dignity that no similar corkscrew has ever had. Yet all your mental suffering and your husband's physical anguish were unnecessary. No, I will not say that. Perhaps had you come to me five years ago I would have smiled at your story and dismissed you without even trying to help you as I am going to try to help you today. Perhaps I needed the sharp stimulation of your tale, the realization that one of the most beautiful books in all literature was born in travail, not only of the soul, but also of the body.

"I am about to leap across the chasm and see something that no other physician has ever seen before; at least, not clearly. I feel that your husband will write again. He will continue to delight the American public with his fancy and the pathos of his beautiful prose. But never again will it be necessary for him to suffer as he has in the past."

"You mean that you can help us?" asked the anxious woman, stretching out her arms in a gesture of relief.

"I believe so. You see, it was not really the pain that made him write."

"But we know that it was."

"No. The pain was simply a stimulating cause. What really produced the clearness of plot, the beauty of diction, the Dunsany touch, was not the pain but the influence of the pain on the glands of internal secretion. Their hyperactivity was just sufficient to turn a writer who had mechanical technique into an author who wrote as a bird sings in the blue of a summer morning."

"But it was the pain, after all."

"Have it your own way. The pain is not necessary. Every day your husband's internal glands secrete just so much fluid. This passes into the bloodstream, and is carried to the brain. We are not sure, but perhaps the brain secretes a fluid of its own. We know that small portions of it, like the pituitary and the pineal, perform very important functions as far as the intelligence is concerned. I feel that the trouble with your husband is that he is secreting just a trifle less than he needs to be a great author.

"The pain stimulated these glands to greater activity, but as soon as the stimulation ceased, they returned to being normal. Perhaps something like that occurs in all great authors, poets, and artists. Who knows? But I shall give your husband a medicine that is really the secretion of several glands."

"From human beings? Certainly that cannot be!"

"Of course not. These are from the glands of cows, sheep, and pigs, obtained in the slaughter houses of Chicago."

The woman shook her head. Hope faded out of her eyes.

"It will not do any good," she said. "You cannot make me believe that by swallowing parts of pigs and cows my husband will write anything worthwhile."

"I am not asking you to. Simply try it. Tell your husband that you saw me, and I ordered a tonic. Don't tell him of my conclusions. Get an automobile and roam over the country. Forget everything except that you love each other. Don't urge him to write, but before you leave hide the typewriter and some paper in the car. See what happens and then write me. I want to make you a present of this visit. Leave the corkscrew and the secret with me. I will guard them both carefully. Here is the prescription and your twenty-five dollars. Good luck and good-bye!"

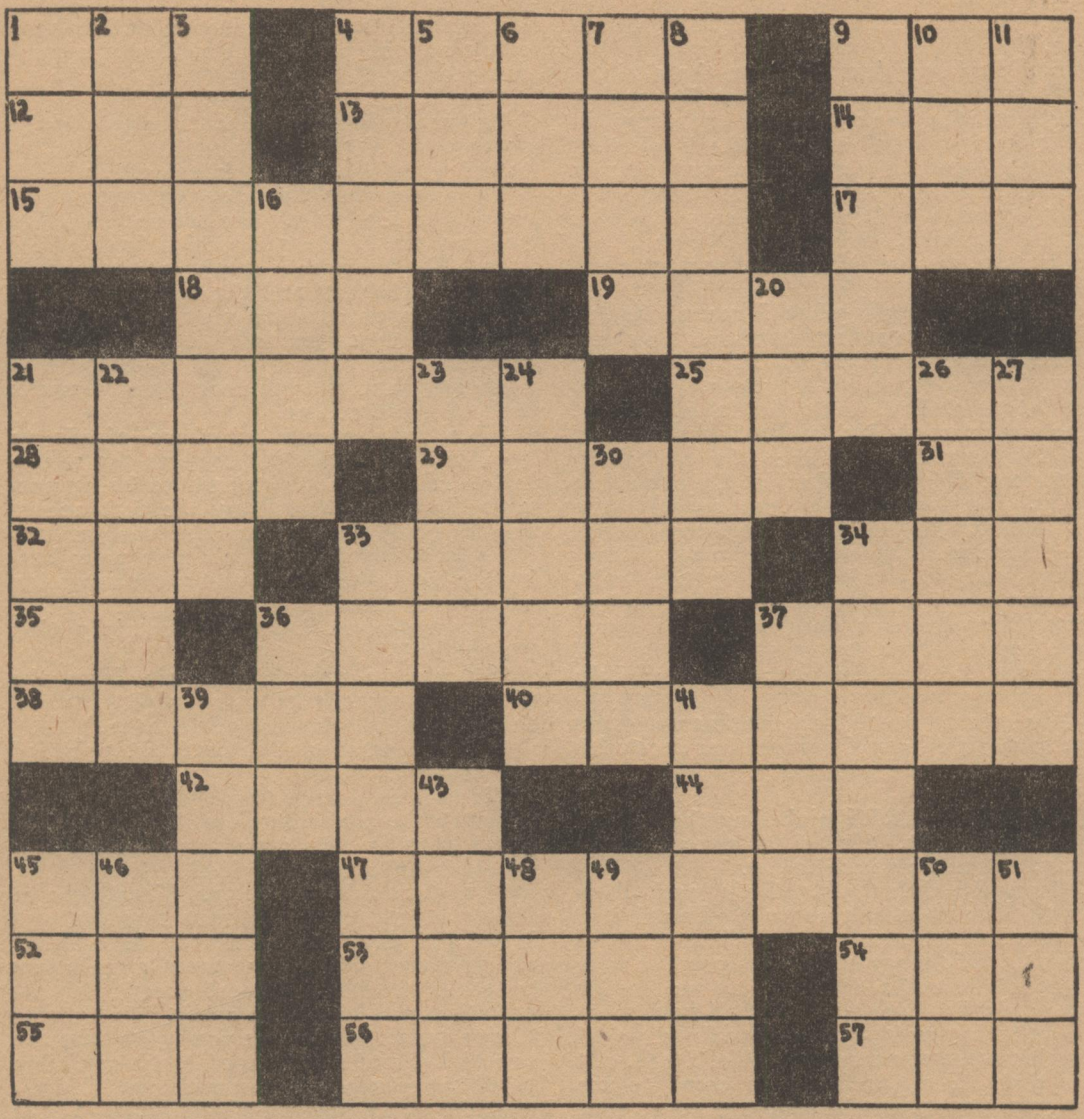
A few days later, Henry Le Kler and his wife started off on a vagabond tour in a little coupe. They had no particular place to go and were going there in the most roundabout way. They had but one idea, namely, to keep off the concrete and see the real country unspoiled by filling stations, billboards, and hot dog stands. For ten days they had a wonderful time, and three times a day the faithful wife gave the tonic and watched, rather hopelessly.

On the tenth night they slept at a farmhouse, the paying guests of a friendly old couple who lived amid hayfields and apple trees. The night was warm and the moon full. At one in the morning the sleeping woman was roused by her husband's movements. Henry Le Kler was sitting up in bed.

"I feel funny, Mary," he said. "I cannot sleep. Things are happening in my head.

(Continued on page 123)

SCIENTIFIC CROSSWORD PUZZLE



HORIZONTAL

1. Gram-molecular weight
4. Variegated waxy quartz in which the colors are usually in bands
9. Dark, oily liquid obtained by dry distillation from resinous wood, coal, etc.
12. Land measure: 119.6 square yards
13. High, broad, and flat table-lands usually with precipitous cliffs descending to the surrounding plane
14. Natural substance containing metal
15. Pertaining to the later stone age
17. Exertion of power, bodily or mental
18. Forward and downward motion of the head, more or less quick or jerky
19. Uniform occurrences of natural phenomena in the same way or order under the same conditions, so far as human knowledge goes
21. Motorless airplanes
25. Piece of cloth or other material worn over an injured eye to exclude the light
28. Figuratively, to seem to float in space: said of the heavenly bodies
29. Genus of Old World plants of the lily family (plural)
31. Egg, combining forms
32. Long-eared equine quadruped smaller than the ordinary horse
33. Alloy essentially of copper and zinc
34. American Medical Review (abbr.)
35. Delirium tremens (abbr.)
36. Pale, yellowish clay or loam forming deposits along river-valleys
37. The 15th of March
38. Compound formed by substituting a hydrocarbon radical for the hydrogen of an acid
40. Covered with fine hair-like feathers, as the feet of certain birds
42. Frog
44. Organ of hearing
45. Equal, combining form
47. In botany, having the same number of parts; said of the whorls of a flower
52. Vessel for holding or carrying liquids
53. Easily frightened
54. Law of Right Ascensions (abbr.)
55. Greek letter, which as a numeral denotes 8
56. Member of the British nobility
57. The sun

VERTICAL

1. Human being
2. Compound of a metal and some other substance, by which its properties are disguised or lost
3. Meteors that form a shower about November 14th in a modified form every year
4. Compound derived from ammonia by re-

placing the hydrogen atoms with univalent acid radicals
5. Acquire
6. Powdery residue of a substance that has been burnt
7. Appendage at the hindmost part of the body of many animals
8. Issues, as of a fluid
9. To brown over a fire
10. Part of a circle
11. Steep or soak, as flax
16. Somewhat continuous unstratified metal-bearing vein
20. First and third persons singular, imperfect tense of the verb **be**
21. Degree of inclination of a road as compared with the horizontal
22. In nautical parlance, inclines or careens to one side
23. Of infrequent occurrence
24. Cut with a long sweeping stroke
26. Heavenly body, consisting of a coma surrounding a star-like nucleus with a nebulous train
27. Domestic animal, beast of burden
30. Bone, combining form
33. Metallic, reddish-brown, copper-iron sulfid, showing purple tarnish
34. Chlorin or bromin derivatives of hydroquinone used in developing photographs
36. Meadow
37. River in the Tyrol and Bavaria
39. Vitreous, gray or white, alkaline, monoclinic hydrous sodium carbonate
41. Stems of certain tall grasses growing in wet places
43. Largest continent
45. Frozen water
46. Seventh day of the week (abbr.)
48. Order of Merit of Radium (abbr.)
49. Unit of length in measuring the diameter of wire
50. Tail, combining form
51. Salt

The Solution Is on Page 124—
If You MUST Look!

REVIEW OF THE SCIENCE FICTION FAN PUBLICATIONS

SPACEWAYS. 303 Bryan Place, Hagerstown, Maryland. Edited by Harry Warner, Jr., James S. Avery and Walter E. Marconette.

Two fantasy yarns, a trio of articles and regular batch of scientifiction departments in latest issue of this fan journal. Donn Brazier's piece anent science fiction headliners, "Are They Still Immortal," leading article. Comment on preceding Anniversary issue nice and gossipy.

POLARIS. 404 S. Lake Ave., Pasadena, California. Edited by Paul Freehafer.

Attractively published fan gazette, with contribs this issue from Robert W. Lowndes, Forest J. Ackerman, Ted Carnell, Damon Knight and others. Fiction here okay, but monopolizes too much wordage. Carnell's article, "The Haunted Hotel," serious and good.

THE SCIENCE FICTION FAN. 3214 Champa Street, Denver, Colorado. Edited by Olon F. Wiggins.

Latest issue timely with humorous article, "Stfans Can't Be Conscripted." "A Night at the Tower" in bad taste, and has no place in issue. Little else of note in issue.

FANTASIA. 269 Sixteenth Avenue, San Francisco, California. Edited by Lou Goldstone, George Cowie and Borrie Hyman.

First issue of this new fan journal not bad at all, and mag deserves your investigation. Mag leans way over to the fantasy side, with little or no focus on pseudo-science. Fiction, poetry and articles. Recommended: "Djinn Fizz," by Mickey Fin.

CENTAUR. 2767 N. 41st St., Milwaukee, Wisconsin. Edited by Philip A. Schumann, Donn Brazier.

Another first issue of a new mag. This one very good, with articles by Ralph Milne Farley and Forrest J. Ackerman. Mag hektographed, with some neat illustrating stunts between covers. Editor voices request for material, so all you amateur inkslingers shoot in poetry, articles, stories and what-have you.

MIDWEST NEWS AND VIEWS. 5555 Hyde Park Boulevard, Chicago, Ill. Edited by Erle Korshak.

Mag is published sporadically, with comments on midwest fandom's activities. Convention post-mortem still going on, with comments by leading fans. Also reviews rival fan mags.

FANTASY NEWS. P. O. Box 84, Elmont, N. Y. Edited by Will Sykora.

Still the newsiest fan-mag, with "news while it's hot." And published weekly, too, although some issues have been skipped of late. All the doings in fantasy the world over reported in this live-wire journal, with correspondents covering mags, books, radio, theatre, movies, comic mags, etc.

MEET THE AUTHOR

The H_2O Kid

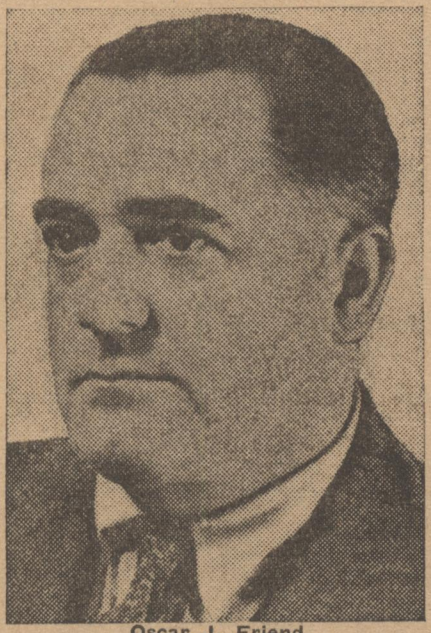
By OSCAR J. FRIEND

Author of "The Water World" and Other Scientifiction Novels

"GOOD grief! Here comes that Friend fellow again. We're just getting over a dose of The Kid From Mars and now Friend comes along to drown us in a second deluge."

Well, perhaps you readers aren't thinking just that, but I know you haven't the slightest desire to read another thumbnail sketch or boiled-down condensis of my biography. It would be like a normal adult taking a second ride on a merry-go-round at Coney Island.

Anyway, to get off this troublesome subject of ME, if anybody has the hardihood



Oscar J. Friend

to wish to view my likeness and get a rough idea of what makes me tick, why not read the dope sheet in the Sept., 1940, issue of STARTLING STORIES and let it go at that?

Let's clean things up and get down to the Water World. That's the only new thing to add to my list of misbehaviorisms.

Seriously Speaking—

I approached this subject with a great deal of caution and not a little awe. We have all read stories of one deluge or another, and I toyed with the idea of writing one for STARTLING STORIES. It took quite a bit of thought, for, in planning a story about a world of water, after a lapse of five thousand years, a large and man-size bugaboo reared its grisly head.

Here I was creating a brand new world with a veritable deluge of new problems

[*Turn page*]

and utterly different ways of life. Fictitious, true—but it had to be consistent. Any started train of research, of habit, of custom—of anything—would have to be followed either to its logical conclusion or until a cross thread of plot carried the story into another field—or perhaps I should say, another shoal.

Wait a bit. At the very outset I am not claiming that I have been utterly consistent or logical in this story of the depths. But I have tried to be. Give me credit for that. I've tried to keep things relative and relevant. I want to stand up on my hind legs right here and tell you readers that it's no cinch job to think things out consecutively and flawlessly in this abstract world into which I recklessly plunged us all.

A Birdless World

For example, when Jefferson Reade goes to bed for the first time on the floating Island Five after being told there are no longer any birds in the world, I was almost stymied over his feather mattress. I had to invent a sea-form or rubbery compound of some kind to take the place of feathers.

And then I got to thinking of the hundreds of ways birds have entered into our scheme of life—ways beside and beyond the bird on Nellie's hat. And I had to blot out all things pertaining to birds. I couldn't dare let the least thing birdlike (beyond a few permissible metaphors) to creep into the story. And you might be surprised at the hundreds of by-paths and traps which opened for me on that one little subject. Think of the insidious manners in which birds have penetrated into and permeated our very existence—from slang expressions to music to literature to manufacture to color to agriculture—and then some.

I couldn't expect the most hardened reader to follow me through a maze of birdlore, ornithology and exhaustive reasoning. So I compressed the whole matter into the succinct facts that Jeff had a rubberoid mattress and he couldn't have eggs for breakfast.

Queer Creatures

Passably funny, eh? Well, I had to skirt a thousand such pitfalls all along the way, at the same time that I "made up" and imagined queer creatures and quaint customs which automatically followed the Island people's way of life. Believe me, it wasn't any cinch. The only advantage I had was the fact that nobody else would know any more about that world of the future I created than I, and I could thereby write freely. But I'm betting Jeff Reade's mattress against a Grade B egg that not less than half a dozen of eye eagle-eyed (there's the bird influence again) scientific-tioneers are going to catch inconsistencies in the Water World and going to write in to give me the bird.

Anyway, I had a swell time writing the yarn. In spite of the fact that I could not go into exhaustive detail, I got so tangled up in the irony of Tom Macy's life and his parallel at the bottom of the sea that I got splattered out all over the ocean bed without telling half the story I intended and got

(Continued on page 129)

The Literary Corkscrew

(Continued from page 117)

If I had my typewriter with me, I believe I could write something worthwhile."

The wife went to the chair, put on her kimono and lit a candle.

"You stay in bed, dear, and tell me about it," she said. "I'll write it in pencil. I have your typewriter and just loads of beautiful white paper in the car. When morning comes, you can write all you want to."

So, there in the candlelight and moonlight, he talked to her, hour after hour, till morning came. And as he talked, she wrote. They asked the old folks to let them stay a few days longer. They really stayed six weeks, and at the end of that time three hundred pages of manuscript were completed. During this time, the man wrote and ate and slept. The wife, corrected, prayed, and did her best to feed him. Finally he wrote FINIS, dated it, and wrote his own peculiar colophon on the last page. Closing his typewriter, he looked at his wife as though awakening from a dream.

"I did it!" he exclaimed. "I did it and it was not necessary to—hurt me. Something happened to me and it was not caused by pain!"

"Perhaps you do not need the pain any more," she replied happily, but she did not tell him the story. She wanted him to have the pleasure of thinking that it was his ego, his soul, his inherent ability, that had made this novel possible. They hurried back home to the city. The manuscript was handed, almost without comment, to the publisher of "The Deepening Shadows." Within three days that worthy made a personal call on the author and his wife. He was more than enthusiastic about the novel.

"You have done the impossible," he exclaimed. "We thought that you had reached your limit in 'Deepening Shadows,' but in this new novel, 'Sign of the Burning Heart,' you have done more than a little better. This book will not be one of the best sellers, it will be the great American novel. All we want is your price and royalty agreement, and we will sign a contract with you at once. But I want to ask you something. I have been watching your work for ten years, Mr. Le Kler, and the only word to describe it, is 'spotted.' You are one of the most inconsistent writers I ever met. What is the reason?"

"It is this way," answered the author. "When I write for pleasure, the stuff is poor. Then my wife makes me write for profit, and something happens to me, and the stories please you. That's all."

"In other words," added the wife, "we wish to keep our secret. If people knew what it was that made my husband an author, there would be a half million new authors in the next year. The competition would be so great that there would be nothing in it for anyone. Now, how about that contract?"

[*Turn page*]

The new book sold. The income was so satisfactory that, for the next year, the loving couple toured all over the country. They were in Miami one week end, and Mary Le Kler happened to be looking over the New York *Times* book-review page. Being called away, she carelessly tossed the paper into her husband's lap. When she came back, he was all excited.

"Did you notice this new book, Mary? The reviewer says that it's going to be the outstanding novel of the year. 'Out of the Depths,' by Dr. Newberry. That is the man that you consulted, isn't it—the man who ordered the tonic for me? I never knew he could write. Funny for a neuropsychiatrist to become an author."

Mrs. Mary Le Kler read the review carefully.

"The doctor must have taken some of his own medicine," she said, smiling enigmatically at her husband.

Coming Next Issue

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THE MAN-BEAST OF TOREE

A HALL OF FAME STORY

By

RALPH T. JONES

Solution to Crossword Puzzle on Page 118

M	O	L	■	A	G	A	T	E	■	T	A	R
A	R	E	■	M	E	S	A	S	■	O	R	E
N	E	O	L	I	T	H	I	C	■	A	C	T
■	■	N	O	D	■	■	L	A	W	S	■	■
G	L	I	D	E	R	S	■	P	A	T	C	H
R	I	D	E	■	A	L	O	E	S	■	O	O
A	S	S	■	B	R	A	S	S	■	A	M	R
D	T	■	L	O	E	S	S	■	I	D	E	S
E	S	T	E	R	■	H	I	R	S	U	T	E
■	■	R	A	N	A	■	■	E	A	R	■	■
I	S	O	■	I	S	O	M	E	R	O	U	S
C	A	N	■	T	I	M	I	D	■	L	R	A
E	T	A	■	E	A	R	L	S	■	S	O	L

THE ETHER VIBRATES

(Continued from page 12)

halla," Hamilton at his best. This undoubtedly the best since "The Three Planeteers."

And now a few lines about the mag which has brought us these sf gems. As a whole, S. S. is superior to all, bar none. Its stories are superlative; its illustrations—fascinating; its departments—excellent. More power and greater glory to STARTLING STORIES!—2640 W. College St., Shreveport, Louisiana.

There, play that on your atomic table, you anti-optic space-rovers! And it's a war to the last erg of energy in the last ray-gun. Colliding comets, but this old warrior sure would like to join in the fray. Who cares which side I'm on . . . just as long as there's something popping besides bug-eyes!

Well, twirl my equinox if the next space-gram isn't aimed straight at your old Sarge's breadbasket. It's from Pilot Alfred Edward Maxwell, and he's found a fantasy flaw that should open up Wesso's eyes.

ONE-EYED ODIN

By Alfred Edward Maxwell

I knew that something was missing in THE ETHER VIBRATES and THE READER SPEAKS, but I couldn't quite lay my hand on it. Both columns seemed to lack some vital element, but boy, you sure remedied that! Sergeant Saturn is IT! Man, did he pep 'em up!

Well, about the January issue.

First: the cover. What are these heroes coming to? Now it's pink uniforms. I'll admit it was cute, but what's next? Hair ribbons?

As to the inner art work, it was good as always when it's in Wesso's hands. But how about a change? Paul—Finlay—Schomburg, anyone else.

In the story, Odin had only one eye, but Wesso depicts him with two good peepers. Hamilton also made the same mistake on page 61 when he said that Odin's "eyes" clouded.

I'm not hard to satisfy, so I enjoyed the story. It was not super excellent or anything like that, but I liked it a lot.

"The City of Singing Flame" was okay. Them was the days when flighty gals were not essential to make a story sell.

"The Hyper Sense" started off good, but flopped before it could get into second.

"The Demons of the Darkside" was a refreshing short.

Now, if you'll allow me, I'd like to put in a little "plug" here. I wish all the s-f fans would drop me a card with the name of their favorite author, magazine, illustrator and story as I'm conducting a ballot.

Thanks for the above favor and an all right issue.—545 East Madison, Opelousas, La.

Good hunting, Pilot Maxwell, putting your beam on those boners! What we said about putting out a perfect issue still goes, even if I have to write it myself. On the keel, lad, I don't mind your ferreting out those flaws. I get the same kick out of finding them in the tele-shows—whenever I can scrape enough gold from a passing meteor to buy a ticket. Seems like we all go off the orbit now and then. I did, once.

Glad you liked Miss Leigh Brackett's first offering, "The Demons of Darkside." The little lady can sling a mean Inky Way, and this old wobbling waddy has roped her back into this issue with "Interplanetary Reporter." Your old Sarge asked her about what popped into her mind and started the story and her reply hit me right under the lucite helmet. So I thought I'd flash it to all you space-rats. Stand by while I project her ethergram on the visi-screen.

[Turn page]

BARTON, INTERPLANETARY REPORTER

By Leigh Brackett

In these days, the war correspondent is a very prominent citizen. Naturally I got to thinking about the war correspondent of the future, when syndications will be System-wide instead of world-wide, associated presses interplanetary instead of international.

Future wars, I think, will come from the same causes that make wars today—land, water, trade, and boundary disputes. (And, of course, pure cussedness.)

The foreign observer of the future press will have the whole Solar System as his theatre of war. He'll do on-the-spot broadcasting with a televisor. He'll dash between worlds in a space-ship, watching vast navies lock in struggles to the death, and he'll go into jungles, deserts, and God-knows-what to bring the news of weird battles between weirder peoples to the listening audience of the System.

And probably, like his modern equivalent, he'll live to die falling downstairs in his stratoscraper flat.

The Trade Cities mentioned in the yarn seem to me to be the logical outgrowth of trade between the worlds. There will have to be coordinating centers for shipping and distribution. They'll have to be independent of climatic vagaries, so that nothing can hold up the tremendous machine of commerce.

They'll be a polyglot people, drawn from all worlds and all peoples, gradualy fusing into a sort of separate race. The foreshadow of those Trade Cities is in our own time—the vast centers of New York, London, Marseilles, all the places where ships ply and fortunes are made.

Chris Barton is an old friend of mine. I'm very proud to have him make his bow in STARTLING STORIES—and I hope you like him, too.

Thanks, Miss Brackett, for the literary lowdown. Shades of Twilight Zone, pilots, but the damsels are hogging the controls this passage. What's been winning them all—Sojarr's physique? Here's a rocket blast from another damsel—and she's leaving us all in distress!

WESSO'S MONOPOLY

By Katherine Baum

Most readers have taken it upon themselves to pick the best novels that have appeared in S. S., as I have noted in the past few issues, so I am going to do the same. First, however, I am going to get a couple of peeves off my chest. Why do you publish those kid letters? The ones that say "I have been reading S. S. ever since I was eight and I find it to be the best on the market." Those things burn me up. The only decent letter-slingers are Anderson, Hidley, and Thompson.

Can you please explain why Wesso monopolizes the illustrations? He has done the pictures for every issue with the exception of five. I do not like his work. Give Paul, Finlay, Schomburg, Binder, and a couple of others a chance at the illustrations. And even Brown would be a welcome change from Bergey. Now for my list.

1. "Twice in Time."
2. "The Black Flame."
3. "Giants From Eternity."
4. "Kid From Mars."
5. "The Prisoner of Mars."
6. "The Fortress of Utopia."
7. "Five Steps to Tomorrow."
8. "The Three Planeteers."
9. "The Impossible World."
10. "The Bridge to Earth."
11. "A Million Years to Conquer."

12. "Sojarr of Titan."
13. "When New York Vanished."
14. "A Yank at Valhalla."

Guess that's all, except that I should like to see this epistle in print.—1243 Juniata St., N. S., Pittsburgh, Pa.

Okay, Katherine, you've landed in print —with jets a-roaring and cyclotrons throbbing. Say, men, are you going to stand for this lassie lacing into the letter-writers? Man the decks, pilots, and send in some real he-man ethergrams. Fire away! Blast off! Heave-ho! I want to see some proton-packed missiles crackling so furiously the sparks'll reach the Heaviside layer.

So you're squawking about the artists, too, eh, lass? Well, feast your orbs on Orban's murals for the feature novel in this issue and then tell your old Sarge if everything's' forgiven.

And new here's Kiwi de La Ree with his twelve toppers. Picking the dazzling dozen seems to be a national pastime these days. And we thought jigsaw puzzles were here to stay!

HIS HIT PARADE

By Gerry de la Ree, Jr.

In your January issue you had a letter from one Broox Sledge, rating all the novels that have been printed in your magazine in past issues. All I can say is, he must have been reading with his eyes shut. In other words, he is on the whole crazy. I agree with him about 2%. Here is the way I'd file your past twelve novels in order of their worth:

1. "The Black Flame"—Weinbaum.
2. "The Prisoner of Mars"—Hamilton. (Even if the plot was borrowed).
3. "The Bridge to Earth"—Williams.
4. "Twice in Time"—Wellman.
5. "The Impossible World"—Binder.
6. "Five Steps to Tomorrow"—Binder. (Even if the plot was borrowed).
7. "The Fortress of Utopia"—Williamson.
8. "Giants From Eternity"—Wellman.
9. "The Kid From Mars"—Friend.
10. "The Three Planeteers"—Hamilton.
11. "A Million Years to Conquer"—Kuttner.
12. "When New York Vanished"—Kuttner.

In the future it would be a joy to me to see stories by Binder, Wellman, Williamson, Friend, and perhaps some new authors. By new I mean new to your magazine. By all means don't get any more stuff from Hamilton, unless it's better than "The Three Planeteers" and his current "masterpiece," "A Yank At Valhalla," neither being as good as his "Prisoner of Mars." From my ratings you would get the idea that I do not like Kuttner. On the contrary, I think he is very good, but you have been printing his worst stories.

It seems a pity that no more stories will come from Weinbaum. His "Black Flame" was really the best thing you have ever had, and no doubt the best you ever will have. His two Hall of Fame shorts were also about the best you have ever printed. In summing this up, I must admit that none of your novels have really been bad. It just is that certain ones are better than others.

Now to your covers. I don't like to be choosey, but these last few covers by Bergey weren't so hot. It seems you had some terrible complaints about Brown, but I have always thought him superior to Mr. Bergey, even though the latter is good at certain types of work. The man I'd like to see doing your cover is the grand old artist of s. f., Frank R. Paul. Can this be arranged?

Your departments: Best of any magazine. Keep up the good work. Fan mag reviews, The Ether Vibrates, and Meet The Author are

[*Turn page*]

the three best in that order.

Your interior illustrations are very, very good. Keep up good work here, and give Wesso my congratulations.—9 Bogert Place, Westwood, N. J.

Well, Pilot de la Ree, you've got Henry Kuttner walking the plank—but not yet over. And while you're playing with that beam-pistol, wondering whether to propel him off into space, take time out to read the lad's latest novel, "The Land of Time to Come," in the current issue of THRILLING WONDER STORIES. If that isn't one of the best yarns you've read since the last total eclipse I'll eat my space-suit.

Binary suns, rocket rookies, but this celestial tour will soon be over. We'll be reaching Terrapolis port soon, so let's dig into the mail sack and clean her out emptier than a vacuum. Here's a metrical offering from Bob Mastell that says it with stanzas.

ON WITH SCIENCE FICTION

By Robert Mastell

On with science-fiction,
With strange tales half-believed.
We'll blaze a trail through space
To new heights unconceived.

Let demons roam the night,
And rockets roar through space,
In science-fiction fields,
Our pens will set the pace.

The planeteers are loose
To fight like knights of yore
Up and down the spaceways
Amid the stars galore.

Star-beasts, ghouls, and goblins
With horrid leering face,
And baleful-eyed Zombies
Are in the fiction race.

Time-machines and robots,
Futuristic ages,
And interstellar tales
Fill pulp fiction pages,

The space ships we will sail
Out to the planet Mars,
Then on to distant worlds
That lie beyond the stars.

There are tales and more tales,
And most will pass right by;
A few will stay awhile,
But some will never die.

We'll follow Jules Vernes' steps,
And lead with guiding light
Down the steps of Time to
A future that is bright.

—2611 - 6th Av., E., Hibbing, Minn.

Thank you, Pilot Mastell
Your poem is right in place.
It sure makes pleasant reading
And also fills up Space!

All lampooning aside, sir, them's mighty fine sentiments, and you can match us meter for meter any time. And here, with no rhyme and some reason, is Space-Vet Langley Searles, with a recoil or two that needs harnessing.

BERGEY BEATS BROWN

By Langley Searles

A letter by one Parmer Ferrell in the January, 1941 STARTLING STORIES was the incentive for my typing this letter. I haven't read "The Kid from Mars" or "Five Steps to Tomorrow," so for all I know, Mr. Ferrell's deprecations of them may be justified. Just in case you're interested, though, I have read "The Count of Monte Cristo"—and I liked it.

But I didn't like that crack about "The Prisoner from Mars." I read Hamilton's novel and thought it was darned good. It was well-planned, smoothly written, and had quite a

few interesting new twists in it. It was a good deal better than "Twice in Time," too.

The second bone I have to pick with friend Farrell concerns E. K. Bergey. While I would be the first to agree that the subject for the July cover might have been more carefully chosen, the covers for September, November, and 1941's January were certainly okay. Bergey's photographic shading is an improvement over practically everything Brown has offered us readers to date.

Incidentally, however, I must admit that Mr. Farrell was responsible for increasing my vocabulary — remember the "green-skinned hydrocephalics?" I had to look up that last one! In case you're interested, Webster says the word means "one afflicted with hydrocephalus." Or, water on the brain, to you. (I hope all this isn't news to anyone—including Parmer Ferrell!) With my own weakness for superlatives, I might have dubbed those denizens of the drill-bits "hydrencephalitics." Let someone else look up that one—I have all I can do to pronounce it!—19 East 235th St., New York, City, N. Y.

There's no dictionary in this space-tub, old man, so I can't battle the verbiage around with you. Anyway, what's a couple of syllables between space-navigators? Confidentially, we left our vocabulary back at Tycho to plug up a hole in a cracking electron. Yeah, but we've still got the last word.

—SERGEANT SATURN.

MEET THE AUTHOR

(Concluded from page 122)

myself crowded into a quick climax.

Come on and How!

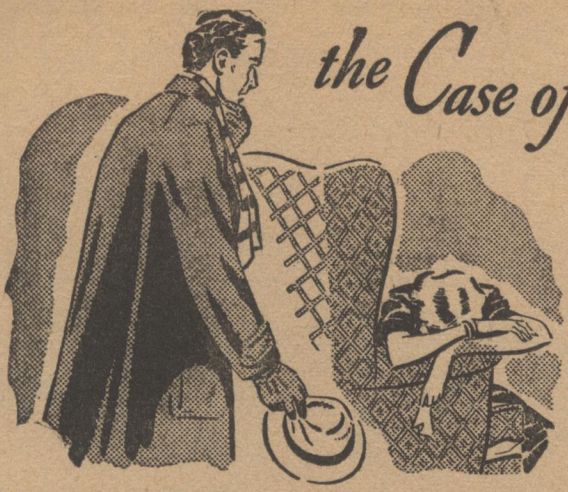
You don't have to write in that I never did introduce the governor of the islands, that Jeff didn't even meet the president of the domed cities, that he didn't even know if he could unwind the necessary red tape to start engineering operations—much less prove his scheme successful. I just simply couldn't get all that into the novel. And don't think I am fishing for demands for a sequel. I darned near drowned this time myself.

But go ahead and write in your complaints and howl with fiendish glee as you pick my errors and mistakes to pieces, or (if there are weaklings among you) to compliment the Water World.

And "eggs" to you, too.

Keep that guy, Sergeant Saturn, off my tail. He's poison!

the Case of the Crying Wife



1 Ann doesn't cry easily—but that night I found her in tears! "I can't help it," she sobbed. "All the things we were going to do—buy a car, build a home—remember? And here we are—married three years, and just barely making ends meet! I thought our dreams might come true—but it's no use." I made up my mind right then to "have it out" with the boss.

2 "Look here!" he said. "I can't *pay* you more unless you're *worth* more! And frankly, John, you lack the *training* a bigger job needs. Ever hear of the International Correspondence Schools?"

3 When I learned the boss was a former I.C.S. student, I signed up *quick!* And what a difference it made in my work! I'd never realized until then how *little* I knew about the business.

4 I'm happy, and Ann's happy, and I guess the boss is happy. (At least I've had two "raises" in the last year!) And here's the very same coupon that I mailed, staring *you* in the face!

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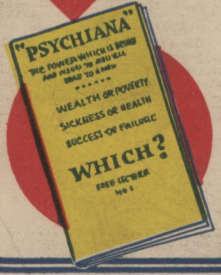

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