THE Interocitor

Classic Stories From Sci-Fi's Golden Age

ISSUE 04
275 Pages Huge

CITY AT WORLD'S END

By Edmond Hamilton

PART TWO

PLUS
Stories by

Arthur C. Clarke
Randall Garrett
Robert J. Martin
Ambrose Bierce

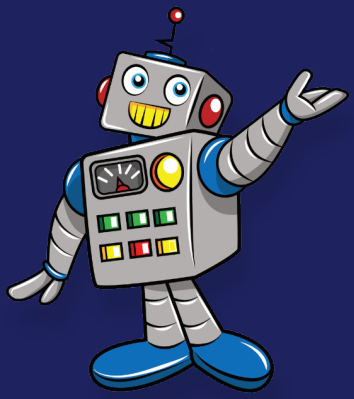
And Special Features

Rocket Press
A ROCKETBOOKS PUBLICATION

THE Interocitor

Classic Stories From Sci-Fi's Golden Age

IN THIS ISSUE



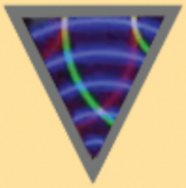
FEATURES

Longer Reads

Shorter Reads

Classic Sci-Fi, Done Right!

There's a gold mine of fantastic science fiction short stories in the old pulp magazines of the mid-20th Century, but much of it can only be read by viewing "scans" of the original old pages, with their squinty text, multiple columns, and faded print. *The Interocitor is here to bring these classics back to* ***vibrant life*** *in a format that's easy-to-read on modern, digital devices. Compare the examples below.*



ICE PLANET

Carl Selwyn

A stolen secret, a mysterious woman, a person high in the government—it had all the angles. Then Senator Trexel was acquitted, Molly Borden confessed. Now she was journeying to a life sentence on the penal planet.

EASY!

"Too bad she burned Adison's plans when they trapped her." It was Ricker's self-appointed traveling companion again.

"We lost the resources of four worlds by that little trick," Bill agreed. "The police found enough in the ashes to convince them it was the plans." He smiled to himself slightly, like someone who expected something but wasn't quite sure he could count on it. Ricker glanced up, then stiffened erect.

The Martian stood in the aisle be- side the

stared

e government—it had all the angles. Then Senator Trexel was acquitted, Molly Borden confessed. Now she was journeying to a life sentence on the penal planet.

"Too bad she burned Adison's plans when they trapped her." It was Rick-

ective and the woman. He calmly over his shoulder at Ricker and the sourdough and in his right hand was a pistol leveled generally at them both.

"Please be very quiet," his lips moved in soft, even to

out taking his snaky

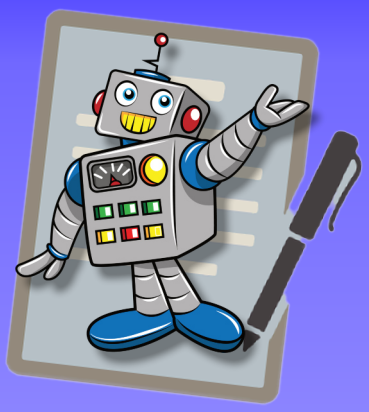
he spoke to the woma

in his left vest pocket," he said. "We'll

HARD.

Thanks to This Issue's Contributing Writers

We Couldn't do it Without You!



EDITOR

Dane Scott

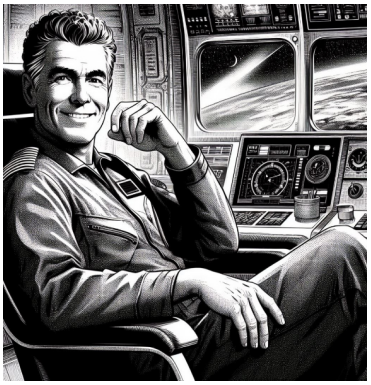
After 20 years in radio, Dane snipped the cord in '96 and went full time as a freelance voiceover guy, and a radio automation software developer. Now semi-retired, Dane still does voiceovers, and voiceover coaching. He was recently hired as the voice of one of the "autobots" for a Transformers video game. He's created several Facebook groups, including "Keep Watching the Skies" (classic sci-fi), and BoomTown," (for baby boomers). He's Founder and Editor of The Interocitor Science Fiction Magazine.

Article Contributor

Anderson Rearick III

Born on Christmas in 1955, Anderson Rearick did his doctorate on Charles Dickens. His masters examined Tennyson's Arthuriad "Idylls of the King,"

Anderson taught English for 25 years while advising a science fiction and fan club. His articles include "Why Is the Only Good Orc a Dead Orc?" and "Father Knows Best: The Narrator's Oral Performance as Paternal Protector in 'The Hobbit.'" He now lives in Ohio with Loretta, his wife of 37 years.



[FLEET COMMANDER DANE]

Report

FROM THE HELM

Hello again, Fleet! Welcome back, for Issue 04 of The Interocitor Science Fiction Magazine. Enthusiastic comments after our last issue persuaded us to continue releasing these, and we'll keep doing so for as long as the feedback and participation continue strong.

We Return to "The City"

Good things come to those who wait, and you're in for a treat in Issue 04, as we present Part Two of Edmund Hamilton's fantastic story, "City at World's End."

If you haven't read Part One yet, I encourage you to download Issue 03 of The Interocitor and read that first. While you're at it, also read Anderson's really interesting article about Edmund Hamilton himself. This skilled storyteller produced a huge body of work during his writing career, but is seldom heard of or talked about. We're determined to change that by proclaiming loudly the remarkable contributions Hamilton made to 20th Century science fiction.

As I mentioned last time: For full-length books like this one, the traditional approach taken by the old pulp sci-fi magazines was to serialize it into many installments to sell more issues. Since we're strictly non-profit and are just interested in making your experience as fun, rewarding, and convenient as possible, we've broken the book into just two parts. Part One was last time, and Part Two (the conclusion) is here in Issue 04. I hope you enjoy this creative story as much as we did!

A Sci-Fi Cartoon Treasure

Here in Issue 04, contributor Anderson Rearick does a deep dive on an early 1960s cartoon many probably saw or heard about. I hadn't, though I lived

through that era. Rather than putting their energies into silky smooth animated motion, Space Angel focused on telling an intelligent story with beautiful artwork. That makes it a pleasure to watch, even for adults. After reading his article, I tracked down some episodes to watch, and I'm really impressed. I think you'll enjoy Anderson's article.

Arthur! Arthur!

Also in this edition, among a number of other riveting stories, we have Arthur C. Clarke's, "Sentinel of Eternity," a short story he originally wrote in 1948, and got published in 1951 in a British periodical. This early story by Clarke has the unique distinction of having been the basis for his famous 1960s book (and movie), "2001 - A Space Odyssey."

A 126 Year Throwback!

While we primarily feature stories from the mid 20th century, we're making an exception in this issue to bring you what may be the first story about an AI robot, published in The San Francisco Examiner on April 16, 1899. *You read that right!* Be sure to check out the fascinating Ambrose Bierce short story, "Maxon's Master" here in Issue 04.

Slightly Altered Course

We started our magazine with the goal of providing both classic sci-fi stories and new stories (written in the classic style by modern authors). The result was some truly awesome entertainment, and we thank all the contributing writers with all our heart. Starting with Issue 04, we've decided to no longer feature newly written stories, for one simple reason: it more than doubles the time and effort involved in putting out an issue. The additional work was keeping us from releasing new issues as often as we'd like. So, while we feel the quality we've been getting from contributing authors has been high, the work load the new stories added was slowing us down.

That said, we do still plan to have at least one interesting new article in each issue that puts the spotlight on a classic author, illustrator, publisher or feature we think is worthy of special attention. *This time, contributing writer Anderson Rearick III does a fascinating piece on the 60s TV sci-fi cartoon series, "Space Angel."*

Another improvement in Issue 04 is our newly-organized Table of Contents. Feature articles are now on the left, and stories are on the right. The stories are organized into longer and shorter reads, so you can see, at a glance, which stories are suitable as coffee break entertainment, and which will make for an entire evening of adventure.

New Features

Newly added to The Interocitor is an "About the Author" note at the end of each story, which gives you a brief bio about the person who wrote it. At the top of every story, we now reference the year when it was first published, and the name of the magazine, if it was originally published in a periodical.

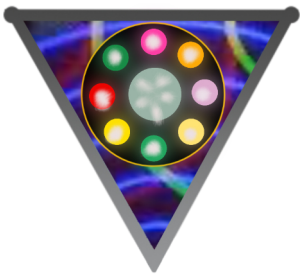
New OLD News: Our YouTube Channel

As mentioned in our previous issue, we have a YouTube channel where you can listen to narrated sneak previews of the stories we feature in The Interocitor. Our hope is that the dramatic readings will encourage even more people to enjoy our free magazine. Hit the "Like" and "Subscribe" buttons so you're notified whenever we add new videos to the YouTube channel.

Want to Show Your Appreciation?

We've created a beautiful *Interocitor Magazine* mug that's available at a reasonable price with free shipping to the continental U.S. Not only will you appreciate having it, but each mug purchased helps support what we're doing. Here's the link to our little online store.

Dane Scott



Gratitude!

Thanks to these special people

Lyza Herman, Story Research

Anderson Rearich, Story Research

Ben Taylor, Story Research

Mark Nelson, Story Research

Jay Rietz, Story Review and Proofreading

Alexander Smith, Technical Assistance

Jerry Fuchs, Cartoonist

The beauty of an online magazine like this is that we can quickly and easily update the current issue even after it's released, so if we've failed to mention someone who has contributed their talents to this issue, please email us and we'll get them added pronto. Be assured that your contributions of time and talents are *greatly* appreciated!

Before the first anime, Astroboy (1963), made its appearance on American TV, or the first British marionette SF series Fireball XL5 (1962), Planet Patrol (1963), or Saturday morning featured fare like Space Ghost (1966) or The Herculoids (1967) and certainly long before live-action

adventures like Lost in Space (1965) or Star Trek (1966), I was introduced to the world of SF by the adventures of Scott McCloud and his crew in the animated classic, Space Angel.

It was the foundational series that stirred my space-faring imagination. The show debuted barely one year after Alan Shepard's historic Mercury flight in *Freedom 7. Space Angel* was an American animated TV series that ran from 1962 to 1964. Cambria Productions developed the show. It was created by Dick Darley, directed by Dick Brown, and illustrated by Alex Toth.

NOTE: the club button is from Jerry Beck's *r*esearch, while the black and white sketches are from *"Animated: The Cartoon Art of Alex Toth*."

Space Angel depicts a future in which humans colonized the explore the entire solar system, and have making occasional extra-planetary adventures. Its broadcast was kept short to hold the attention of children. According *SF Encyclopedia,* the show was made up of "260 five-minute episodes, and broadcast on weekdays, with each weekly set a self-contained, serialized story (for a total of 52 stories in all)" ("Space Angel" *SFE*). If interested, see Larry Robinson's web page for a list of episodes along with a short synopsis of each story. Like *Space Patrol,* it gathered an adult following as well. Reviewing it now, I agree with John Sinnott from *DVD Talk,* who writes that *Space Angel* is "a fun show with some above-average art and surprisingly intelligent plots for a children's show" (Sinnott). Actually, I am far more enthusiastic because of its graphic art, its

orchestral soundtrack, and its varied storylines, which never descended to what some might think were juvenile tastes. Finally, long before "inclusion" became a buzzword (or a curse), the writers of Space Angel presented a universe in which all intelligent beings, no matter their gender or physical challenges, could be engaged in great adventures.

The show is remembered for its innovative approach to limited animation using what was called "Synchro-Vox" (usually to its detriment). Economic or not, the method never caught on. Pictured above are two of Toth's sketches: one of the Space Angel crew, while the other is of Scott McCloud's command chair (or G Chair) aboard *the Starduster,* which swivels both forward and backward as well as up and down as needed when the ship lands on her tail. However, the show was also innovative in its art, its world-building, space-faring vision, character depiction, and its inclusive cast.

Many sources have commented that this show was so limited in its cartoon style that it is more accurately described as an animated comic book than a cartoon. It, like the other Cambria Productions *Clutch Cargo* and *Captain Fathom,* used "Synchro-Vox" which featured actual human lips superimposed on still drawings of the characters to simulate speech. Jean Noel Bassior notes that the animation method was certainly cost-saving since the technique "cut the cost of TV animation from as much as 11,000 per minute to 500, because, by projecting the lips of the voice-over artist onto the animated character, far fewer frames were needed" (Bassior 232). The remaining animation was "composed mainly of still panel drawings and figures animated by camera movement" (Woolery 263). Thus, a typical episode featured long stationary shots except for a flashing light on various readouts, interspersed with short actions that were themselves often repeated from episode to episode. Don Markstein declares that *Space Angel*

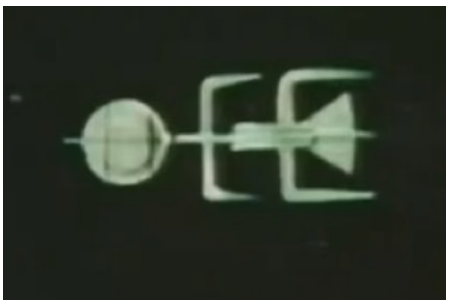
"is not remembered for excellence in animation-in fact, most people who remember it at all are impressed by how little animation went into it" (Markstein). Other artists listed on *The Internet Movie Database* for the specific episode "The Plagued Planet" were Charles Christianson, Hi Mankin, Ray Vinella, and Doug Wildey.

However, Alex Toth, listed as senior-artist, is clearly central, and his style permeates the show's look. While disagreeing with Markstien's dismissive perspective of the show's other elements, I agree with other admirers who fondly remember the fabulous illustrations of Alex Toth. "Toth had already distinguished himself in comic books, notably at DC (where his work included *Johnny Thunder* and *Rex the Wonder Dog*) and Dell (including *Zorro* and quite a few movie adaptations). He'd also done a little storyboarding for live-action movies" (Markstein). Toth's connection to comic books is observable in this excerpt from a six-page *Space Angel* comic he drew for the children's magazine *Jack & Jill* in 1963, which showed the level of detail that went into Toth's *Space Angel* universe. He would go on in the sixties to envision a whole range of SF shows, including *Space Ghost*, *The Herculoids*, *Johnny Quest,* and the DC universe's *SuperFriends*.

In a real sense, Toth designed the world of *Space Angel*, its sets, its ships inside and out, the look of the space suits worn by the crew, the landscapes of the various planets and satellites on which they landed, and the very uniforms and apparel of all of civilians—friends, and foes within the show. Toth's vision permeates *Space Angel*. His unique designs compensated for the show's limitations with some truly magnificent visions of a space-faring society.

One of Toth's outstanding creations is *The Starduster*. According to *Monsters in Motion*, a website dedicated to model building, *The Starduster* is "an elegant three-winged tail sitter distinguished by its bulging eye-like cockpit windows, mid-fuselage canards, and massive tail. Weapons included both

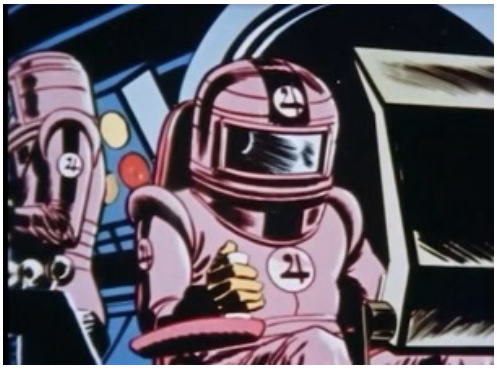
nose and tail-mounted cannons. *The Starduster* flew via conventional rocket technology with no consideration of faster-than-light travel." She often lands on her tail (Starduster, Space Angel, 1962). Every time SpaceX lands a ship on its pad, I think of this classic SF vessel. Although they often launch from Earth, most of the show's adventures start from a launch tube within the orbiting space station, *The Evening Star.* It should be pointed out that the *Space Angel* crew sometimes flew other experimental craft during the series run, like the *Surveyor 1* in "Expedition to a New Moon" or the ion engine powered craft in "Light Barrier," but *the Starduster* was the primary vessel throughout the show.



Meanwhile, the other ships used within the Interplanetary Space Force as envisioned by Toth represent several of Sol's planets and were identified by symbols on the ships which matched the astronomy charts used in the sixties to identify the planets, such as the female symbol for the Venusian Squadron, the male symbol for the Mars Squadron, the reversed number four (the Greek symbol for Zeus) for Jupiter and a circle with an enclosed plus sign for the Earth Squadron. Although dominated by humans, not all of the pilots depicted are "Earthers." The citizens of Pluto, for example, are obviously non-Terran, and some humanoid faces remain hidden. (Depicted in this one-shot is a craft from Jupiter, a Space Force ship from Neptune, McCloud's *Starduster,* and even its small shuttle, *The Dart*.) Cooperation between planets is often a plot point in *Space Angel*, a point that Toth's illustrations convey quickly.

Toth also gave the dangerous space fighters, the Anthenians, unique space suits that resemble those of Earth's Roman and Greek gladiators. All ships, meanwhile, had unique designs that were consistent throughout the series. Thus, the Anthenian ships always featured spheres and side fins. Jupiter's fleet featured massive engines allowing them to escape the planet's high

gravity, Neptune's fleet appeared fish-shaped, and the Space Force had wide tail fins with distinct red stripes. All of these are examples of Toth's draftsmanship. Even the spacesuits of each planet were unique in design, often sporting the planetary symbol of origin.



Toth's skill is also shown in the ways he worked within the genre. For example, his awareness that the "Synchro-Vox" was less than ideal is revealed in the numerous times various characters have their mouths hidden by huge mikes or telephones (an anachronism amusing to contemporary viewers), or just have their heads down. (Note: Crystal's mouth is missing in the included sketch, ready for the addition of human lips.) Because the added lips distort Toth's drawings, few of the illustrations featured in this article will include the effect. To illustrate as an exception, here is one shot of evil Space Queen Zorra in which her odd mouth, shaped by human lips, can be seen. Far better to present Toth's illustrations at their best.

Thanks to Toth's skill, *Space Angel's* universe is visually stunning. However, Dick Darley and Dick Brown fleshed out its imaginative parameters in its cosmos, characters, and hardware. The plot lines were not repetitive or formulaic but ranged in mood and subject, as reflected in each narrative's music, action, and character portrayal. Although a child's show, the consequences were portrayed as serious. Far different from later children's SF offerings, characters—good and bad—sometimes die.

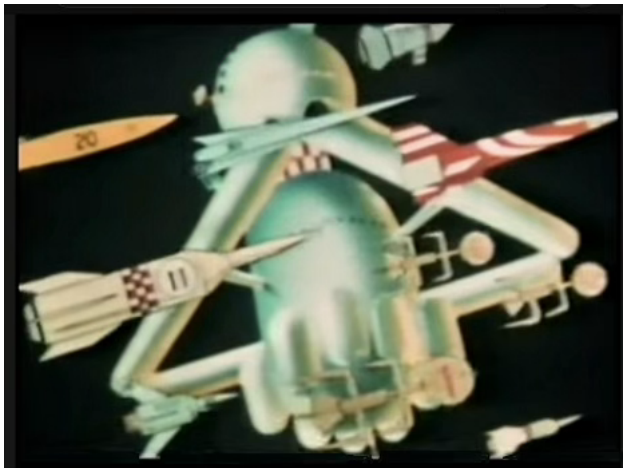
Space Angel featured a full orchestra soundtrack that presented a wide range of moods for each episode. The opening in the first season is especially striking. Working in c minor, the theme announces itself with a descending harp glissando landing in the minor key. Trumpets then join in with the show's specific melodic theme using a third tone in half-step increments between a major and minor third, with a diminished second to add color. The theme repeats the order in a minor third chord up from the original minor key. Then comes the verbal announcement of yet another adventure of *Space Angel a*nd its episode title.

Throughout the show, this third tone theme recurs in the background, sometimes using instruments of the lower register, such as double basses. However, it is always repeated with the trumpets at the episode's conclusion. This first theme carries a sense of the heroic and otherworldliness. According to *Wikipedia*, the "first season theme music is credited to Geordie Hormel. The second season's intro is credited to Walter Greene and was originally used in Roger Corman's film *War of the Satellites* (1958)" (Space Angel). This second intro features a countdown and a building theme promising action. While certainly suggestive in its build-up of the promise of adventure and excitement, I find the first opening more arresting and unique. *The Internet Movie Database,* meanwhile, lists Rich Harrison as music editor, Paul Horn as music supervisor. Again, Geordie Hormel is credited as composer, while theme music/stock music was done by Spencer Moore, who also worked with stock music and was uncredited ("Space Angel: The Plagued Planet").

It should be remembered that by the 1960s, science fiction films often incorporated electronic instruments, particularly the theremin, to create otherworldly and suspenseful soundscapes. The theremin's unique, eerie sound was a go-to for alien encounters and futuristic settings. Other instruments used included synthesizers, ondes Martenot, and organs. All of this was available for *Space Angel's* music team to draw from, in both its music and sound effects. And not all of them were SF in nature.

In "They Went That-a-way," the storyline of interstellar colonists is backed up

with an almost Western theme featuring a harmonica. The same melancholy theme comes up in “Welcome, Neighbor” concerning the plight of space refugees who are turned away by the Sol system’s planetary governments (the whole storyline is highly critical of human prejudice and political inaction). Meanwhile, the light-hearted “Saucer Caper” and "Scratch One Chimp" (both of which feature the boy genius Johnny Kendall) have scores resembling a 1950s sitcom (in fact, they may have been exactly that, since stock scores were used). Meanwhile, in more tense narratives such as “The Plagued Planet,” in which the crew discovers a world decimated by interstellar fire pods that exterminated the world’s original inhabitants, the music is tense, if sometimes repetitive. In “The Gladiators,” after McCloud has to kill in the arena to protect his crew and achieve the mining rites also claimed by the Anthenians, the soundtrack features a sustained minor chord for more than a minute. It is haunting. The tension is only broken with the return of Space Angel’s third tone trumpet theme at the episode’s conclusion. The range of music and sound shows that even within limited resources, the creators were able to produce a varied, unique, and memorable musical dimension for the show.



Sounding authentic is vital when world-building in Science Fiction, even when the technology is questionable. Before working in animation, Clark Haas was a pioneer jet pilot, while Dick Darley was a fighter pilot in the United States Navy during World War II. Therefore, they were likely comfortable with the expectations for military flight and found an easy fit in the realm of Military Science Fiction. Before *Space Angel*, Haas and Darley directed the classic live-action 1950s SF *Space Patrol,* which

also depicted a military dedicated to preserving “interplanetary justice.” The techno-tone of *Space Angel* is observable in a large number of episodes with detailed, official-sounding chatter filling the background. Launch sequences (although ponderous in pace for many contemporary viewers) are full of countdowns, course elevations, and launch vectors. Crew and ground control fall into it often. In one episode, “Red Alert,” McCloud and Taurus test fly an aircraft that resembles the X15, and in it, McCloud uses pilot terms such as “VFR,” “airspeed—Mach 2,” and turning eight degrees. The Dart, also included in this episode and a regular featured craft is a small space fighter usually carried within the *Starduster* and flown by the Space Angel. Sources note it’s similar to the XF-92 and is about the same size. Crystal flies it in the “Red Alert” episode to talk her “two boys” down after they’ve been blinded by an accidental blast, and her casual use of pilot terms reminds some, I’m sure, of Elastigirl from *The Incredibles* 62 years later. Thus, there is an air of authenticity in their depiction of spaceships on patrol. Other writers for the show included Cecil Beard, David Detiege, and Warren Tufts.

Still, it must be conceded that the science in *Space Angel* is sometimes somewhat iffy. *The SF Encyclopedia* notes that “the series regularly confuses galaxies with star systems.” The episode “Death of a Galaxy” is a glaring example of this. Also, the terms “moons” and “planets” often seem vague in their designation. (Although the recent kerfuffle over Pluto’s planetary status shows that this is not unique). In “Scratch One Chimp.” McCloud claims that, apparently, in space, living beings age slower. No reason is ever given, and note this has nothing to do with Einstein's physics, as it does later in the episode “Light Barrier.” Meanwhile, one episode is pure fantasy, depicting the crew discovering a planet filled with stereotypical ghosts.

And yet a large range of SF tropes, now common in serious SF, were originally spotlighted. In the opening sequence of "Space Hijackers (“Solar Mirror”),

The Starduster docks with a space station. The ship matches velocity and rotation with the station and is talked in with an instrument assist by Taurus. *Wikipedia* observes that "This sequence foreshadows the space dock sequence of the delta-winged *Orion* from Stanley Kubrick's *2001: A Space Odyssey*. Beyond this there are several other forward-looking SF elements such as ships traveling under solar sails ("They Went That-a-way"), planet terraforming ("Expedition to a New Moon") which also includes an inflatable bio dome base, matter transporting via a beam ("The Encoder"), and artificial intelligence tied in with drone attacks ("Cosmic Combat"). One episode, "The Light Barrier," attempts to consider the effects of faster-than-light flight with the invention of an ion engine. Admittedly, this issue is mostly ignored throughout the series, but at the story's conclusion, a pilot, a contemporary of an old scientist, Prof. Mace, finds himself meeting his friend's adult (and beautiful) daughter.

There is also a narrative concerning the construction of a giant solar mirror to help make other worlds habitable. In "Once Upon a Rainbow," the crew discovers a free-floating sphere made entirely of water filled with life. Thus, Darley, Brown, and the other writers, while presenting a series for children, portrayed real SF themes being considered in other adult SF outlets even to this day. (The included image of Crystal and Taurus is also drawn from Dean Mullaney and Bruce Canwell's *Genius Animated: The Cartoon Art of Alex Toth.)*

Johnyjay of the website *Cancelled SciFi* notes that Space Angel "took its science more seriously and tried to present as realistic…[a] space series, as it could, based on the knowledge of the time. It did take plenty of liberties, but it still managed to deliver some decent sci-fi stories that could appeal to kids and adults alike" (johnnyjay "Sci Fi TV Flashback).

Engaging science speculation is important, but *Space Angel* would have floundered if it had filled up its stories with ponderous science lectures. No fear of that. There are multiple space battles as well as natural disasters. Also, there are no intrusive and condescending elements often included in juvenile TV shows, such as young sidekicks or cute animal pets, both of which

were featured in Hass and Darley's earlier animated children's offering, *Clutch Cargo.* Furthermore, the characters as portrayed by the writers are more nuanced than many of the children's shows, including those that followed in the late sixties. To appreciate that, a layout of the space-faring culture should be explored. The show featured a stout collection of characters who interact with one another either as antagonists or as respected (if sometimes teasing) coworkers. The heroes exude the hope of peace through cooperation and comradeship in exploration.

Scott McCloud, voiced by the bass Ned Le Fevre (who lived only two years after the completion of the series), is the titular hero, serving in the EBI (Earth Bureau of Investigation) as a keeper of the peace and occasionally as an explorer ("Ned Le Fevre"). "Space Angel" is McCloud's secret code name, but very little use is made of this trope in the series since he and his crew usually interact with the EBI command. Earth's civilians know of a Space Angel, but for some reason, no one connects McCloud's constant presence on *The Starduster,* the Space Angel's craft. McCloud is a classic, lantern-jawed hero. Fearless as a pilot and willing to put himself in danger to avert planetary disaster or to preserve his close-knit crew. He is also portrayed as a believer in interstellar trade and political justice and stability, and he personally initiates in several storylines diplomatic relations (much as Captain Kirk would do later). Meanwhile, his vessel, *The Starduster,* is viewed as a symbol of hope, justice, and stability.

His relationship with his crew is deeply affectionate and protective. In several storylines, he puts himself in peril because he is in command. These emotions are returned by both the elder Taurus (whom he often calls "you old Space Goat") and the beautiful Crystal Mace. In one scene after he's returned from a solo mission, Crystal says "I missed you," to which Taurus corrects her with "*We* missed you" ("Solar Mirror"). McCloud periodically has to step in between them, but it's never serious. It is usually up to McCloud to

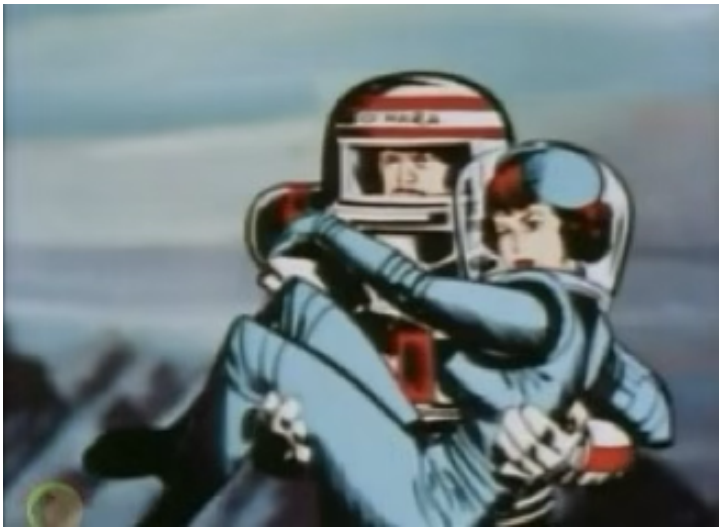
make sense of their adventure and he periodically gives the last word at the conclusion of an adventure.

Taurus, the Scottish Gunner and Engineer who often takes the helm when McCloud is off-ship, is a source of strong technical support, loyalty, and humor. He is voiced by Hal Smith, an especially versatile actor with more than 300 appearances in film and television, his best known being Otis Campbell, the town drunk in *The Andy Griffith Show*. Again, showing the frugality of the production, Smith also provides the vocals for other recurring characters. For example, in the episode "Rescue Mission," he speaks for Professor Mace, the Chief, Captain O'Hara of Neptune Squadron, Pluto 4 Pilot, Jupiter Big Shot Pilot, Survey 2 Pilot, Saturn 45 Pilot, the Earth Control Officer and opening and closing announcer. According to the book*: Space Patrol, Missions of Daring in the Name of Early Television*, "It's rumored that Gene Roddenberry was a huge fan of the show and patterned *Star Trek's* engineer, Mr. Scott, after McCloud's Scottish sidekick" (Bassior 232). As ship's gunner, he's often the hand that deals destruction unless stopped by "his skipper." His fierce loyalty sometimes makes him trigger-happy, especially if Crystal is endangered. But he is also good-hearted with a sense of humor in the narratives, often teasing Crystal about her feminine intuition or her request for him to retrieve her makeup kit in case there are new alien officials to meet. He also has an ongoing playful rivalry with the Irish Captain O'Hara (also voiced by Hal Smith). Typical of Irish-Scottish rivalry, they rib one another constantly, but there is no one else Taurus would seek aid from in a fight.

Taurus's engineering abilities also shine as he commands his own salvaged cargo craft and has constructed a robot named Charlie, introduced in "Project Hero," who later functions as a navigator in "The Great Space Race." His profound affection and admiration for McCloud is that of an older brother. In fact, in "The Encoder," he even threatens to fire upon his friend and ally Lt.

O'Hara because the Chief had given orders for Neptune Squadron to fire upon an invading machine even though McCloud and Crystal were still in the line of fire. These qualities make him a source of dynamic action.

Starduster's navigator, electronics, and communications expert is Crystal Mace. She is voiced by Margaret Kerry, an actress of varied accomplishments. *Wikipedia* notes that she was a "dancer, voice artist, camera double, radio producer, director…host and media personality. [She is] best known for her work as a model for Walt Disney Pictures, where she served as the inspiration and pantomimed the Peter Pan character of Tinker Bell" ("Margaret Kelly"). In *Space Angel*, Kerry also provided the voice for Evil Queen Zora, Johnny Kendell, his mother, Mrs. Kendell, Johnny's friend Snuffles, and the humanoid catlike Venusian Space Council member. (Again, note the economic needs requiring multiple roles again illustrate *Space Angel's* monetary realities.) According to some sources, Crystal was intended to be McCloud's love interest (they do attempt to go on a picnic in one episode ("The Saucer Caper") only to be thwarted as she says "again.") However, like the relationship between Capt. Kirk and Yoeman Rand in *Star Trek*, this dynamic comes up very little in spite of her hourglass figure, short brunette bouffant, full lips, and large eyes (all testifying to Toth's skills which my seven-year-old self missed entirely).

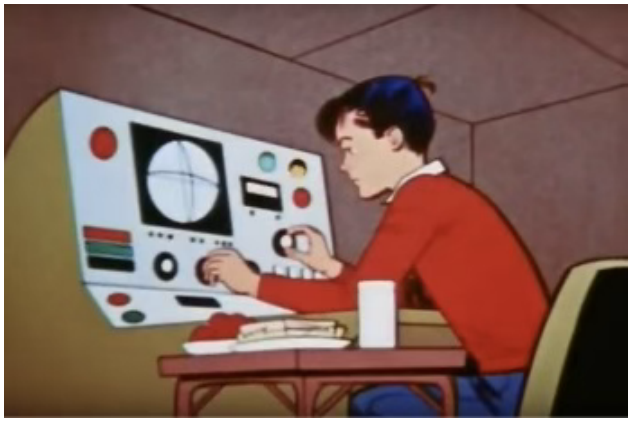


Of the three, Crystal is the most empathetic and has the softest heart, shedding a tear when she thinks a cadet has died in "Flight of the Hotshots." In the ironically titled "Welcome, Neighbor," she is the first to sense the intelligence of the odd-shaped alien, who resembles Gloop from *The Herculoids*, (a series also illustrated by Toth). However, while presenting this gentile nature, she is, notably, no mere window dressing, Her intelligence is revealed throughout the series as she reports external and internal ship scans, gives *The Starduster's* status, and maintains communication with Homebase. Crystal may react sometimes in alarm or in awe, but she is depicted as intelligent quoting for example Genesis 1:9 speaking of the "gathering of waters" in "Once Upon a Rainbow." Her bravery is regularly featured. As mentioned earlier in "Red Alert," she flies *The Dart* to help guide the blinded Taurus and McCloud, whom she refers to as "my boys," to safety and she does so in defiance of The Chief's orders. In the only episode in which she is overtly rescued, she ends up in trouble because she volunteered to be part of a scouting expedition. It's not her gender that gets her in trouble in "The Rescue Mission" but the simple hazards of space exploration, since both her two crewmates are male. And it is O'Hara, not Taurus or McCloud, who must descend in a mechanized space suit to deal with the plus-six gravity in which she and her crewmates are trapped. (He does make a snide comment about her needing to lose weight which she good humorously shrugs off but gets her revenge when he is unable to get out of the rescue craft because his suit's mechanics' batteries have shut down).

There are, of course, a few comments that might make some contemporary viewers squirm. McCloud suggests in "Space Hijackers" that they have to take Crystal along on the mission to find the dangerous solar mirror because "who would be better at finding a mirror than a pretty girl? But probably the worst example appears in "The Wizard of Eden," when Crystal objects to the suspicions Taurus and McCloud have concerning the Chief (who is indeed under an alien influence), and McCloud ends up saying "Crystal, why don't you go powder your nose?" She is furious and marches off. McCloud never apologizes and assumes she's off the crew. Instead, Crystal comes around (after "a good cry" she says) and volunteers to go with them to cover up the covert aspect of their mission. She's bold in the face of danger even if the

situation is bothersome. Still, such slips are rare. Thus, Crystal, long before the women of *Star Trek* presents a future woman who, in her role as an equal and respected crew member, is active, intelligent, and fearless.

Beyond the triad of main characters whose personalities allow for a range of narratives, there are also several important recurring characters. Professor Mace, Crystal's father, commands *Evening Star* and thus often functions as *The Starduster*'s mission control. He's also the source of the science found within the show, both in explaining the phenomenon of space missions as well as the inventor of the Ion Drive. Unsurprisingly, he fulfills a fatherly role, not only to his daughter but to the whole *Starduster c*rew referring to them all as "kids" as he worries. Meanwhile, all main missions are directed by "The Chief" gruff, abrupt, and cranky but with a warm center as McCloud notes in "Welcome Neighbor." He often has to make difficult choices when putting his people in danger. The Chief is stationed planet-side commanding the EBI and The Space Force. He is also the one who must answer to the civilian authorities when things get difficult. Both are voiced by Hal Smith.



There are other recurring characters: Crater Eddie, (Hal Smith) is the happy hermit who alone cobbles together a habitat on Earth's moon salvaged from old spacecraft parts. Since he is the Moon's lone inhabitant he claims the satellite as his own. Meanwhile, Johnny Kendall, also voiced by Margaret Kerry, is a boy genius. He almost qualifies as a sidekick but only appears in three episodes in which he tracks down his lost space-explorer father, invents

a flying saucer with an antigravity system (which he uses to win a soapbox derby), and when he tracks down a long-lost chimpanzee assumed dead in space. His storylines are usually lighthearted.

The antagonists who help as sources of conflict are often portrayed as brutal in strength as well as often petty, and self-serving, turning on one another when plans "go awry. The aforementioned Anthenians who appear in multiple storylines, while ruthless in their desire to expand and conquer, also have a Roman sense of honor and will follow treaties when forced (Similar to *Star Trek's* Romulans). One episode includes an arena in which contestants fight with armed mechs (very early depiction of fighting machines) to the death. But when Taurus and McCloud survive, McCloud and his crew are allowed to leave safely. Dangerous as they are, the Anthenians' code of honor allows McCloud to negotiate truces. Meanwhile, the Space Queen Zorra (also voiced by Margaret Kerry) has no such qualms and will betray any agreement. She and her subordinates are ruthless both to their victims and well as one another. (Major, obey me or die!" says the queen when her masked sub-commander balks at allowing the Space Angel to regain consciousness. Queen Zorra, pictured here with her compatriot "The General," both speak with Eastern European accents. *The Encyclopedia of SF* suggests they may be a cultural echo of the Cold War, although she bears a striking resemblance to the Egyptian Queen Nefertiti. They return periodically to threaten the solar system's peace, once with a spacecraft that was able to render itself invisible, long before those depicted in *Star Trek*.

There is one final aspect of the characters in *Space Ghost* which makes them and the show stand out. They are surprisingly inclusive for a series that aired at the start of the sixties. Crystal Mace's active incorporation within the crew as a woman, her intelligence, and her bravery have already been covered. Some may say as a female character she fails the "Bechdel Test," first suggested by Alison Bechdel in 1985 ("Women in SF"). According to *The*

Encyclopedia of Science Fiction a work of fiction only "passes when said, "film or other fictional work… contains at least two women, who talk to each other about something besides a man" ("Women in SF"). Crystal is noticeably alone in the world of *Space Angel*. No other female astronauts or pilots are depicted. Of course, there are no other Scotsmen besides Taurus either.) Mrs. Kendall meanwhile is a typical 1960s housewife troubled by her precocious son. The recurring Queen Zorra, and to a lesser case Queen Fria from "The Frozen Planet," match what the *Encyclopedia of SF* calls the "Amazon Queen" archetype ("Women in SF"). However, neither woman finds McCloud at all tempting as in contrast to Princess Aura from the *Flash Gordo*n franchise or Princess Ardala from the 1979-1981 television series *Buck Rogers*. One fun moment in "Space Hijackers" occurs when Crystal is confronted by the Queen who refers to her as a "mere schoolgirl." Crystal is not impressed. Furthermore, Crystal is periodically defended by both McCloud and Taurus. Some may not like this, but protecting a woman is a fundamental heroic male stance. It's just not popular in our current culture, in which women are depicted regularly defeating men in sword fights. This will pass. Reality always eventually wins. Still, as noted earlier, Crystal is not always mooning about McCloud and is capable as a crew member. Also when comparing her character with those found in other space operas like Smith's Lensmen series, she is far and away more developed and not domesticated. Even Dr. Venus from *Fireball XL5* sometimes made coffee for the crew.

Another inclusive aspect is in fact that an overweight character is included. If the tight space suits worn by McCloud and Crystal show to good effect their excellent physiques, poor Taurus is shown to be on the hefty side. Although immensely strong, his weight is often the subject of jokes by both Crystal and McCloud. And yet there is no question of his importance to the crew. If this seems like a minor aspect of inclusiveness, consider how many overweight characters are given hero status in contemporary fiction, especially science fiction.

Finally, McCloud himself, although sporting a physique that would match that of any superhero, is, in fact, physically handicapped. He has only one eye and sports an eyepatch. Modern online critics have laughed at the inclusion of a pilot with one eye, but in the 1960s perhaps because of the many still living vets who had fought on with the loss of an eye the depiction of such a character would have carried a sense of toughness and experience. Nick Fury of the comic book Mavel fame has always sported an eyepatch even back when he was a sergeant fighting in Word War II. Furthermore, there were several flying aces including Edward Mannock, a World War I flying ace, known as the "RFC's one-eyed ace." For this reader these inclusive aspects, especially carrying extra girth and suffering from blindness in one eye, were profoundly encouraging.

Thus *Space Angel* deserves more respect than it is currently receiving by various critics. Yes, its production was marred by an attempt to save money with “Synchro-Vox” animation, but the show was visually stunning thanks to Toth’s draftsmanship, and its SF presentation and character development introduced its viewers to a whole range of science possibilities while presenting narratives backed up by musical themes and a wide range of characters who were both interesting, funny and inspiring.

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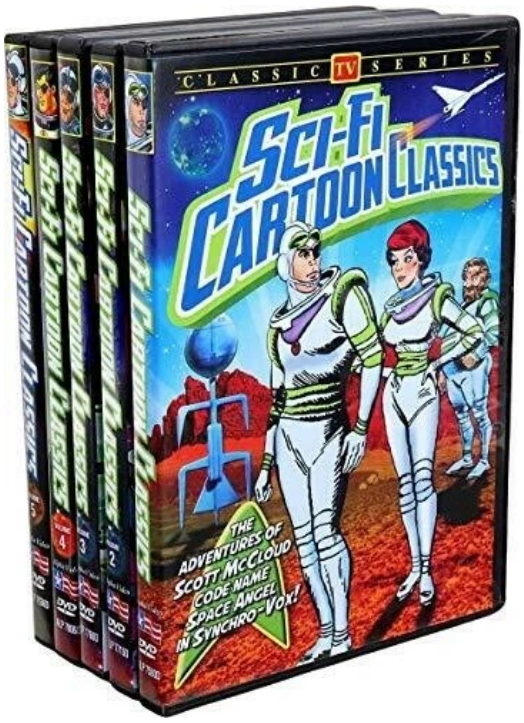
Note: Larry Robinson correctly reminds me that Gerry Anderson's *Supercar* came out in 1961 a year before *Space Angel*. However, unlike other shows described in the opening, *Supercar* does not depict a space-fairing universe. The Supercar is a device depicted in the contemporary world much like the Mach 5 from *Speed Racer*.



EDITOR'S NOTE: Reading this article may have sparked your interest (as it did mine) in watching some of the cartoon episodes. I did a little research into it. In addition to finding a few episodes of Space Angel on YouTube and Internet Archive, I also ran across multiple listings offering what appear to offer a complete boxed set of the entire series over on ebay. You might want to inquire of the seller first to confirm whether it's all the seasons or a single season.

SENTINEL OF ETERNITY

Arthur C. Clarke

Originally penned in 1948, Arthur C. Clarke's "The Sentinel" was a losing entry in a writing competition. Later published as "Sentinel of Eternity" in the Spring 1951 edition of the British "10 Story Fantasy" magazine, the following considered the seed from which Clark's most famous book and movie, "2001 - A Space Odyssey" sprang.

Before there were men on Earth, that signal-sending pyramid had stood alone on a lifeless moon. What would happen now that its alarm was silenced?

The next time you see the full moon high in the south, look carefully at its right-hand edge and let your eye travel upward along the curve of the disk. Round about two o'clock you will notice a small, dark oval: anyone with normal eyesight can find it quite easily. It is the great walled plain, one of the finest on the Moon, known as the Mare Crisium—the Sea of Crises. Three hundred miles in diameter, and almost completely surrounded by a ring of magnificent mountains, it had never been explored until we entered it in the late summer of 1996.

Our expedition was a large one. We had two heavy freighters which had flown our supplies and equipment from the main lunar base in the Mare Serenitatis, five hundred miles away. There were also three small rockets which were intended for short-range transport over regions which our surface vehicles couldn't cross. Luckily, most of the Mare Crisium is very flat. There are none of the great crevasses so common and so dangerous elsewhere, and very few craters or mountains of any size. As far as we could tell, our powerful caterpillar tractors would have no difficulty in taking us wherever we wished to go.

I was geologist—or selenologist, if you want to be pedantic, in charge of the group exploring the southern region of the Mare. We had crossed a hundred miles of it in a week, skirting the foothills of the mountains along the shore of what was once the ancient sea, some thousand million years before. When life was beginning on Earth, it was already dying here. The waters were retreating down the flanks of those stupendous cliffs, retreating into the empty heart of the Moon. Over the land which we were crossing, the tideless ocean had once been half a mile deep, and now the only trace of moisture was the hoarfrost one could sometimes find in caves which the searing sunlight never penetrated.

We had begun our journey early in the slow lunar dawn, and still had almost a week of Earth-time before nightfall. Half a dozen times a day we would leave our vehicle and go outside in the spacesuits to hunt for interesting minerals, or to place markers for the guidance of future travelers.

It was an uneventful routine. There is nothing hazardous or even particularly exciting about lunar exploration. We could live comfortably for a month in our pressurized tractors, and if we ran into trouble we could always radio for help and sit tight until one of the spaceships came to our rescue.

I said just now that there was nothing exciting about lunar exploration, but of course that isn't true. One could never grow tired of those incredible mountains, so much more rugged than the gentle hills of Earth. We never knew, as we rounded the capes and promontories of that vanished sea, what new splendors would be revealed to us. The whole southern curve of the Mare Crisium is a vast delta where a score of rivers once found their way into the ocean, fed perhaps by the torrential rains that must have lashed the mountains in the brief volcanic age when the Moon was young.

Each of these ancient valleys was an invitation, challenging us to climb into the unknown uplands beyond. But we had a hundred miles still to cover, and could only look longingly at the heights which others must scale.

We kept Earth-time aboard the tractor, and precisely at 22.00 hours the final radio message would be sent out to Base and we would close down for the day. Outside, the rocks would still be burning beneath the almost vertical sun, but to us it was night until we awoke again eight hours later. Then one of us would prepare breakfast, there would be a great buzzing of electric razors, and someone would switch on the short-wave radio from Earth. Indeed, when the smell of frying sausages began to fill the cabin, it was sometimes hard to believe that we were not back on our own world—everything was so normal and homely, apart from the feeling of decreased weight and the unnatural slowness with which objects fell.

It was my turn to prepare breakfast in the corner of the main cabin that served as a galley. I can remember that moment quite vividly after all these years, for the radio had just played one of my favorite melodies, the old Welsh air, "David of the White, Rock."

Our driver was already outside in his space-suit, inspecting our caterpillar treads. My assistant, Louis Garnett, was up forward in the control position, making some belated entries in yesterday's log.

As I stood by the frying pan waiting, like any terrestrial housewife, for the sausages to brown, I let my gaze wander idly over the mountain walls which covered the whole of the southern horizon, marching out of sight to east and west below the curve of the Moon. They seemed only a mile or two from the tractor, but I knew that the nearest was twenty miles away. On the Moon, of course, there is no loss of detail with distance—none of that almost imperceptible haziness which softens and sometimes transfigures all far-off things on Earth.

Those mountains were ten thousand feet high, and they climbed steeply out of the plain as if ages ago some subterranean eruption had smashed them skyward through the molten crust. The base of even the nearest was hidden from sight by the steeply curving surface of the plain, for the Moon is a very little world, and from where I was standing the horizon was only two miles away.

I lifted my eyes toward the peaks which no man had ever climbed, the peaks which, before the coming of terrestrial life, had watched the retreating oceans sink sullenly into their graves, taking with them the hope and the morning promise of a world. The sunlight was beating against those ramparts with a glare that hurt the eyes, yet only a little way above them the stars were shining steadily in a sky blacker than a winter midnight on Earth.

I was turning away when my eye caught a metallic glitter high on the ridge of a great promontory thrusting out into the sea thirty miles to the west. It was a dimensionless point of light, as if a star had been clawed from the sky by one of those cruel peaks, and I imagined that some smooth rock surface was catching the sunlight and heliographing it straight into my eyes. Such things were not uncommon. When the Moon is in her second quarter, observers on Earth can sometimes see the great ranges in the Oceanus Procellarum burning with a blue-white iridescence as the sunlight flashes from their slopes and leaps again from world to world. But I was

curious to know what kind of rock could be shining so brightly up there, and I climbed into the observation turret and swung our four inch telescope round to the west.

I could see just enough to tantalize me. Clear and sharp in the field of vision, the mountain peaks seemed only half a mile away, but whatever was catching the sunlight was still too small to be resolved. Yet it seemed to have an elusive symmetry, and the summit upon which it rested was curiously flat. I stared for a long time at that glittering enigma, straining my eyes into space, until presently a smell of burning from the galley told me that our breakfast sausages had made their quarter-million mile journey in vain. .

All that morning we argued our way across the Mare Crisium while the western mountains reared higher in the sky. Even when we were out prospecting in the space-suits, the discussion would continue over the radio. It was absolutely certain, my companions argued, that there had never been any form of intelligent life on the Moon. The only living things that had ever existed there were a few primitive plants and their slightly less degenerate ancestors. I knew that as well as anyone, but there are times when a scientist must not be afraid to make a fool of himself.

"Listen," I said at last, "I'm going up there, if only for my own peace of mind. That mountain's less than twelve thousand feet high—that's only two thousand under Earth gravity—and I can make the trip in twenty hours at the outside. I've always wanted to go up into those hills, anyway, and this gives me an excellent excuse."

"If you don't break your neck," said Garnett, "you'll be the laughing-stock of the expedition when we get back to Base. That mountain will probably be called Wilson's Folly from now on."

"I won't break my neck," I said firmly. "Who was the first man to climb

Pico and Helicon?"

"But weren't you rather younger in those days?" asked Louis gently.

"That," I said with great dignity, "is as good a reason as any for going."

We went to bed early that night, after driving the tractor to within half a mile of the promontory. Garnett was coming with me in the morning; he was a good climber, and had often been with me on such exploits before. Our driver was only too glad to be left in charge of the machine.

At first sight, those cliffs seemed completely unscalable, but to anyone with a good head for heights, climbing is easy on a world where all weights are only a sixth of their normal value. The real danger in lunar mountaineering lies in overconfidence; a six-hundred-foot drop on the Moon can kill you just as thoroughly as a hundred-foot fall on Earth.

We made our first halt on a wide ledge about four thousand feet above the plain. Climbing had not been very difficult, but my limbs were stiff with the unaccustomed effort, and I was glad of the rest. We could still see the tractor as a tiny metal insect far down at the foot of the cliff, and we reported our progress to the driver before starting on the next ascent.

Inside our suits it was comfortably cool, for the refrigeration units were fighting the fierce sun and carrying away the body-heat of our exertions. We seldom spoke to each other, except to pass climbing instructions and to discuss our best plan of ascent. I do not know what Garnett was thinking, probably that this was the craziest goose-chase he had ever embarked upon. I more than half agreed with him, but the joy of climbing, the knowledge that no man had ever gone this way before and the exhilaration of the steadily widening landscape gave me all the reward I needed.

I don't think I was particularly excited when I saw in front of us the wall of rock I had first inspected through the telescope from thirty miles away. It would level off about fifty feet above our heads, and there on the plateau would be the thing that had lured me over these barren wastes. It was, almost certainly, nothing more than a boulder splintered ages ago by a falling meteor, and with its cleavage planes still fresh and bright in this incorruptible, unchanging silence.

There were no hand-holds on the rock face, and we had to use a grapnel. My tired arms seemed to gain new strength as I swung the three-pronged metal anchor round my head and sent it sailing up toward the stars. The first time it broke loose and came falling slowly back when we pulled the rope. On the third attempt, the prongs gripped firmly and our combined weights could not shift it.

Garnett looked at me anxiously. I could tell that he wanted to go first, but I smiled back at him through the glass of my helmet and shook my head. Slowly, taking my time, I began the final ascent.

Even with my space-suit, I weighed only forty pounds here, so I pulled myself up hand over hand without bothering to use my feet. At the rim I paused and waved to my companion, then I scrambled over the edge and stood upright, staring ahead of me.

You must understand that until this very moment I had been almost completely convinced that there could be nothing strange or unusual for me to find here. Almost, but not quite; it was that haunting doubt that had driven me forward. Well, it was a doubt no longer, but the haunting had scarcely begun.

I was standing on a plateau perhaps a hundred feet across. It had once been smooth—too smooth to be natural—but falling meteors had pitted and scored its surface through immeasurable eons. It had been leveled to

support a glittering, roughly pyramidal structure, twice as high as a man, that was set in the rock like a gigantic, many-faceted jewel.

Probably no emotion at all filled my mind in those first few seconds. Then I felt a great lifting of my heart, and a strange, inexpressible joy. For I loved the Moon, and now I knew that the creeping moss of Aristarchus and Eratosthenes was not the only life she had brought forth in her youth. The old, discredited dream of the first explorers was true. There had, after all, been a lunar civilization—and I was the first to find it. That I had come perhaps a hundred million years too late did not distress me; it was enough to have come at all.

My mind was beginning to function normally, to analyze and to ask questions. Was this a building, a shrine—or something for which my language had no name? If a building, then why was it erected in so uniquely inaccessible a spot? I wondered if it might be a temple, and I could picture the adepts of some strange priesthood calling on their gods to preserve them as the life of the Moon ebbed with the dying oceans, and calling on their gods in vain.

I took a dozen steps forward to examine the thing more closely, but some sense of caution kept me from going too near. I knew a little of archaeology, and tried to guess the cultural level of the civilization that must have smoothed this mountain and raised the glittering mirror surfaces that still dazzled my eyes.

The Egyptians could have done it, I thought, if their workmen had possessed whatever strange materials these far more ancient architects had used. Because of the thing's smallness, it did not occur to me that I might be looking at the handiwork of a race more advanced than my own. The idea that the Moon had possessed intelligence at all was still almost too tremendous to grasp, and my pride would not let me take the final, humiliating plunge.

And then I noticed something that set the scalp crawling at the back of my neck—something so trivial and so innocent that many would never have noticed it at all. I have said that the plateau was scarred by meteors; it was also coated inches-deep with the cosmic dust that is always filtering down upon the surface of any world where there are no winds to disturb it. Yet the dust and the meteor scratches ended quite abruptly in a wide circle enclosing the little pyramid, as though an invisible wall was protecting it from the ravages of time and the slow but ceaseless bombardment from space.

There was someone shouting in my earphones, and I realized that Garnett had been calling me for some time. I walked unsteadily to the edge of the cliff and signaled him to join me, not trusting myself to speak. Then I went back toward that circle in the dust. I picked up a fragment of splintered rock and tossed it gently toward the shining enigma. If the pebble had vanished at that invisible barrier I should not have been surprised, but it seemed to hit a smooth, hemispherical surface and slide gently to the ground.

I knew then that I was looking at nothing that could be matched in the antiquity of my own race.

This was not a building, but a machine, protecting itself with forces that had challenged Eternity. Those forces, whatever they might be, were still operating, and perhaps I had already come too close. I thought of all the radiations man had trapped and tamed in the past century. For all I knew,

I might be as irrevocably doomed as if I had stepped into the deadly, silent aura of an unshielded atomic pile.

I remember turning then toward Garnett, who bad joined me and was now standing motionless at my side. He seemed quite oblivious to me, so I did not disturb him but walked to the edge of the cliff in an effort to marshal

my thoughts. There below me lay the Mare Crisium—Sea of Crises, indeed—strange and weird to most men, but reassuringly familiar to me. I lifted my eyes toward the crescent Earth, lying in her cradle of stars, and I wondered what her clouds had covered when these unknown builders had finished their work. Was it the steaming jungle of the Carboniferous, the bleak shoreline over which the first amphibians must crawl to conquer the land—or, earlier still, the long loneliness before the coming of life?

Do not ask me why I did not guess the truth sooner—the truth, that seems so obvious now. In the first excitement of my discovery, I had assumed without question that this crystalline apparition had been built by some race belonging to the Moon's remote past, but suddenly, and with overwhelming force, the belief came to me that it was as alien to the Moon as I myself.

In twenty years we had found no trace of life but a few degenerate plants. No lunar civilization, whatever its doom, could have left but a single token of its existence.

I looked at the shining pyramid again, and the more remote it seemed from anything that had to do with the Moon. And suddenly I felt myself shaking with a foolish, hysterical laughter, brought on by excitement and overexertion: for I had imagined that the little pyramid was speaking to me and was saying: "Sorry, I'm a stranger here myself."

It has taken us twenty years to crack that invisible shield and to reach the machine inside those crystal walls. What we could not understand, we broke at last with the savage might of atomic power and now I have seen the fragments of the lovely, glittering thing I found up there on the mountain.

They are meaningless. The mechanisms—if indeed they are mechanisms—of the pyramid belong to a technology that lies far beyond our horizon,

perhaps to the technology of paraphysical forces.

The mystery haunts us all the more now that the other planets have been reached and we know that only Earth has ever been the home of intelligent life in our Universe. Nor could any lost civilization of our own world have built that machine, for the thickness of the meteoric dust on the plateau has enabled us to measure its age. It was set there upon its mountain before life had emerged from the seas of Earth.

When our world was half its present age, something from the stars swept through the Solar System, left this token of its passage, and went again upon its way. Until we destroyed it, that machine was still fulfilling the purpose of its builders; and as to that purpose, here is my guess.

Nearly a hundred thousand million stars are turning in the circle of the Milky Way, and long ago other races on the worlds of other suns must have scaled and passed the heights that we have reached. Think of such civilizations, far back in time against the fading afterglow of Creation, masters of a universe so young that life as yet had come only to a handful of worlds. Theirs would have been a loneliness we cannot imagine, the loneliness of gods looking out across infinity and finding none to share their thoughts.

They must have searched the star clusters as we have searched the planets. Everywhere there would be worlds, but they would be empty or peopled with crawling, mindless things. Such was our own Earth, the smoke of the great volcanoes still staining the skies, when that first ship of the peoples of the dawn came sliding in from the abyss beyond Pluto. It passed the frozen outer worlds, knowing that life could play no part in their destinies. It came to rest among the inner planets, warming themselves around the fire of the Sun and waiting for their stories to begin.

Those wanderers must have looked on Earth, circling safely in the narrow

zone between fire and ice, and must have guessed that it was the favorite of the Sun's children. Here, in the distant future, would be intelligence; but there were countless stars before them still, and they might never come this way again.

So they left a sentinel, one of millions they have scattered throughout the Universe, watching over all worlds with the promise of life. It was a beacon that down the ages has been patiently signaling the fact that no one had discovered it.

Perhaps you understand now why that crystal pyramid was set upon the Moon instead of on the Earth. Its builders were not concerned with races still struggling up from savagery. They would be interested in our civilization only if we proved our fitness to survive—by crossing space and so escaping from the Earth, our cradle. That is the challenge that all intelligent races must meet, sooner or later. It is a double challenge, for it depends in turn upon the conquest of atomic energy and the last choice between life and death.

Once we had passed that crisis, it was only a matter of time before we found the pyramid and forced it open. Now its signals have ceased, and those whose duty it is will be turning their minds upon Earth. Perhaps they wish to help our infant civilization. But they must be very, very old, and the old are often insanely jealous of the young.

I can never look now at the Milky Way without wondering from which of those banked clouds of stars the emissaries are coming. If you will pardon so commonplace a simile, we have set off the fire-alarm and have nothing to do but to wait.

I do not think we will have to wait for long.

THE END

ABOUT THE AUTHOR: Arthur C. Clarke (1917-2008) was an influential British science fiction writer, futurist, and inventor. He is best known for his novel "2001: A Space Odyssey" and its film adaptation directed by Stanley Kubrick. Clarke also invented the concept of geostationary satellites for communication and was a passionate advocate for space exploration.

Born in Minehead, Somerset, England, Clarke served in the Royal Air Force during World War II. Following the war, he pursued writing and became a prolific science fiction author, publishing over 100 books and numerous short stories throughout his career.

Clarke's work often explored themes of human evolution, extraterrestrial life, and the impact of technology on society. He received numerous awards for his contributions to science fiction and science, including a knighthood in 1998. Clarke's visionary ideas continue to influence popular culture and scientific advancements today.

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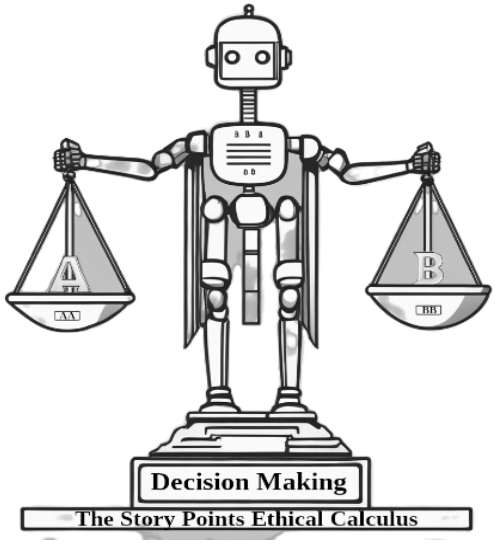
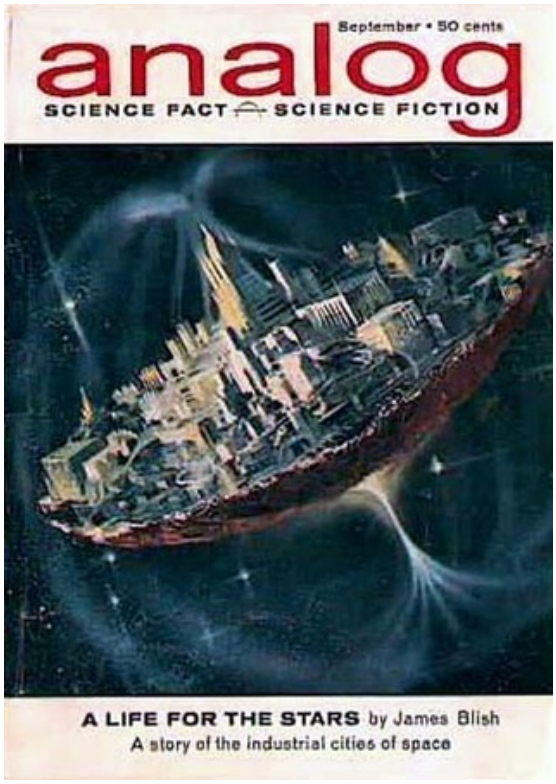


BEYOND PANDORA

Robert J. Martin

(Originally Published in Analog Magazine in September, 1962)



The ideal way to deal with a pest--any menace--is,
of course, to make it useful to you....

The doctor's pen paused over the chart on his desk, "This is your third set of teeth, I believe?"

His patient nodded, "That's right, Doctor. But they were pretty slow coming in this time."

The doctor looked up quizzically, "Is that the only reason you think you might need a booster shot?"

"Oh, no ... of course not!" The man leaned forward and placed one hand, palm up, on the desk. "Last year I had an accident ... stupid ... lost a thumb." He shrugged apologetically, "It took almost six months to grow back."

Thoughtfully, the doctor leaned back in his chair, "Hm-m-m ... I see." As the man before him made an involuntary movement toward his pocket, the doctor smiled, "Go on, smoke if you want to." Picking up the chart, he murmured, "Six months ... much too long. Strange we didn't catch that at the time." He read silently for a few moments, then began to fill out a form clipped to the folder.

"Is there any danger?" asked the patient.

Amusement flickered across the doctor's face, turned smoothly into a reassuring half-smile. "Oh, no. There's absolutely no danger involved. None at all. We have tissue-regeneration pretty well under control now. Still, I'm sure you understand that accurate records and data are very necessary to further research and progress."

Reassured, the patient thawed and became confidential, "I see. Well, I suppose it's kinda silly, but I don't much like shots. It's not that they hurt ... it's just that I guess I'm old-fashioned. I still feel kinda 'creepy' about the whole business." Slightly embarrassed, he paused and asked defensively, "Is that unusual?"

The doctor smiled openly now, "Not at all, not at all. Things have moved pretty fast in the past few years. I suppose it takes people's emotional reactions a while to catch up with developments that, logically, we accept as matter of fact."

He pushed his chair back from the desk, "Maybe it's not too hard to understand. Take 'fire' for example: Man lived in fear of fire for a good many hundred-thousand years--and rightly so, because he hadn't learned to control it. The principle's the same; First you learn to protect yourself from a thing; then control it; and, eventually, we learn to 'harness' it for a useful purpose." He gestured toward the man's cigarette, "Even so, man still instinctively fears fire--even while he uses it. In the case of tissue-regeneration, where the change took place so rapidly, in just a generation or so, that instinctive fear is even more understandable--although quite as unjustified, I assure you."

The doctor stood up, indicating that the session was ending. While his patient scrambled to his feet, hastily putting out his cigarette, the physician came around the desk. He put his hand on the man's shoulder, "Relax, take it easy--nothing to worry about. This is a wonderful age we live in. Barring a really major accident, there's no reason why you shouldn't live at least another seventy-five years. After all, that's a very remarkable viral-complex we have doing your 'repair' work."

As they walked to the door, the man shook his head, "Guess you're right, Doc. It's certainly done a good job so far, and I guess you specialists know what you're doing, even if folks don't understand it."

At the door he paused and half turned to the doctor, "But say ... something I meant to ask you. This 'stuff' ... er, this vaccine ... where did it come from? Seems to me I heard somewhere that, way back before you fellows got it 'tamed' it was something else--dangerous. There was another name for it. Do you know what I mean?"

The doctor's hand tightened on the doorknob. "Yes, I know," he said grimly, "but not many laymen remember. Just keep in mind what I told you. With any of these things, the pattern is protection, then control, then useful application." He turned to face his patient, "Back in the days before we put it to work for us--rebuilding tissue, almost ending aging and disease--the active basis for our vaccine caused a whole group of diseases, in itself."

Returning the man's searching gaze, the doctor opened the door, "We've come a long way since then. You see," he said quietly, "in those days they called it 'cancer'."

THE END

ABOUT THE AUTHOR: We have been unable to find biographical material on anyone with the name, Robert J. Martin. Presumably it was a convenient pen name for a writer who used more than one. If any of our readers know more about this author of this story, let us know!

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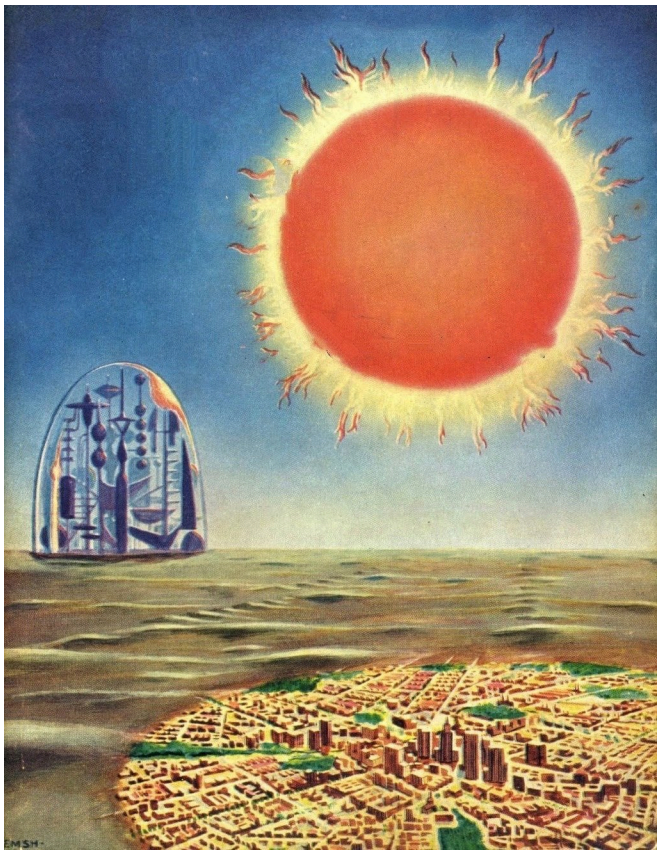
CITY AT WORLD'S END (PART TWO OF TWO)

1951 - Edmond Hamilton

In this issue, we bring you part two of the highly acclaimed book, "City at Word's End" by Edmund Hamilton. Before reading the section below, we encourage you to read the Part One in Issue 03 of "The Interocitor."



Hubble, who had picked up a smattering of the language, began to laugh. Kenniston translated for the Mayor, who immediately proclaimed a medical emergency and hastened to produce bottles from the hoard. It was a cheerful celebration, and Kenniston found himself actively missing Bal and Ban and the grey Lal'lor, who had returned to the ship with part of the crew a day or so before.

An unhappy thought occurred to him, and he said, "I suppose you people will be going away pretty soon, now that the work's done."

Magro shrugged his supple shoulders. "That will depend on a number of things." He glanced lazily at Gorr Holl.

Gorr HoU was a little drunk by now— not much, but loud and cheerful. The Mayor was feeling good too, and was affectionately patting the Capellan's great furry shoulder.

"Listen, we haven't done much," said Gorr Holl. "But the lights and all make you more comfortable here, while you're waiting."

Kenniston stared at him. "What do you mean— while we're waiting?"

"Why, while you're waiting to be evacuated, of course," said Gorr.

There was a little silence. Kenniston felt a queer tension seize him, and he knew suddenly that this was something he'd been un- consciously expecting, something that he'd felt wasn't quite right, all along.

He said carefully, "Gorr, we don't understand this. What is this talk of evacuation?"

The big Cappellan stared at him, with surprise in his large dark eyes and bearlike face. But, of a sudden, Kenniston felt that that surprise was completely assumed, that in this offhand, casual way Gorr Holl was springing something on them and watching for their reaction.

"Didn't Piers tell you?" said Gorr Holl. "No, I suppose he'd have instructions not to. They'd figure you people were emotional primitives like Magro and me, and that the less time you have to think about it, the better."

Kenniston said tightly again, "What do you mean by evacuation?"
The Capellan looked at him levelly now. "I simply mean that, by order of the Governors, all you people are to be evacuated from Earth to some younger star-world."

Chapter Twelve— Crisis

The three men of Earth stared at the big Capellan, and for a long, long moment no one spoke. Gorr Holl looked around their faces, and then said ruefully, "I guess I've talked too much." His ruefulness was no more convincing that his earlier surprise. Mayor Garris glared at Magro and at Gorr Holl.

"They knew this all along, that woman and the others," he said. "They came in here, pretending to be our friends, and all the time behind our backs . . ." He stopped.

Hubble said to Kenniston, "Ask him if this is a thing they do, these Governors? I mean, this moving of whole populations from one world to another?"

Gorr Holl nodded to that. "Oh, yes. Whenever life on some planet becomes economically unsound, or the margin of survival is too small, the Governors evacuate the people to a better world. There are lots of them, good warm fertile planets that are uninhabited or nearly so. They did it to some of my own people, moved them from Capella Five to Aldebaran."

"And to mine," said Magro. "That was long ago. Our Old Men said the same words that I think your Mayor was just saying. But they were

moved."

Kenniston cried out of his anger, "And people let that be done to them? They didn't even resist it?"

Gorr Holl said, "People— human people, I mean— have got mil- lions of years of civilization behind them. They're used to peaceful government, used to obedience, and they've been moving from world to world ever since they left Earth ages ago, so that one planet doesn't mean much more than another to them. But the primitive humanoid folk, lately civilized, like my own and Magro's, aren't so reasonable. There's been a good bit of resentment among them about this evacuation business. In fact, they hate it— just as much as you do."

"Here!" said Hubble sharply. "Where are you going?" He was talking to the Mayor, who was striding suddenly toward the door.

"I'm going to tell them," he said jerking his head toward the sounds of revelry that came from the crowd of Middletowners in the plaza. "Move off the Earth? They'll have something to say about that."

"What do you want to do?" snapped Hubble. "Start a riot? Don't be a fool, that's no way to handle this. No, it's that icewater blonde we've got to talk to, and that fellow Lund. Going off half-cocked will only make it harder for everyone."

Garris looked from Hubble to Kenniston and back again. "All right," he said, "we'll talk to them. But they'd better get it through their heads that they're not dealing with any flock of tame sheep." He stamped back into

the room. "Ordering us oft our own world . . ı"

"Oh, shut up," said Kenniston impatiently. "Gorr and Magro don't make the laws. They're simply being decent enough to give us fair warning of something we wouldn't have known about until it was too late." He knew there was more in it than that, but he was too hurried and upset to search for deeper motives now. He turned to Gorr and the Spican.

"Listen," he said. "You've seen how the Mayor reacted. Well, I can assure you that all our people will react just that way, only more so. Tell that to Yarn Allan, and tell her that she'd better come here and talk about this evacuation before she gets in too deep. Tell her we don't like having things done behind our backs. And Gorr— you and Magro and the others better 'stay out of the city. VV_hen this thing breaks, I wouldn't guarantee anybody's safety."

"Oh," said Gorr Holl, and grinned very widely so that even his grinders glistened, "we'll be quite safe, confined to quarters in the ship. We, or rather I, have done an evil thing. We have spoken out of turn, and upset the Policy."

The three of them, humanoids and human, looked at each other, and there was understanding between them. Kenniston put his hand on Gorr Holl's furry shoulder, and gripped the iron muscles of it, and Magro spoke.

"One more thing, Kenniston. If there's trouble— and I seem to smell trouble very strongly in the air— watch out for Lund. Yarn Allan may be much too sure of herself, but she's honest. Lund- well, he wants Yarn's job, and he will cheerfully cut anyone's throat to get it."

"That is so," said Gorr Holl. "Remember, Kenniston."

"I'll remember. And— thanks."

They went away, to take the message of defiance to the ship. Kenniston watched them go, and the Mayor watched them, and they listened to the cheering that followed them all the way to the portal.

To Kenniston, the cheering and the happiness of the Middletowners out there was an ironically bitter thing, now. If they knew what was being planned for them . . .

He said to Hubble, nodding his head toward the Mayor, "Will you stick with him and keep him from telling everyone? He'll listen to you more than to anyone."

Hubble said, "I will. You get some sleep, Ken. You've been work- ing a tough grind— and the Allan woman and Lund won't likely come before morning."

And Kenniston slept, but neither much nor w'ell. In spite of his exhaustion, Gorr Holl's words rang like passing bells in his mind all the rest of that night— evacuate, evacuate— to the world of an- other star—.

It did not take much imagination to divine what the Mayor's narrowness had missed— a vast and powerful machinery of govern- ment directing this future universe. It did not seem likely that a handful of people on a

dying planet could successfully defy that government for very long.

Hubble woke him at last out of an uneasy slumber, to tell him that Yarn Allan and Lund had come, and that the Mayor had called the City Council.

Inside City Hall, the Council of Middletown sat around a massive metal table. The Mayor, Borchard the coal-dealer, Moretti the wholesale produce merchant, half a dozen more, facing at one end of the table the woman and the man who came from Yega and who w'ere Administrators over a vast sector of space with all its worlds and peoples.

Mayor Garris fastened on Kenniston the moment he came in. "You ask her, Kenniston," he said. "You ask her if this evacuation story is true."

He asked her.

Yarn Allan nodded. "Quite true. I'm sorry that Gorr Holl spoke so prematurely— it seems to have upset your people." She glanced at the ominous faces of the City Council and the tense countenance of the Mayor. "I am sure, she said, "that when they understand, they will realize that we are only serving their best interests." "Best interests?" cried Garris, when he had heard that. "Then why didn't you, tell us at first? Why plan this behind our backs?" Norden Lund, a smug look on his face, said to the woman, "I told you it would have been better—"

"We'll discuss that later," she flashed. Kenniston could see the effort she made to keep her imperious temper in check as she went on, speaking directly to him, "We wanted to wait until we could present a complete

plan of evacuation, so as not to upset your people too much. An evacuation staff will arrive soon."

"That," said Kenniston ironically, "is very decent of you." The woman's blue eyes flashed open hostility at him. He turned away from her, for Garris was demanding a translation. He gave it, and in his own resentment he did not soften it.

Garris forgot oratory, in his indignation. He sputtered, "If they think we are going to move away from Earth to some crazy world out in the sky, they're badly mistaken! You make that clear to them!" Yarn Allan looked honestly bewildered, W'hen Kenniston did. "But surely you people don't want to stay in the cold and hardship of this dying world?"

"Not want to stay here?" said Garris, forcing the words out pain- fully from a throat constricted with emotion. "Not want to? Listen, you people We have left our own time. We have had to leave our own city, our homes. That's enough. It's all we can stand in one lifetime. Leave Earth, leave our own world? No!'

He was like a man who has been asked to die.

Kenniston spoke to Yarn Allan. His own voice was not quite steady. "Try to understand. We are Earth born. Our whole life, all the generations before us, since the beginning ..."

He could not put it into words, this sudden passionate oneness with Earth.

The sorrel-haired Norden Lund was speaking to Vam Allan, looked contemptuously at the Middletowners as he spoke. "I warn- ed you Yarn, that these primitives are too emotional for ordinary methods."

The woman, her blue eyes troubled, ignored Lund and addressed Kenniston. "You must make them recognize the facts. Life here is impossible, and therefore they must go."

"Let her tell that to the people," said the Mayor, in an oddly tight voice. "No. I'll tell them myself."

He rose and left the council room. There was a curious dignity about his plump figure now. Borchard and Moretti and the others followed. I'hey too, showed a shrinking, instinctive dread of the thing that had been proposed. They went out on the steps, and Kenniston and Hubble and the two from the stars went with them.

Outside in the plaza were gathered thousands of the Middletowners, mill-hand, housewife, banker and bookkeeper, the old men and the little children. They were still happy, and they cheered, sending up a great joyous shout to echo from the towers.

Mayor Garris took the microphone of the loudspeaker system.

"Folks, listen carefully! These new people are telling us now that we ought to leave Earth. They say they'll give us a better world, somewhere out there among the stars. What about it? Do you want to go— away from Earth?"

There was a long moment of utter silence, in which Kenniston saw the Middletowners' faces grow bewildered, incredulous. He looked at Yarn Allan's clearcut face and saw that the shadow of weariness on it was deeper. He realized again that two epochs, two utterly different ways of life were looking at each other here, and finding it difficult to understand each other.

When, finally, the crowd of Middletowners had grasped the suggestion, their answer came as a rising chorus of exclamations.

"Go off and live someplace in the sky? Say, are these people nuts?"

"It was bad enough to leave Middletown for this place! But to leave Earth?"

Kenniston turned to the two star-folk. "You see? The people wouldn't listen to a proposal like that for a minute!"

Yarn Allan stared at him, in honest surprise. "But it is not a 'proposal'— it is a formal order of the Board of Governors that recommended this evacuation, and they have approved it."

Kenniston said dryly, "Unfortunately, our people don't recognize any authority but their own government, so the order means nothing to them."

The woman looked appalled. "But nobody defies the Governors! They are the executive body of the whole Federation of Stars."

The Federation of Stars? It had a sound of distant thunder in it, and again

Kenniston realized the incomprehensible, staggering vastness of the civilization out there which this woman and this man represented.

He said, exasperated, "Can't you understand that to these people the stars are just points of light in the sky? That your Suns and worlds and Governors mean nothing to them?"

Norden Lund chose that moment to intervene. He said smoothly to Yarn Allan, "Perhaps, in an impasse of this nature, we should consult Government Center?"

She gave him a hot look. "You would like me to admit my in- capacity by doing that. No. I'll carry this matter through, and when it's done I'll have words to say to Gorr Holl for precipitating things prematurely."

She turned to Kenniston, and said: "Bear in mind that a formal decree passed by the Board of Governors is a law which must be respected and complied with. The evacuation has been ordered and will be carried out."

She nodded to Lund, who shrugged and fell in beside her. They went down the steps and across the plaza, and the muttering crowd, alarmed and confused but not yet hostile, moved apart to let them through.

Kenniston turned to Hubble. "What are we going to do?" he said, and the older man shook his head.

"I don't know. But I know one thing we must not do, and that is to let any violence occur. That would be fatal. We've got to calm people down

before that evacuation staff arrives and brings things to a head."

Kenniston did his best, during the rest oE that day. With the irrepressible optimism of the human race, they were convinced that they could make tomorrow even better. And they were not going to leave Earth. That was like asking them to leave their bodies.

Kenniston realized perfectly that it was not only an atavistic clinging to the Earth that had bred them which made them reject the idea of leaving it so fiercely. It was the physical and immediate horror of entering a perfectly unknown kind of ship and plunging in it out beyond the sky, into— into what? His own mind recoiled from the very imagining. Why couldn't the woman understand? Why couldn't she realize that a people to whom the automobile was still quite recent were not psychologically capable of rushing into space!

The great ship brooded on the plain, and all that afternoon and evening the people drifted restlessly toward the wall of the dome to look at it, and stand in little groups talking angrily, and move away again. The streets seethed with a half-heard murmur of voices and movements. Crowds gathered in the plaza, and a detachment of National Guardsmen in full kit went marching down to mount guard at the portal. Dejected, oppressed, and more than a little sick with worry, Kenniston faced the unavoidable and went to Carol.

She knew, of course. Everybody in New Middletown knew. She met him with the drawn, half-bitter look that had come more and more often on her face since the June day their world had ended, and she said, "They can't do it, can they? They can't make us go?"

"They think they're doing the right thing," he said. "It's a question of making them understand they're wrong."

She looked at him and said calmly. "I won't go, Ken."

"You're not the only one that feels that way," Kenniston told her. "We've got to convince them of that." Restlessness rode him, and he got up and said, "Let's take a walk. We'd both feel better."

She went out with him into the dusk. The lights were on, the lovely radiance that they had greeted with such joy. They walked, saying very little, burdened with their own thoughts, and Kenniston was conscious again of the barrier that seemed always between them now, even when they agreed. Their silence was not the silence of understanding, but the silence which is between two minds that can communicate only with words.

They drifted toward the section of the dome through which the distant star-ship was visible. The unease in the city had grown, until the air quivered with it. There was half a mob around the portal. They did not go dose to it. Through the curved, transparent wall the lighted bulk of the Thanis was no more than a distorted gleaming. Carol shivered and turned away.

"ı don't want to look at it," she said. "Let's go back."

"Wait," said Kenniston. "There's Hubble."

The older man caught sight of him and swore. "I've been hunting the all over town for you," he said. "Ken, that bloody fool Garris has blown his top completely, and is getting the people all stirred up to fight. You've got to come with me and help soothe him down I"

Kenniston said bitterly, "No wonder Varn Allan thinks w'e're a bunch of primitives! Oh, all right. I'll come. We'll walk you back home on the way, Carol."

The pulse of unease in the city seemed to quicken. A low cry ran along the streets. People were calling something, a shout was running along the ways, hands pointed upward, white faces turned and looked at the shimmer of the great dome above.

"What—" Hubble began impatiently, but Kenniston silenced him.

"Listen!"

They listened. Above the swell of distant voices, growing louder every moment, they heard a sound that they had heard only once before. A vibration, more than a sound, a deep, bass humming from the sky, too deep to be smothered even by the dome.

It came downward, and it was louder, and louder, and then quite suddenly it stopped. People were running now toward the portal and the words they shouted came drifting confusedly back .

"Another star-ship," said Kenniston. "Another star-ship has come."

Hubble's face was gray and haggard. "The evacuation staff. She said they'd arrive soon. And the whole town ready to blow off— Ken, this is it!"

Chapter Thirteen— Embattled City

With a sinking heart, Kenniston stared at Hubble and listened to the sharpening voice of the city. Carol spoke, and the words reached him from a long way off.

"Never mind me, Ken. I'll get home all right."

"Yes," he said. 'Tm afraid we've got to get hold of the Mayor right away , . . Stay in off the streets, Carol."

He kissed her swiftly on the cheek, and she turned away, walking fast. Kenniston hesitated, feeling that he ought to go with her, but Hubble had already started on and there was no time for punctilio. After all, there was no danger— not yeL

He caught up with Hubble. Frightened, angry people streamed past them, going the other way, toward the portal. Kenniston and Hubble were almost running, but even so, it took them some minutes to reach the plaza in front of City Hall. As they crossed it, jeeps loaded with National Guardsmen pulled away from the government building and went tearing off down the boulevard. The men were wrapped to the eyes in /heavy clothing, and

Hubble groaned.

"They're going outside. Now what tire devil has that idiot done?" They raced up the steps and into the building. In the Council chamber they found the Mayor with Borchard and Moretti and most of the Councilmen. Garris strode up and down, his face mottled, his eyes glittering with the courage born of fear.

"So they're going to try to rush us away from Earth," said Garris. "We'll see how far they're going to get with that!" His voice shook, his pudgy hands were clenched. "I've called up all units of the National Guard. They're on their way to Old Middletown, to bring the field guns from the Armory. That's the only way to show 'em they can't order us around!"

"You fool," said Hubble. "Oh, you fool."

Borchard snarled at him, "He's acting with our complete approval. Listen, Mr. Hubble, you stick to your science and we'll handle the government."

Hubble faced them. "Listen to me!" he said. "You're all scared so blind you can't see what's in front of you. Guns. All the guns we've got won't make a pop like a toy pistol compared to what they can bring against us if they want to. These people have conquered the stars, can't you understand that? They can conquer us with no more than that ray they've got on the ship, and violence will only anger them into doing it!"

Garris thrust his face close to Hubble's. "You're afraid of them," he said. "Well, we're not. We'll fight!"

The Council cheered.

"All right," said Hubble, "go ahead. There's no use arguing with idiots. The only chance we had of beating this thing was to behave like civilized men. They might have listened to us, then, and respected our feelings. But now . . He made a gesture of negation, and the Mayor snorted.

"Talk! A lot of good talking did. No, sir! We'll handle this our own way, and you can be thankful that your Mayor and Council haven't forgotten how to defend the rights of the people!"

His voice rose almost to a shout to carry the last words to Hubble, who had walked out with Kenniston close on his heels.

Outside in the plaza, Kenniston said abruptly, "There's only one thing to do— talk to Yarn Allan. If she'd agree to call oil her dogs for a while, things might simmer down. I hate to admit to that blonde bureaucrat that we're governed by a bunch of half-witted children, but . .

"You can't really blame them," said Hubble. "It's just that they're taking the wrong way." He sighed. "You go out to the ship, Ken. Do what you can. I'm going back in and struggle with His Honor. If I'm patient enough— Oh, well, good luck."

He went back inside, and Kenniston retraced his weary steps toward the portal.

The company of Guardsmen in full kit had- taken up their station in the

portal, a barrier of olive-drab picked out with the dull gleam of gun-barrels.

Kenniston went up to them. "I'm going out to the ships— import- ant conference," and started through the line. And they stopped him.

"Mayor's orders," the lieutenant said. "Yeah, I know who you are, Mr. KennistonI But I have my orders. Nobody goes outside."

Kenniston went away, back to the City Hall, And he spent the rest of the night cooling his heels with Hubble, outside the guarded door behind which the Mayor, the Council and the ranking officers of the National Guard were drawing up a plan of campaign.

Shortly after daybreak an orderly came in haste, and was admit* ted to the guarded room. Immediately the Mayor, the Council, and the officers came out, Garris, haggard, heavy-eyed, but triumphant, caught sight of Kenniston and said,

"Come along. We'll need you to interpret."

Feeling old and hopeless, Kenniston rose and joined the little procession. Falling in beside him, Hubble leaned over and murmured.

"Talk fast, Ken. Your knowledge of the language is our one last ace in the hole."

They reached the portal at almost the same time as the party from the

star-ships. Yarn Allan and Lund were the only ones in the group that Kenniston recognized. Of the others, one was a woman of mature years, and the remainder were men of varying ages. Yarn Allan frowned.

The Mayor faced the strangers from the stars and said to Kenniston,

"Tell them this is our world, and we give the orders here. Tell them to get into their ships and go. Inform them that this is an ultimatum, which w'e are prepared to enforce."

The crowd behind him roared approval.

A faint uneasiness had appeared in the faces of the star-folk. That mob-yell, the armed soldiers, and the attitude of the Mayor must have roused a doubt in them. And yet Yarn Allan spoke quite calmly to Kenniston, hardly waiting for the Mayor to hush.

"Will you please have way made for us?" She indicated the new- comers who were with her. "These officials head a large staff of ex- perts in mass migration. They will begin preliminary planning of the evacuation and it is important that you cooperate . . ."

Speaking very distinctly, Kenniston said, "I am trying to pre- vent violence. Go back to your ships now, and I'll come out and talk to you later."

She stared at him in utter astonishment. "Violence?" she said. And again, "Violence? Against officials of the Federation?" It crossed his mind that

that was something she had never seen nor heard of. In the momentary silence between them, the surge and rumble of the crowd grew louder, and abruptly, Norden Lund laughed.

"I told you that you were taking the wrong way to deal with savages," he said. "We'd better go."

"No!" Secure in her pride, in the authority vested in her by the Federation of Stars, in her proven ability as an administrator. Yarn Allan was not going to run before the shouts of a mob. She turned on Kenniston, her voice perfectly steady and sharp as a steel knife.

"I don't think you understand," she said. "When an order is issued in the name of the Board of Governors, that order is obeyed. You will so inform your Mayor and require him to disperse his people— and at once!"

Kenniston clenched his fists and groaned. "For Heaven's sake . . ." he began, and then the Mayor, the over-anxious, bellicose, and frightened Mayor, set the spark to the ready tinder.

"You tell 'em they'd better get out in a hurry!" he cried, loud enough to be heard clearly by the front ranks of the crowd. "Tell 'em to get out, or we'll run 'em out!"

"Run 'em out!" The crowd roar rose to a howl. The press of men and women surged forward through the portal, and if they had wanted to, the soldiers could not have held them back.

Yarn Allan said, "If you dare to touch Federation officials— I"

"Get back to your ships!" yelled Kenniston. "Get back!" The first wave of the mob was upon them, all shouts and fists and trampling feet. They were howling for Yarn Allan because she was the leader. Kenniston saw the danger. He grabbed her wrist and began to run toward the Thanis, hauling her along. The other officials, including Lund, had taken to their heels. It was amazing how they could run.

As the Thanis loomed fairly close ahead, he missed his footing in the loose sand and stumbled, and she wrenched herself free from him.

During the moment that he floundered in the treacherous sand, Kenniston saw the first pallid beam flick out from the ship. It swung

in a wide arc, bringing a sudden uproar from the crowd. And then it hit him, and this time the shock was strong.

He came back to consciousness, lying flat on his face in a bunk with Gorr Holl's powerful fingers kneading the nerve centers along his spine. He groaned, and the Capellan exclaimed in relief,

"Thank the gods you've come round! I've been working on you the last

couple of hours!"

Kenniston sat up painfully. "How did I get here?" he asked. It was difficult to speak. His tongue, like the rest of him, was numb.

"Yarn Allan had you brought in. She wanted you fixed up as quickly as possible."

Kenniston groaned again, and mumbled, "What's happened, Gorr?"

"Plenty— and all of it bad. Look here." He touched a stud, and a square section of the metal wall became perfectly transparent, a window.

Kenniston struggled to his feet and looked out through it, at the distant, gleaming dome of New Middletown. And he saw the men of Middletown laboring in the ocher dust before the portal, digging trenches, filling sandbags, drawing up the lines of war. He saw the shrouded field guns, the whole mobile force of the Middle- town battery of the National Guard— the little guns that came to bark defiance to the Federation of Stars.

Gorr Holl said, "They gave us three hours to pack up our traps and go— long enough to get their battery in position. After that, they'll start shooting."

"The fools," Kenniston whispered. "The poor bloody fools!" He could have wept with pride, in spite of his full realization of the extent of that folly.

"I've got to stop this, Gorr," he said. "Somehow, I've got to stop hi"

Gorr Holl studied him with a curiously intent, measuring look. He said. "How much are you willing to risk on a try? No, wait be- fore you answer. It won't be easy. Especially for you, with your background, it won't be easy,"

"Get to the point," said Kenniston. He grasped almost fiercely at the hint of hope. "Come on! What is it?"

Gorr Holl said, "There are other dying planets beside your Earth. And as I told you, we primitives cling to our birth-worlds just as your people do. There has been a— well, call it a conspiracy, between the primitive races to stop mass migration, and our whole plans center on the process Lal'lor told you about, Jon Arnol's process of reviving dead worlds, which has been forbidden by the Federation. Kenniston, we could make Earth a test ease!"

"In other words," said Kenniston slowly, "you want to involve me and my people in a movement to help your peoples buck the Federation law?"

"Quite frankly, yes. But it's to your benefit, too. If you win, you'll have Earth and we'll have our own worlds, to stay on. If you lose— well, you'll be no worse off than you are now." He put his great paw on Kenniston's shoulder. "Listen to me. Yarn Allan is on the televisor now, getting authorization from Vega Center to use force in carrying out her orders. Think fast, Kenniston"

"What do I have to do?" he asked.

Gorr Holl grinned. "Good," he said. "And remember, you'll have allies in

this thing! Now come on with me, and I'll tell you on the way."

Chapter Fourteen— Last Appeal

The big Capellan led him out then swiftly through a maze of narrow passageways that ran through the bowels of the Thanis. They met no one, and Kenniston guessed that Gorr Holl was avoiding the main corridors.

Gorr Holl did some rapid explaining as they went. "The evacuation order came from the Board of Governors by an executive committee. According to Federation law, you can make an appeal from that order to the Board of Governors in full session. Now, remember, Kenniston, no one can deny you the right of appeal, so don't let them bully you out of it."

They came out on a shadowy catwalk. Gorr Holl stopped and pointed to a corridor some nine feet below. At its end was a closed door.

"That's the 'visor room. Yarn Allan is in contact with the committee now. Go in and make your appeal. And remember, Lund it in there too."

He melted back into the shadows. Kenniston went down a companionway to the corridor and along it to the door at the end. He tried it and it swung open under his hand, and he went through into a high and narrow room, where Yarn and Norden Lund turn- ed to face him, startled and surprised by his sudden entrance.

He hardly saw them. Something else caught his gaze and held him

transfixed, frozen with a kind of awe.

Two walls of the room were occupied by complicated and un- familiar mechanisms, all apparently automatic Facing him was the third wall— a giant-sized screen, reproducing so clear a picture that it was weirdly like a window.

A window into another world . . .

At a black plastic table sat four figures. Three of these were men in ordinary jackets and slacks— one of them quite old, another elderly, the third dark, brusque-looking, not far into middle age. The fourth at the table was not a man. He was a Spican like Magro, while-furred and oddly catlike with his narrow mane and hand- some, faintly cruel face. But he was older and graver than Magro.

The four of them were like a quartet of businessmen, rudely interrupted in the midst of an earnest conference. They stared out of the screen at Kenniston, and the youngest man demanded of Yarn Allan, "Who is this person?"

"He's one of the Earth primitives, sir," she answered angrily, and turned again to Kenniston. "You have no right here! Leave at once."

"No," said Kenniston. "Not until I've had my say."

"Lund," said Yarn Allan, "will you please call orderlies and have him removed?"

Kenniston moved a little. "I wouldn't," he said.

Lund considered. His eyes moved from Kenniston's knotted fist to Yarn Allan's angry face, and then there was a smile in them.

"After all," he said, "I suppose this man is a citizen of the Federation now. Can we deny him his right of speech?"

Yarn Allan's blue eyes flashed hotly at him. Then she spoke to the images in the screen. "I'm sorry, gentlemen. But perhaps this will demonstrate the situation here more clearly. I have had no cooperation from the primitives, and my own subordinate is apparently trying to undermine my authority."

The dark younger man of the four said impatiently, "This is not the occasion to hear complaints of administrative wrangling!"

Kenniston was glaring upward at the quartet on Vega's faraway world who seemed to hold the fate of Middletown in their hands. He demanded, "Are you the executive committee responsible for the evacuation order?"

The oldest man said to him quietly, "There is no need for truculence. Yes, we are that committee."

Kenniston said, "I'm sorry, but there isn't time for politeness. In a few minutes my people are going to fire on your ships. That is what I must make you understand. As long as my people live they will fight to stay on Earth!"

The ring of utter truth in his passionate cry seemed to disturb them deeply. And the white-furred Spican said slowly, "It may be so. Some of my own people still have such an illogical attachment to one planet."

Lund spoke up, his tone smooth and deferential. "That is the point of basic psychology which I have been trying to make with Administrator Allan. But my idea—"

Whatever Lund had been going to say was lost, for Kenniston drowned him out. "The heck with your ideas!" He moved closer to the screen. "I ask you to revoke the order for evacuation."

The old man spread his hands in a weary gesture of negation. "That is out of the question."

"Then," said Kenniston_ harshly, "I appeal your decision to the Board of Governors in full session!"

Varn Allan came up to Kenniston. 'This is a waste of time," she said. "The Board of Governors will issue the same ruling."

"Nevertheless," said the Spican, "his demand is perfectly legal."

The old man sighed. "Yes." He looked at Kenniston. "I am forced by Federation law to grant your right of appeal. But I warn you that Administrator Allan is right. The Board will ratify our decision."

"Until they do," Kenniston pressed, "I demand that you withdraw from Earth the ships that have created this critical situation."The old man nodded reluctantly. "That too is a legitimate demand. The ships will be recalled temporarily to Vega. And you will come with them, since all appeals to the Board of Governors must be made in person."

In person? The significance of the two casual words hit Kenniston staggeringly, replacing his dawning hope with a breathless and more personal emotion.

Those two words meant— they meant leaving Earth, he, John Kenniston, going out into the dark abyss, out across half the starry universe on a forlorn hope. Out to an incredibly distant and alien world, to plead the cause of Middletown to alien ears, with all the odds against him! He knew now what Gorr Holl had meant, "—with your background, it won't be easy."

He drew a long breath. "Yes," he said. "Yes. I'll go."

"In that case. Administrator Allan," said the old man, "you will take your ships off in not more than two hours." He rose, signing that the interview was closed. "I shall notify the Board of Governors."

The screen went blank. Yarn Allan looked at Kenniston and said, "You had better go and tell your people, at once."

He knew, as he went out, that she was very angry. But Lund seemed strangely pleased.

Soldiers met him well outside the portal, raising their rifles but lowering them again when they recognized him. Beyond them, the red dust w'as flying from laboring shovels and the gun-limbers W'ere being wrestled into place.

Kenniston pushed past them, between the half-dug trenches, and saw Hubble and most of the Council grouped around Mayor Garris just inside the dome.

Most of Middletown's people seemed crowded in the background, held by rope barriers. They weren't shouting now, their faces looked anxious, and he knew that that demonstration of the paralysis ray's power had cooled down their rage and given them something to worry about.

Garris' plump face was haggard with strain too, and he greeted Kenniston with a suspicious scowl. "What brought you back? I thought you'd stay out there with your friends."

Kenniston's temper, tightened by the weight of the thing he was going to do, let go. "For Heaven's sake," he snarled, "I've been fighting to save your necks, and this is the kind of reception I get? Those ships are leaving. They're leaving inside of two hours, and I'm going with them. I'm appealing this whole evacuation question to their Board of Governors."

A wondering silence fell upon them all. They stared at him, all their faces except Hubble's uncomprehending.

Hubble exclaimed, "Good God, Ken— you, to Vega? But will it do any good?"

"I'm hoping so," Kenniston said. He ignored the others, speaking to Hubble as he rapidly explained. "So there's a chance that I can make them understand our case, and let us alone."

Mayor Garris had only now begun to understand, apparently. His fate had changed— there was an eager hopefulness in it now, a hopefulness dawning also on the faces of the others.

"Well, now," said Garris, a little unsteadily, "that's the way I've wanted it all along. Due course of law, peaceful debate , . . You'll do your best for us out there, Kenniston, I know that! They can't all be as stubborn as that blasted woman!"

And, almost unmanned by his relief, Garris turned and cried out to the anxious crowd, "It's all right, folks, there's not going to be any fighting right now. Mr. Kenniston's going to go dear out to where those people come from and put this thing to their government! He's going to ask a square deal for us!"

Said Kenniston, "I haven't much time. I only need to get a few things, and to say goodbye to someone. Hubble, will you come with me?"

Hubble came. And behind them, as they hurried back into town, they heard the Mayor shouting, and heard the rising voice of relief and jubilation from the people.

They had seen themselves about to be beaten in a hopeless fight against weapons they couldn't combat, those people. And now, suddenly, there

wasn't going to be any fight, the ships were going away, one of their own was going out and convince the star-folk that they couldn't shove Earth people around, everything was going to be all right!

Kenniston groaned. "I wish they weren't so darned sure! This is only a reprieve."

"What are our chances, Ken?" Hubble asked him. "Between us."

"Honest to God, Hubble, I don't know. I've got us into a big undercover struggle that I don't half understand yet." He told Hubble what Corr Holl had said, and added, "Gorr and the humanoids are on our side, but maybe they're only using me as a catspaw. Anyway, I'll do my best."

"I know you will," said Hubble. "I wish I were going with you— but I'm too old,, and I'm needed here." He added, "I'll get Carol while you pack."

Carol's face, when she came, didn't help him. There was no color in it at all, and when he took her in his arms and tried to explain, she only whispered, "No, Ken— no.' You can't go! You're not like them— you'll die out there!"

"I won't die, and I can maybe help us all," he told her. "Carol, listen- if I can do this, if I can find a way out for us, it'll make up a little for our work that brought this whole thing on Middletown, won't it? Won't it?"

She wasn't even listening to him. She was searching his face, her hands clinging to him painfully, and she said suddenly, "You want to go."

"Want to?" said Kenniston. "I'm scared stiff! My skin is crawling right now! But I've got to."

"You want to go," she said again, and looked at him, he thought, as though she finally saw clearly a barrier between them. "That's the difference between us, it's always been the difference. I only want the old things, the old, loved ways. You want the new."

Time was running out, and a sort of despair was in him, and it made him grasp her with a rough male masterfulness, and hold her fiercely against the intangible tide that was sweeping them apart.

"I'm going, to do what I can for us all, and I'm coming back the same, and you're going to be waiting for me, Carol! You hear?"

He kissed her, and she returned his kiss with a curious tenderness as if she were never going to see him again and was remembering all the good days that they had had together. And when he let her go, her eyes were bright with tears.He went with Hubble toward the portal, and now the whole city was vibrant with a new hopefulness and excitement, that centered upon himself. But he was quaking with the realization of what he was going toward, he hardly saw the crowded faces that watched him with a mixture of anxious hope and of awe, he hardly heard the voices that shouted, "Good luck, Mr. Kenniston!" and "You tell 'em out there, Mr. Kenniston! You tell 'em!"

Kenniston went on, out of the domed city and across the plain, and the black, strange belly of the Thants took him in,

Chapter Fifteen— Mission for Earth

Kenniston clenched his fists inside his jacket pockets. He stood with Gorr Holl and Piers Eglin in the bridge of the Thants, looking ahead through the curving view-windows, and a cold sickness clutched at his vitals.

"It isn't the way I -expected it to be," he said unsteadily. "Only those stars ahead—"

He fought against an impulse to clutch for support. He wouldn't do that, while the bronzed star-men behind him ′ were curiously watching him.

The deep humming and slight quivering of the great fabric around him were the only evidence that the Thanis was moving.

Gorr Holl nodded toward the bank of controls behind which four men sat. "You know the principle of propulsion? Reaction- rays many times faster than light, pushing back against the cosmic dust of space." ·

Kenniston sighed. ″I feel ignorant as a child. The possibility of such rays was wholly unsuspected, in my day. And Einstein's equations proved that if matter moved faster than light, it Would expand indefinitely."

Gorr Holl uttered a rumbling chuckle. ″Your Einstein was a great scientist,

but we've opened up new fields of knowledge since then. The master control that prevents that expansion, and other things." Kenniston was only half listening. He was looking at the blue-white eye of Vega, glaring arrogantly at him from the great drift of spangled stars. And looking at it somehow made him sense their awful speed, their nightmare fall through the infinite.

It was worse than the take-off, and he had not thought that anything could be worse than that. If he lived forever, he would never forget those last still minutes, strapped into a recoil chair, trying to relax and not succeeding. And then the lift, the pressure, the instinctive gasp for breath, the terrible claustrophobia of being shut into a moving thing over which he had no control.

He could not know yet by what mastery of science the occupants of the ship were shielded from the enormous pressures of that acceleration. Yet shielded they were, for the pressure was not so much worse than that in a fast ascending elevator. It was the knowledge that Earth was falling irretrievably away that made the lift horrible. He could hear the whisper and the hiss and then the scream of air against the heaving hull, and then almost at once it was gone. He was in space. And he was sick with the age-old fear of abysses and of falling. He thought of the emptiness that lay beneath his feet, beyond that thin floor of metal, and he shut his teeth hard on his tongue to keep from screaming.

He tried now to visualize the ordeal that awaited him there at Vega where he must plead the cause of little Middletown to the Governors of the stars. How could he make people who travelled casually in ships like this one, understand the passionate devotion of his own people to their little,

ancient planet?

He glanced at Gorr Holl and said, "I've seen enough. Let's go."

They left Piers Eglin there and went below again, and when they were in the main corridor, alone, Kenniston said, "All right, Gorr. I want to know what I've got myself in on."

The big Capellan nodded. "Let's join Magro and Lal'lor. They're waiting for us."

He led Kenniston along companion ways and narrow corridors, to a cabin only two doors from his own.

Lal'lor's massive gray form was bent over a table littered with sheets of complicated symbols. Magro, who was sprawled in the bunk, explained to Kenniston, "He works theorems for amusement. He even claims he knows what all those figures mean."

Lal'lor's small eyes twinkled in his flat featureless face. He thrust the sheets aside and said, "Sit down, Kenniston. So we are to be allies now, as well as friends."

"I wish," said Kenniston, "that someone would tell me just what this alliance means. Remember, I'm gambling the fate of my people on faith, without knowing a darned thing."

"There's nothing sinister about it," said Gorr Holl. "By a peculiar freak,

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Kenniston, you have been thrown with us rather than with your own kind. The human races spread out from Earth so long ago, and have continued to move and spread, constantly expanding, that they have lost all sense of identification with their old blue world, or any other. The universe is their home, not a planet." Kenniston was beginning to understand that better with every passing minute. The impersonal magnitudes of space, many times recrossed, would tend to sever a man from the old narrow ways of thought. Carol had been right about that.

Gorr Holl went on. "But we of the humanoid races don't have that background. When the humans came to our worlds, we were nearly all barbarians, and quite happy in our barbarism. Well, they civilized us, and now we are accepted as equals. But we're still more primitive in thought than they, we still cling to our native worlds, and whenever it becomes necessary to move us, we balk— just as your people are balking now, though we have learned to be less violent. In the end, of course, we've always given in. But in the last few years we've hung on more desperately because we've had something to hope for— this process of Jon Arnol's."

"Hold on," said Kenniston. "All I know of Jon Arnol is his name. What exactly is this process? You said it was a process for the rejuvenation of cold and dying planets?"

Lal'lor answered that. "Arnol's plan is this— to start a cycle of matter-energy transformation similar to the hydrogen-helium trans- formation which gives a Sun its energy— to start such a nuclear cycle operating deep inside a cold planet."

Kenniston stared at him, completely stunned. "But," he said at last, "that

would be equivalent to creating a giant solar furnace deep inside a planet!"

"Yes. A bold, brilliant idea." He paused. "Unfortunately, when Arnol tested his process on a small asteroid, the results were disastrous."

"Disastrous?"

"Quite disastrous. Arnol's energy-bomb, designed to start a quake inside that asteroid, went wrong and caused terrible quakes. In fact, the asteroid was wrecked. Arnol claims that it was because he was not allowed a large enough planet for his test. His equations bear him out."

Kenniston said, "Why didn't he make another test on a bigger planet, then?"

Lal'lor sighed. "You don't understand, Kenniston. The Govern- ors won't want Arnol's process to succeed. They don't want to make it possible for primitive people to cling to their native worlds. That's the kind of provincial patriotism they oppose, in their efforts to establish a truly cosmopolitan star-community."

Kenniston thought about that. It fitted what he had seen and heard of this vast Federation of Stars. And yet . . .

He said, slowly, "It comes down to the fact that you want to use my world, our Earth, to test a scheme which your Governors, what- ever their motives, have already ruled as dangerous."

Lal'lor nodded calmly. "Yes. It comes down to that. But whether the test is made first on Earth or some abandoned planet is beside the point. The point is to force the Board of Governors to allow another test."

Gorr Holl exclaimed, "Don't you see how it links up? Alone, your plea to remain on Earth will be turned down because you can't present any alternative to evacuation. But by advancing Jon Arnol's planet-reviving process as an alternative, you might be able to help both Earth and.us!"

Kenniston struggled to comprehend the galactic complexity of the problem. "In other words, if we could persuade the Governors to give Arnol another chance, they would delay the evacuation of Earth?"

"They would," said Lal'lor. "And if Arnol succeeded. Earth and our similar worlds throughout the Federation could be made warm and livable again. Is it not worth trying for?"

"When you put it like that," said Kenniston, "yes. Yes, it is." He was beginning to be hopeful again. "And you think this— this solar- furnace thing might succeed? Safely, I mean?"

"According to all mathematical evidence, yes.'

Still Kenniston hesitated, and Gorr Holl said, "The decision would be up to your people, Kenniston, and not you— whether they'd take the risk, I mean. And remember, it's a small population and could be taken off quite easily, until any danger was over. That was true. He need not be afraid of committing his people too deeply, because he had not the power to do that. And it might be a way. It might— I

"Is it agreed, then?" asked Lal'lor. "Amol has been my friend for many years, and I can message ahead to him to be there when we land. He can help you prepare your plea."

Kenniston looked at them, the three familiar, unhuman faces. He had to trust them, to take what they said on trust. Suddenly, he knew he did trust them.

"All right," said Kenniston. "I guess any hope is better than none." "Then we are agreed," said Lal'lor quietly.

Kenniston felt a little breathless, as though he had taken an irrevocable plunge into deeps far beyond his own fathoming. Gorr Holl shot a keen glance at him, and said,

"You need something. And I think I know what it is."

He went out, and returned in a moment with a large flat flask of gray metal. He showed his great teeth in that frightening grin.

"Fortunately, not being ship's personnel, we of the technical staff are not forbidden stimulants. Get some cups, Magro."

Kenniston, as he drank, felt his worries recede a little. He sat relaxed and listening as these children of alien worlds talked. He knew they were talking now just to let down his tension.

An aching nostalgia overcame him that haunting homesickness for an Earth lost forever, for the smell of leaves burning on crisp fall nights, for a clover field under the summer Sun, for the blue skies and green hills, the snowy mountains and the sleepy villages and the old cities and the roads that went between them, for all that was gone and could never be again. It made him long ever for the Earth that still was, the tired, dying old planet that at least held memory of the world he had known, the people there w'ho had known that world too. Carol was right, the old ways and the old things were best! What was he doing in these alien immensities?

Then he saw that the others were looking at him with a queerly sympathetic understanding in their faces, those strange and yet familiar and friendly humanoid faces.

"Give me another drink," he said.

It did not help any. It only seemed to heighten his futile yearn- ing. Presently Kenniston left them, and went to his own cabin.

He switched off the cabin lights and pressed the stud that made a window of the solid hull. The black, star-shot gulf opened to infinity beyond. He sat on the edge of the bunk and stared, hating that uncaring, unhuman vastness, brooding upon his desperate mission.

Presently *he realized that someone was knocking at his door. He rose and opened it, and the light in the corridor showed him that it was Varn Allan.

Chapter Sixteen— At Vega

She glanced quickly from his face to the darkened room, and then back to him, with a look of understanding. She asked, "May I come in?"

He stepped aside, reaching for the switch, and she said, **No, don't. I like to look out, too."

She took the chair by the window and sat for a few moments in silence, looking out, the dim star-glow touching her face.

Kenniston, his immediate feeling of hostility tempered a little by puzzlement, waited for her to speak. She sat almost stiffly, a queerly prim little figure in the drab jacket and slacks, but he thought that there were lines of tiredness and strain in her clear face now.

She turned and looked at him with thoughtful blue eyes, and it came to him that Varn Allan felt ill at ease with him, that she wanted to say something that she did not quite know how to say. So she, too, was worried.

She said, "I came to tell you— owing to the pressing nature of this case, the Board of Governors has granted us two hours on the day after we arrive in Vega Four."

"Two hours!" exclaimed Kenniston. It did not seem much time in which to decide the fate of a world-

"The Governors have the problems of half a galaxy to decide. They cannot give more time than that to anyone. So prepare your case carefully. There

is never a second hearing."

He thought that she had not come only to say that, and he waited, forcing her to speak. He realized now that her tension and weariness equalled his own. Finally, reluctantly. Yarn Allan said,

"As Sub-Administrator of the sector, Norden Lund will have the right also to speak on this problem to the Governors."

Kenniston hadn't known that, but it made no difference to him and he said so.

"It may make a very great difference indeed to you and your people," she warned him.

"In what way?"

In her earnestness, she had risen and was standing in front of him, speaking carefully, choosing her words to make him understand.

"If Lund can dominate this hearing, if he can offer some sensational proof that I have blundered in handling the Earth problem and that he has been right, he will have distinguished himself before the eyes of everyone."

Kenniston was sure now that he completely understood, but he did not let his feelings show in his face or voice as he asked,

"Then you're afraid that Lund is going to spring some surprise at this

hearing?"

Yarn Allan nodded earnestly. "Yes— I know that he has something in mind. He has been smugly triumphant with me, ever since we took off. But what it is, I do not know."

She looked at Kenniston worriedly, and asked, "Do you know? Is there something about your people, about this Earth problem, that Lund could use at the hearing?"

Kenniston got to his feet. He looked down into her face, and then he began to laugh. She looked up at him, startled and uncomprehending.

"This," he said, "is very rich indeed. This is really comic. You come to Earth as the law of the Federation, as Miss High-and- Mighty, and can hardly bear even to talk to the poor fuzzy-witted primitives. Then, when your own precious job is in danger, you come running to me to help you save it!"

Varn Allan's face was white and incredulous, her blue eyes start- ing to flare, her whole slim figure rigid.

"So you think that," Varn Allan breathed. "So you think that I would plead for your help, to save my mission?"

Her voice rose then, driven by an anger that seemed almost more than her small figure could contain. It was at though he had touched a spring that released a hot, long-pent passion.

"My position— my official rank! Do you think I am like Lund, that the power to give orders is pleasure to me? What would you, a primitive, know of a tradition of service to the Federation? Do you suppose I wanted to follow that family tradition, that I enjoyed the years of study when other girls were dancing, that my idea of a happy life is to spend it in star-ship cabins and on unfriendly worlds? Do you think all that is so dear to me that I would worry and plot and come pleading to a primitive, to keep it?"

She choked on her own indignation, and turned toward the door. Kenniston, startled by that violent outburst, obeyed a sudden impulse and caught her arm.

"WaitI Don't go. I-"

She looked up at him with blazing eyes and said, "Let me go or I'll call an orderly."

Kenniston did not release her. He said awkwardly, "No, wait. I was a little out of line. I'm sorry. Tell me, why did you feel it necessary to bring up this Lund business with me?"

"It was to save my rank and position," she said bitterly. "It was because I was afraid of losing them, of—"

"Oh, all right. I've apologized for that," he said impatiently. "Man, but you people are touchy!"

For a moment Varn Allan was silent. Then she said. "You think it will make no difference to you whether Lund or I speak at the hearing, that we're both against your people. You are wrong, Kenniston. I may have made mistakes in dealing with your people, but my desire has been to accomplish a smooth peaceful evacuation. Lund would like to deal with this Earth problem dramatically— that is to say, forcefully."

"Forcefully?" Kenniston stiffened. "I told you both what it would mean if you tried force!"

"I know, and I believe you enough to .want to solve this evacuation problem peacefully, even though it should involve delay. That is my idea of an Administrator's duty. But Lund knows that due to your strange background, and due to the fact that this Earth case focuses the whole long controversy about world-evacuation, all eyes will be on this hearing, and he would use it to advance himself, no matter what disastrous events he might unchain on Earth."

Her logic was clear enough, and it squared with Kenniston's estimate of Lund. He felt a suddenly deepened worry.

"But what could Lund bring up about the Earth problem that would be a surprise?" he wanted to know.

Yarn Allan shook her head. "I don't know. I thought maybe you might know."

Kenniston said thoughtfully, "I don't. But maybe Gorr and the others

might have some idea. I'll try to find out. And again— I'm sorry I shot off."

She said soberly, "I know you're under strain, from this voyage and from anxiety. But— don't let Gorr and the rest encourage you to hope too much. The evacuation itself cannot be" avoided, it is the way in which it is to be done that worries me."

She turned to go, and Kenniston held out his hand. "No hard feelings, then?"

She was for a moment completely puzzled by his gesture, then understood and smiled and laid her hand awkwardly in his. But she took it away hastily and went out.

Kenniston stared after her. "Well, I'll be darned if Miss Star-Official isn't afraid of men!"

His resentful hostility to her was gone, and while he knew she would be in there pitching against him on this evacuation that she thought so necessary, it did not worry him like the matter of Norden Lund.

The more he thought about Lund, the more he worried. Finally, he went to Gorr Holl's cabin and told the big Capellan.

Gorr Holl instantly looked upset. "That's bad. Lund could make nasty trouble, if he's got hold of something. But what could it be?"

"I thought maybe you'd know."

"Not a thing," the Gapellan denied. "Wait a minute— Piers Eglin has been a little thick with Lund lately. Maybe he'd know."

Kenniston got up. "Piers always wants to talk to me, about the old town. If he knows anything, maybe he'll spill it."

The question fluttered Piers Eglin badly. He fidgeted, and looked away with a hunted expression, and mumbled, "Why do you ask me? "What could I know?"

Kenniston stared at him. "You're a pretty poor liar, Piers. What do you know?"

"Kenniston, listen— you mustn't draw me into your troubles. I like you, I wish I could help you— But I'm an historian, it's my life, that old town of yours on Earth is like a dream come true to me. I can preserve it, keep it for future study, if I have official backing—"

A light dawned upon Kenniston. "And Norden Lund is going to git e you that backing? In exchange for what? What have you done to help him?"

Eglin shook his head wretchedly. "I can't say anything. Honestly, I can't."

He was nearly in tears, as he went away. Kenniston looked after him, mystified and deeply troubled.

He told Gorr Holl and the others. Magro looked baffled. "But what could Piers do to help Lund? I don't get it at all."

Lal'lor said slowly, "I do not like it. Try to find out what it is that Piers had done, Kenniston."

Kenniston, though, found that Piers Eglin very definitely was avoiding him. He did not even see the little historian again until they made their landing on Vega Four.

He had sat for hours that day in the bridge-room of the Thanis, looking with unbelieving wonderment at the alien solar system shaping itself out of the void, the spinning planets sweeping in majestic curves through the brilliant circle of Vega's light.

The ship was sweeping in toward the fourth planet, Kenniston saw the cloudy globe leap up to meet them.

He glimpsed a vast landscape whose dominant colors were quite unearthly. Cruel, lofty mountains of purple-black rock rose grandly beyond broad blue plains. Then the rushing ship swept over a great expanse of vivid yellow—a golden ocean that flashed back Vega's brilliance blindingly. And then a city. A white, towering continent of a city that, even viewed from the stratosphere, was enough to take Kenniston's breath away. There was a huge starship port near it, and the Thanis was dropping smoothly through tangled ship- ping traffic toward it, making worldfall in its waiting dock with the softest of jars.

Vega Four. He was here. And he could not believe it, not even now.

Gorr Holl unfastened his straps. The Capellan was almost as tense as Kenniston himself.

"Jon Arnol should be here waiting for us," he said rapidly. "His workshop is on the other side of this planet. Come along, Kenniston!"

Jon Arnol? Kenniston had almost forgotten about him, in the grip of this strange arrival. In the shivering fascination of being here, he found it hard to keep his mind on why he was here.

He went down with Gorr Holl to the big vestibule inside the entrance port. The lock was open, and strange blue sunlight struck the metal floor, strange air, laden with faintly alien scents, drifted to his nostrils.

Lund and Vam Allan were there, and the woman said to him, "Your quarters will be in Government Center. I can take you there."

Gorr Holl, looking out at a dark, lean man who was hurrying across the concrete apron toward the Thanis, said hastily,

"No, you needn't bother. We'll take Kenniston along to his quarters."

The lean, dark man was coming up the stairs to the lock. He was perhaps ten years older than Kenniston, with a worn face and the eyes of a dreamer, and the unsteady hands of a man who is laboring under great excitement,

Norden Lund, looking at Arnol as he entered, laughed, and then without saying anything went out. Varn Allan looked as though she were going to speak to Kenniston, but didn't.

She said, "Then you are responsible for his appearance to- morrow, Gorr," and she left.

Kenniston, looking after her, wished she had spoken. And he wished that Lund had not laughed quite so smugly. He was worried enough as it was.

Aniol had reached them, was greeting Lal'lor as an old friend, smiling at Magro and Gorr Holl. His smile, his movements, were quick and sharp and only half finished, as though the tense nerves of the body were acting independently of the brain.

"I think we've got a chance this time, Lal'lor!" he said eagerly. "By God, I think we do! This Earth business may be just what we've waited for, the chance to ram the Arnol process down their throats whether they like it or not! It's a lucky break!"

Gorr Holl told him, "This is Kenniston, of Earth."

Jon Arnol looked a little ashamed as he turned to Kenniston. "I'm sorry if I sounded selfish. I know you've got your own terrible problem. But if you knew how long I've sweated and waited and hoped! I'm a scientist, nothing else is important to me, and I've seen my whole life's work and achievement held back by politics—"

Gorr Holl interrupted. "Now listen, this is no place to talk. Let's get on to Government Center. We can talk in Kenniston's quarters, and we've got plenty of planning to do before tomorrow!"

Kenniston went down the steps with them, onto the concrete apron, and for a moment the whole problem of Earth seemed impossibly far away.

He stood on an alien world, under an alien Sun, and all around him was the rush and clangor of the star-port, where the great ships came and went across the galaxy. Something in him rose up in mingled awe and pride, remembering that men of Earth had first voyaged across the unknown seas to these star-fringed shores of the universe.

Kenniston would have stood forever watching if Gorr Holl had not led him away with them. Jon Arnol had a car waiting, a car that bore small relation to the ones that Kenniston had known except that it went along the ground: It was sleek and low, and he knew that it must be very swift, but speed seemed to be controlled along the incredible network of ramps and roads and flying bridges that spanned the city. They went fast, but not so fast that he could not see.

He looked at this city, splendid in the light of setting Vega, and he felt like an ignorant barbarian come down from the hills to Babylon. It was more a nation than a city, too huge and awesome to comprehend. This was the center of the galaxy, the capital of a thousand, thousand worlds. Man and woman and humanoid, silk- en clothing and furry hides and backs humped with wings, voices human and nonhuman, alien music that jarred his nerves, throb of hidden machines, and over all the deep humming from the sky that told of more and more star-ships dropping down through the

deepening dusk.

As though from a remote distance he heard Gorr Holl speaking to him, pointing ahead toward a range of titan buildings that rose like white cordilleras, their tops raking the sky. It came to his numb- ed mind presently that that was Government Center, the place to which they were bound, the place where he must presently stand up alone and speak for faraway Earth to these strangers of the stars.

Chapter Seventeen— Judgment of the Stars

Kenniston clenched his hands under the table of gleaming plastic and clung hard to his sanity. Unsteadily he looked up- ward. They sat silently, row upon row of them, tier upon tier, full circle around the vast echoing space, reaching up into the shadowy vault, watching him with the crushing thousands of their eyes, human and unhuman, curious, intent.

The hosts of the Federation of Stars. The Board of Governors, in full session.

These countless hundreds who came from the far-flung worlds of a galaxy— to them, he must seem equally unreal. It would seem impossible to them that they looked down upon a man of the forgotten past.

Varn Allan's quiet, earnest voice broke in upon his reeling thoughts. She was finishing her report on Middletown.

"This is a complex situation. In finding a solution for it, I would ask you to remember that these people are a special case, for which there is no precedent. In my belief, they are entitled to special consideration.

"Therefore, my recommendation is as follows: That the proposed evacuation be delayed until these people can be psychologically conditioned to the idea of world-change. Such conditioning, in my belief, would enable this evacuation to be carried out without difficulty."

She glanced at Norden Lund, who sat next to her at the table. "Perhaps Sub-Administrator Lund has something to add to that report."

Lund smiled. "No. I will reserve my right to speak until later." His eyes held a gleam of anticipation.

The Spokesman, a small alert man who was the voice of the Board, the questioner, and who sat with them at the table, said,

"The Board of Governors recognizes Kenniston, of Sol Three."

The rulers of the galaxy were waiting for him to speak.

Varn Allan looked at him and smiled.

He took a deep breath. He forced himself to' speak. He forced the words to come, out of the tight dark corridors of fear.

"We did not ask to come into your time. Having come, we are under

Federation law, and we do not defy your authority as such. We do not wish to make trouble. Our problem is a psychological one ..."

He tried to explain to these men of the Federation, something of what life had been like before that fateful morning in June. He tried to make them understand how his people were bound to their world and why they must cling to it w desperately.

"I understand the technological problems of supporting life on a world such as ours. We believe that, given time, we can solve those problems.

"We don't even ask for your help, though we would be grateful if you cared to give it. All we ask of you is to be let alone, to work out our own salvation."

He stopped. The silence, the thousands of watching eyes, bore down upon him with a crushing weight.

Kenniston struggled for a final word. There was so much he had not said—so much that could never be put into words.

How do you phrase the history of the race of men, the pride and sorrow of their beginning?

He said, "Earth is the mother that bore you. You should not let her die!" It was done. For good or ill, it was done and over.

Jon Arnol leaned from where he sat beside him at the table. "Magnificent,"

he whispered. And again, "Magnificent!"

The Spokesman asked, "Is it through the application of Jon Arnol's theories that you hope to bring back life to Sol Three?"

Before Kenniston could answer, Arnol himself cried out, "On that point, I ask leave to speak!"

The Spokesman nodded.

Arnol rose. He turned his dark, challenging gaze upon the Board of Governors.

"You have denied me another chance to test my process— in Spite of the fact that no reputable scientist can challenge my equations. You have denied me that chance, because of political considerations which deliberately made my first test fail, by choosing for it a world too small for the energy-blast released in its core!

"But Earth is not such a world. The experiment will succeed, there. You think that evacuation, transfer of populations, is a better solution. But you can't go on moving populations forever!"

He paused. Then his voice rang out sternly.

"Neither can you, for a preconceived political philosophy, for- ever hold back scientific progress. I say that you have no right to deny to the peoples of the Federation the incalculable good that this process can do them. And

therefore, I ask permission to prove my process, using the planet Sol Three as the subject!"

He sat down. There was much whispering in the ranks of the Governors, a nodding together of heads. Kenniston stared hungrily at their faces. Impossible to tell . . .

"I think," Jon Arnol whispered, "we may have done it!"

The Spokesman lifted his gavel, about to signal the beginning of the vote,

Norden Lund said, "I now claim my right to speak."

It was granted. And Kenniston felt his heart stop beating.

Lund's voice rang through the amphitheater. "There is one fact concerning these so-called Middletowners that has not been mention- ed— one that my superior did not even discover! A fact which was learned from records in their own old town, deciphered by the linguistic and historical expert of our party."

Lund's face hardened. His voice thundered wrathfully.

"It was no freak chance that brought them into our time. It was an act of war! It was the explosion of a hostile atomic bomb that ruptured the continuum and hurled this city through. These people are the children of war, born and bred in an age of wars.

"Consider the mob violence, the threats made against Federation officials, the refusal to accept peaceful authority!"

Lund's voice dropped to a lower, tenser pitch.

"I warn you that these people are rotten with the plague of war. For centuries, we of the Federation struggled to find release from war, and we found it. The galaxy has been clean of that hideous disease. Now it has appeared again among us.

"And we— the upholders of Federation law— are wavering before a show of force!"

Kenniston was on his feet. Jon Arnol clung to him, holding him back. Varn Allan leaned over the table, telling him in a desperate undertone.

"Don't, KennistonI Keep your temper!"

The Spokesman asked of Lund, "What is your recommendation to the Board of Governors?"

Lund cried, "Show these people that they cannot flout peaceful authority with a threat of war! Remove them, as quickly as possible, to some isolated world on the frontiers of the galaxy— a world so remote that they cannot infect the main thought-currents of the Federation with their brute psychology!"

Kenniston broke away from Arnol's grasp. He strode up to Lund and took

him by the front of his jacket and bent over him a face so white with anger that Lund quailed before it.

"Who are you," snarled Kenniston, "to sit in judgment upon us?"

The words choked in his throat. He thrust Lund from him, flung him away so that he went sprawling to his knees, and turned to face the Governors.

"Yes, we fought our wars! We fought because we had to, so that thought and progress and freedom could live in our world. You owe us for atomic power, too. We may have misused it— but it's the force that built your civilization, and we gave it to you! You live in peace, because we died in war. Remember that, when you sit in judgment upon the past!"

He stood silent then, trembling, and Varn Allan came to bring him back to his chair.

Lund had got to his feet. He said, "I will let Kenniston's own actions stand as my final argument." He sat down.

The Spokesman brought his gavel down.

Kenniston was hardly aware of the taking of the vote. He wrestled with a dark turmoil of doubt and anger and fear, dreading to hear the words of judgment that he knew were coming.

"It is the final decision of the Board of Governors that the population of Sol Three shall be evacuated in accordance with the official order already

outstanding.

"No experiments with the Arnol process on a planetary scale can be considered safe at this time.

"It is the wish of the Governors that the people of Sol Three be peacefully assimilated into the Federation. It is hoped that their attitude in the future will be such as to make this possible. If it is not, then they must be shown the futility of armed resistance.

"The hearing is concluded."

Nothing was very clear to him after that until he was back in his own quarters and Gorr Holl was putting a glass in his hand. Magro and Lal'lor had waited there for the verdict. Varn Allan was still with him, and Arnol.

"I'm sorry, Kenniston," said Varn, and he knew she meant it. He shook his head.

"It was my fault. If I hadn't lost my temper . . ."

"Don't blame yourself, Kenniston. Forgive me, but Lund had just enough truth on his side to carry the day. Why didn't you or your people tell us that you had been engaged in war, back in your own time?"

He shook his head. "Because we weren't in any war. Don't you see, the bomb that hurled us out of our own time came in peace- time! Whatever followed we never knew about, because we weren't there!"

She paced the room, frowning, and then said, "I'm going to try to get this evacuation order lengthened out as long as possible. It may soften the blow a little for your people. I used to have some influence with the Coordinators— Now I don't know. Lund has undermined me pretty badly."

It dawned on Kenniston then that this day had been a defeat for her, too, and an unjust one. He bad been too wrapped up in his own despair to think about it.

It was his turn to say, "I'm sorry."

She smiled a little and turned to go, pausing to lay her hand briefly on Kenniston's shoulder. "Don't take this too hard," she said. "Nobody could have done a better job than you did."

She went out. They looked at each other with faces sick, angry, sullen— the two men and the three humanoids.

"Well," said Gorr Holl, "It was a darned good try. I vote we have a drink."

Magro said, "It'll be bitter news for our people, Gorr. They were beginning to hope."

The Capellan rumbled, "I know that. Shut up."_

Kenniston was thinking sickly of the people back there on Earth, waiting anxiously for his return. He was thinking of Carol, and he said slowly, "I can't go back. I can't face them, and tell them I've failed."

"They'll get over it," said Gorr Holl, in a heat'y attempt to be reassuring. "After all, going to a strange world isn't half as much of a shock as being hurled forward in time. They stood that."

"It happened before they knew it," said Kenniston. "That makes a difference. And they were still in a place they knew. No. They won't get used to it They'll fight it to the bitter end. They will risk any danger, dare any threat, to hold onto it!"

He was suddenly shaken by a terrible, desperate hope. He got up and went across the room to Jon Arnol.

"You said that you had a small star-cruiser and technical crew of your own?" Kenniston said,

Arnol nodded. "Yes. Over at my workshop in the mountains." He added bitterly, "I sent them word last night to get the cruiser ready to go to Earth. I was so sure that our chance had come." Kenniston asked him softly, "Tell me, Arnol. Do you really believe in your own process? Do you believe in it enough, to defy an order of the Board?"

Arnol stiffened. After a moment he said, "Explain that, Kenniston."

Kenniston explained. Fairly shaking with the intensity of his idea, he

talked. And gradually Arnol's eyes took on a febrile glitter.

He muttered, "It could be done quickly, there on Earth. The ancient heat-shafts would eliminate die necessity of deep boring—"

But then he shook his head, in a kind of dread.

"No! It would mean dismissal from the College of Scientists, exile for the rest of my life. I can't do it, Kenniston,"

"You've worked and hoped for many years," Kenniston reminded him cruelly. "Some day you'll give up hoping, and your process will be forgotten and lost,"

He stood back. "I won't say any more— except that here is your chance, if you wish to take it. Your chance to try your planet- rejuvenation process, on Earth!"

Kenniston patched him suffer, caught between desire and fear. And at last Arnol struggled to a decision. He said, hesitantly,

"We would have to leave it to your people to decide, Kenniston. They must agree to accept the risk."

"I know them, and I know they'll agree!" Kenniston exclaimed. "And if they do?"

Beads of sweat stood on Arnol's forehead. "If they're willing. I'll do it," he

said huskily.

A great excitement coursed through Kenniston. One chance- one last chance, after all!

He looked at Gorr Holl and Magro and Lal'lor. He asked, "Are you with us in this?" _

Gorr Holl uttered a great, booming laugh. "Are we with you?" He strode to Kenniston, and he said, "We humanoids have been fighting this battle for a long time. Do you think we'd drop out now?"

Magro's cat-eyes were glittering, but he merely nodded agreement.

Jon Arnol said excitedly, "My flier is docked at South Port, near here. It won't take long to get to my mountain workshop."

Lal'lor began, "I, too—"

Gorr Holl told him, "You, gray one, shall stay here and cover for us. Tell anyone who asks that we have all gone out to show Kenniston the sights."

The Miran sighed. "All right, Gorr. But— try to be careful. All of you."

They left the apartment. A half-hour later, their flier was split- ting the night on the way to the other side of Vega Four.

Chapter Eighteen— Fateful Return

Another night had come. Under the brilliant, unfamiliar stars, black mountain-peaks looked down broodingly at the scene of feverish activity on the little plateau.

Lights flared there, illumining the little group of long, low buildings, the supply-yard with its crane, and the dim metal mass of a small star-cruiser battered and tarnished by long use.

A wide hatch gaped in the side of the ship's hull. And toward it Kenniston and his three companions were carefully rolling a massive, black ovoid thing that rested in a wheeled cradle.

"You needn't worry— there's no danger of detonating it, when it isn't even electrofused," Jon Arnol was saying reassuringly.

They had worked without respite all through the day, Kenniston and Gorr Holl and Magro, helping Arnol and his technical crew to load the masses of supplies and incomprehensible equipment necessary for the experiment.

The little star-cruiser was Arnol's work-ship. It had carried him on many research trips throughout the galaxy. And the eager young men of the crew who had worked and dreamed beside Arnol for so long had asked no questions. Whether or not they guessed what their mission was to be, Kenniston had no way of knowing.

The Chief Pilot came up to Arnol as the four of them readied the hatchway with their cryptic burden.

"She's all checked and ready to take off, whenever you are."

It was then that Kenniston saw the jet-streams of a flier drawing a distant curve of flame across the sky, coming toward the plateau.

The others saw it, too. They waited, while the technical crew la- bored swiftly on, and Kenniston said, "It must be l.al'lor, with a message!"

"Yes," said Arnol. "No one else could know we were here."
Yet their uneasiness grew as they watched the flier sweep in to a landing. Kenniston thought desperately, "No one else could know! We couldn't have been followed!"

He found himself running with the others, across the flat surface of the landing held.

He saw the figure that stepped out of the flier. It was not Lal'lor. It was a man he had never seen— a stocky man with clipped iron- gray hair and a look of authority on his square face.

Behind this stranger came Yarn Allan and with her, his face alight with triumph, was Norden Lund.

Kenniston stopped, his heart sinking in cold despair. The stocky newcomer stood, surveying with startled, unbelieving eyes, the bustle of activity around the cruiser.

"I wouldn't have thought it possible" he gasped. "Lund, you were right. They were going to do it without permission."

Lund said happily, "Yes, sir. I suspected it and that's why I had them watched. You can see for yourself." And to Kenniston and Arnol and the others he said, "Let me introduce you. This is Co- ordinator Mathis."

Yarn Allan was still standing and looking at them, her face shock- ed and incredulous in the white glare of the work lights. She looked as though she could not credit what she saw.

"I didn't believe it," she said, speaking to Kenniston slowly. "When the Coordinator informed me of what Lund had told him, what you were doing, I refused to believe it. I came with him, to prove that he was wrong."

She paused, her blue eyes growing hot, fixed on Kenniston. "But I was wrong. You are a complete barbarian, with no respect for law. I'm beginning to think your people should be quarantined!"

Mathis, the Coordinator, was looking grimly at Jon Arnol. "You've gone too far this time, Arnol. You know the penalty for breaking Federation law, even if this Kenniston hasn't learned it yet."

"Arrest," said Lund softly. "Arrest and exile for all of them. I hope, sir, you will remember that it was I who exposed this criminal plot after my superior had shown open sympathy for the criminals."

"I will remember it," Mathis said crisply. "Now advise Vega Center of this situation at once."

Lund turned to go back to the flier. Its radio-televisor, Kenniston knew, would put him into instant contact with the Government Center.

He sprang forward in running strides. He caught up to Lund, and with one hand on the man's shoulder he spun him around. With the other, he smashed a driving blow at Lund's jaw.

Mathis recoiled, horrified by the violence. Yarn Allan ran toward Kenniston, as Lund struggled to get up.

"Get back, Kenniston!" she ordered him. "You're not on your barbaric world now. You' can't . . ."

Mathis said, a little shakily, "I demand in the name of the Federation—" Nobody paid any attention to his demand, and he stopped.

Arnol had come up. There was an iron set to his jaw now. "We are already liable to penalties for what we have done. Arrest and exile. They can't do much more to us if we go through with it. Are you still game?"

"Yes!" Kenniston looked at Yam Allan and Mathis. He said regretfully, "I'm sorry you two came. You'll have to go with us now— you and Lund. We can't leave you behind to spread an alarm."

Arnol turned to face his men. Ele told them, "You are not responsible for

my plans, and you are not yet under any penalty. Therefore you are free to decide now whether or not you will go with me."

The Chief Pilot stepped forward. He was a tall young man with a reckless grin and eyes that were not given to showing fear.

"I've sweated this tub across the galaxy too many times to quit now," he said. "I don't know about the other boys, but I'm going."

The others, technicians and crewmen alike, shouted assent.

"We've worked too long and too hard to throw this chance away! We're with you, Arnol!"

Amol's dark eyes suffused with a mist that was very like the tears of gratitude. But his voice rang out like a bugle, crying,

"Then prepare for take-off!"

Men began to run toward the star-cruiser. Kenniston went with them, holding tight to Yarn Allan, with Gorr Holl coming after with the squirming, protesting Lund clutched in his great arm.

Magro brought the pale-faced Mathis who neither spoke nor resisted.

The hatches were shut. The air-lock valves clanged into place. As he followed Arnol along a narrow passageway, Kenniston was aware of the swift, ordered confusion that seethed throughout the ship. Warning lights

flashed on die bulkheads. Bells rang. Somewhere, deep in the bowels of the cruiser, machinery purred into life, settling to a steady humming.

Arnol thrust open two doors that faced each other across the passage. Indicating one, he said,

"I think this is the most comfortable. Administrator Allan. You'll understand if we keep the door locked."

She went inside without a word. Lund and Mathis were thrust into the opposite cabin, the former still snarling threats. Arnol glanced at the warning lights.

"All set," he said. "Come on."

In the cruiser, Kenniston sat dazedly through the last taut second* of preparation, feeling all his weariness collapsing upon him. Then a bell rang, and the little ship went smoothly skyward.

As in a dream, Kenniston listened to the banshee scream of atmosphere past the outer hull. Then through the port he saw the great cloudy bulk of Vega Four falling away with slow majesty. And then the sky was gone, replaced by the depthless black vault of space that was hung thick with loops and chains and pendants of blazing Suns.

He became aware later of Gorr Holl's big paws shaking him gently. "Come on, Kenniston. You're nearly out. Time to sleep."

The big Capellan bore him away bodily to a cabin, and rolled him into a bunk.

He woke hours later, feeling rusty and still tired from the strain of the past days. He looked out. The cruiser was in deep space now, droning steadily across the mighty gulf that separated it from Earth. Kenniston felt an involuntary thrill. This voyaging in die great interstellar deeps was getting into his blood.

He stuck his head in the bridge and found Magro there with the Chief Pilot.

"I've been listening with the 'visor operator," said the Spican, "There's been no alarm yet, back there."

"But there will be, when they find Vam and Lund and us gone." "Yes. And Control ships will be after us like hounds. We're not going to have much time, on Earth."

Kenniston was silent. Then he asked, "Where's Arnol?"

Jon Arnol sat there in the dim light and smiled, a happy, peaceful smile.

"I have been admiring my child, Kenniston. That seems silly, doesn't it? But I've put most of my life into that thing. I've waited —how long I've waited. And now, in a little while . . ."

His gaze dwelt fondly again upon the black metallic ovoid in its cradled

pit.

"It is a dream, and it is half a lifetime of toil, and it is a power that will revive a world."

Kenniston cried, out of his haunting doubt, "Can this bomb really rekindle Earth's interior heat? How!"

Arnol said, a little helplessly, "I know the uncertainty that must oppress you. I will try to make you understand the principle, at least. You know that most suns derive their energy from a nuclear reaction that changes four hydrogen atoms into one helium atom, by a series of shifting transmutations involving carbon and nitrogen?" Kenniston nodded quickly. "Yes, that carbon-nitrogen cycle was discovered in my time. Scientists called it the Solar Phoenix. The tiny fraction of atomic weight left over, after the cycle, was the source of solar radiation."

"Exactly," said Arnol. "What you wouldn't know is that scientists in the ages since then have succeeded in triggering similar cyclical reactions in other, heavier elements. That is the key to my process.

"Most planets, like your Earth, have a central core of iron and nickel. Now, a transformation of iron to nickel in cyclic reaction had been achieved in the laboratory, liberating much energy. I I asked myself— instead of in a laboratory, why not start that reaction inside a planet?"

"Then it would reproduce the basic solar reaction inside such a planet?" Kenniston said incredulously.

"Not really, for the iron nickel cycle does not yield such terrific radiation as your Solar Phoenix," Arnol corrected. "It would, however, create a giant solar furnace inside a planet, and raise the surface temperature of that world by many degrees."

Kenniston voiced his worry. "There wouldn't be danger of the nuclear reaction bursting through to the surface?"

"It can't burst through," Arnol declared. "The cycle can only feed on nickel and iron, and the massive outer sphere of silicon and aluminum around the core would contain the reaction forever." He added, "That is why the energy-bomb that triggers the re- action must be detonated in the core. And that is why we can quickly start the process on your Earth—because the ancient heat- shafts there provide access to the deep core without elaborate preliminary boring,

Kenniston nodded. The theory seemed sound enough. And yet— He said slowly, "But when you tested it before, the planet was nearly destroyed by quakes that the convulsion in the core started." "Planetoid," said Arnol wearily. "Not planet. Haven't I ex- plained that enough times. The mass was insufficient to sustain the blast." He was suddenly angry. "Why was I ever fool enough to accept that impossible test? But I repeat, Kenniston, I know what I am doing. The entire College of Science has not been able to find flaws in my equations. You'll have to be content with that."

"Yes," said Kenniston. "Yes, I'll have to be."

But as he left Amol, he could not entirely crush his apprehension. What if, by his faith in Jon Arnol, he had doomed Earth instead of helping it?

One decision came clear in his mind. If there was a possibility that Earth's surface might be ravaged by destructive quakes, no one should remain for the detonation of the bomb who did not do so of his own free will.

With a queer pang of guilt, he thought of Varn Allan. She and Lund and Mathis, prisoners against their will, would have to be let go before the great risk was taken. He would give her that reassurance, at least.

The door of her cabin had a simple combination lock, and the dial numbers had been given to all hands in case of necessity. Kenniston opened it, and went in.

She was sitting rather as he had sat that time aboard the Thanis, her shoulders bent, her gaze brooding on the immensity of space beyond the port. He thought she had not slept, from the lines of strain and weariness in her face.

She straightened up at once, and turned toward him defiantly.

"Have you come to your senses and abandoned this criminal project?" she demanded.

The hard anger in her clear eyes awakened answering anger in Kenniston.

"We have not," he said. "I came only to tell you that you and Lund and Mathis will be allowed to leave Earth before the thing is done."

"Do you think I'm worried about my own safety?" cried Varn Allan. "It's

the thousands of your people, whom you're endangering by this mad defiance of Federation law."

"To the devil with Federation law," he said roughly.

Her eyes flashed hotly. "You'll learn its power. Control ships will speed to Earth before you can even do this thing."

Exasperated beyond measure, he grabbed her shoulders with a brutal impulse to shake her.

Then the totally unexpected happened. Yarn Allan began to cry.

Kenniston's anger melted into distress. She had always seemed so cool and self-contained that it was upsetting to see her in tears.

After a moment, he clumsily patted her shoulder. "I'm sorry, Varn. I know you were trying to help me there at Vega Center. And it must seem to you that I'm ungrateful. But I'm not! It's just that I have to try this thing, or see Middletown's people break their hearts trying to fight your Federation."

She looked at him, wet-eyed, and murmured, "I'm behaving like an emotional fool."

He looked down at her, his hands still on her shoulders. She pushed him back. She seemed to avoid bis eyes as she said,

"I know you're sincere, Kenniston. But I know too that this thing is wrong, that you can't successfully defy the power of all the stars."

He was strangely depressed when he left her. He tried not to think about it— tried not to remember the touch of her, tried not to recognize the choking emotion that had leaped in him for a moment.

"That's just insane," he muttered to himself. "And there's Carol-"

He would not go to her again, in all the hours and days that the little star-cruiser swept full speed across the galactic void. He was, somehow, afraid to see her once more.

A tension grew in Kenniston as the dim red spark of Sol enlarged to a sullen sphere. As the cruiser swept in at decelerating speed past the lifeless outer planets he looked ahead. That cold, haunt- ing doubt was a deeper shadow on him as he watched the gray globe of old Earth grow big ahead.

His people were there, waiting. What was he bringing to them and their dying planet? New life, or ultimate death?

Chapter Nineteen— Middletown Decides

With tightening nerves, Kenniston walked across the dust and desolation of the plain toward the bright dome of New Middletown. Arnol was with him, and big Gorr Holl. The cold wind was as he remembered it, and the red, lowering Sun with its crown of fire.

"Perfect!" whispered Arnol. "Perfect! Such a world as I have dreamed of for a test!"

"Here they come," said Gorr Holl, and pointed to the portal. The armed lookouts had recognized Kenniston and the big Capellan. Word had gone around, and the folk of Middletown were pouring out through the portal to meet them.

Kenniston searched for Carol's face in the crowd. He yearned to see her—and yet deep in his mind somewhere there was a strange reluctance to see her, to face her, and he did not know why this should be so. But she was not here, he should have known she would not have ventured into this excited crowd.

Mayor Garris bustled up to him at the portal, preceding Hubble and a few of the City Council.

"Did you fix things, Kenniston?" he cried. "Did you make them understand out there?"

Kenniston said, "I'd like to make my report in the plaza, where everyone can hear."

The Mayor gave him a worried, half-frightened look, and fell back. Kenniston reached out to take Hubble's hand.

"I've got to talk to you, Hubble," he said, "I've done something, and I

don't know ..."

He talked in a rapid undertone to the older scientist as they made their way through the streets.

Hubble's reaction was the same as Kenniston's had been when the thing had been first broached to him. He recoiled from it, appalled.

"Good God, Ken! It's mad— dangerous . . ."

But as he heard more, his alarm changed to grave attention, and then keenest interest.

Hubble turned to Gorr Holl. He had worked beside the big furry Capellan. He knew and trusted his ability as an atomic technician. Haltingly, he asked, "Will Amol's process work?"

Gorr Holl answered simply, "I believe in it enough to risk my life helping to try it."

Kenniston translated that. And Hubble seemed reassured. "It still seems a great gamble, Ken. But— I think it's worth it."

Soon Kenniston had mounted the steps of the building that was City Hall, and stood by the microphone. Before him were the gathered thousands of Middletown— a kaleidoscope of eager faces, excited, waiting.

There was no use being gentle about it. He told them almost brutally,

"The decision is against us. They say we have to go."

He listened to the roar that broke out then, the angry cry of a people driven beyond their patience.

Mayor Garris voiced the passionate reaction of all Middletown.

"We won't leave Earth! And if they want to push it to a fight, they can!"

Kenniston raised his hands, begging for quiet.

"Wait!" he shouted into the microphone. "Listen! You may not have to go, and you may not have to fight. There's one chance . . ."

He told them, as simply and carefully as he could, of Jon Amol's great proposed experiment.

"Earth would be warm again— warm enough so that you could live here comfortably for all time to come."

John Borzak stepped forward, a rawboned, grizzled man who had spent a lifetime in the mills.

"Does it mean, Mr. Kenniston, that we could go back then to Middletown?"

He answered, "Yes."

A cheer went up that shook the very walls of the buildings. Kenniston motioned them again for silence.

"I have to warn you. This experiment has never been tried on a world like Earth. It's possible that it may fail'. If it does, the surface of the Earth may be wrecked by quakes."

That gave them pause. Kenniston saw the shadow of fear cross their faces, saw how they turned to one another and talked, and shook their beads, and looked anxiously back and forth.

Kenniston turned and spoke to Mayor Garris.

"Tell them to think it over carefully. Then call for a vote— those in favor of trying it to go to one side of the plaza, those against it to the other."

Aside, to Hubble, he said, "They should have months to decide a thing like this, instead of minutest"

Hubble said, "It may be just as well. They won't torture them- selves with too much waiting and thinking."

Mayor Garris talked to the crowd. There was a deepening, seething turmoil in the plaza then as people tried to reach others, to gather opinions from each other on what they ought to do. Scraps of heated conversations reached Kenniston's ears:

"These guys from outside have done pretty good so far, getting this city going again. "They know what they're doing!"

"I don't know. Suppose it does bring terrible quakes?" "Listen, these people know their stuff. They'd have to, to live out there in the stars the way they do!"

"Yeah. And I'd rather sit through an earthquake than go kiting off to the Milky Way!"

At last Mayor Garris asked, "Are you ready for the vote?"

They were, as ready as they would ever be.
Kenniston watched, hi$ heart pounding. And beside him, Jon Amol watched also. Kenniston had explained the procedure to him. He knew what Arnol must be going through as he waited while his life's work was weighed in the balance.

For a time, the motion of the crowd was only a chaotic churning. Then, gradually, the separating motion came clear.

Those for the experiment, to the right side of the plaza . . .

Those against it, to the left . . .

The channel between the two factions widened. And Kenniston saw that on the left were a scant two hundred people.

The vote was carried. The experiment was approved.

They were committed, now, he and Arnol and the rest. For life or death, they were committed.

He spoke again into the microphone.

"We must do this thing as soon as we can. We have very little time before ships of the Federation will arrive to stop us.

"You will please, all of you, prepare to leave the city at a mo- ment's notice. As a precaution, no one is to remain under the dome when the energy-bomb is detonated.

"Those of you who voted against the experiment will be given a chance to leave Earth before it takes place. The star-cruiser can only take part of you, so it is suggested that you draw lots for space aboard her."

He swung around to the Mayor.

"Will you take over now? Start the work of organizing the departure—we'll need every minute we've got!"

Hubble said, "I think we'd better let Jon Arnol see the shaft."

Arnol's technical crew came in from the ship. They studied the great heat-shaft, with Gorr Holl and Magro and Arnol himself, while Kenniston and Hubble stood by and watched.

Arnol finally said, "It'll do. It goes right down to the core. But the similar shafts in the other domed cities here— they'll have to be exploded and sealed, first."

Kenniston was startled. He hadn't thought of that. "But that'll take time—"

"No, not so long. A few of my men can whip around to them in the cruiser and do it quickly. Of course I brought Earth maps— and there are only a half-dozen of the domed cities."

Kenniston asked him, "How long will it take to get things ready here?"

Arnol said, "If we perform a miracle, we can be ready by noon tomorrow."

Kenniston nodded. 'Til do my best to help you, and so will everybody here. Just let me have ten minutes, first."

Ten minutes wasn't much. Not much, for a man who has just been half across a universe to spend with his girl. But time was what they didn't have, an inexorable limit was closing down on them every second, and even this little time he took to go to Carol was time cheated and stolen from the common need.

He thought she would want to take frightened refuge on the cruiser, when the moment came, and he could only hope that he could get her on it.

Carol was waiting, as though she had known he would come. Her face was bright with eagerness and hope, her eyes lighted in a way he had not seen since the old time.

"Ken, can it really be done?" she cried. "Will it really work, make Earth warmer?"

"We're so sure that we're gambling everything it will," he said. "Of course, there's always a chance of failure—"

She didn't even listen to that. Her hands clutched his arms, her face had a breathless excitement, as she exclaimed, "But that doesn't matter!l It's worth running any chance, if it succeeds! If it lets us go back to Middletown—"

He saw the mist in her eyes, the hunger, the yearning, as she whispered, "Just to think of it— of going back* to our own town, our own homes, our own people— "

Kenniston understood, now. Deep indeed was her homesickness for the old town, tor the old way of life. So deep, that it had completely conquered the fear she might otherwise have felt.

He took her in his arms and kissed her, and touched her hair, and he was thinking, "She does love me— but only as part of a life that's gone, not me alone, not John Kenniston by himself, but the Kenniston of Middletown. And she'll be happy with me again, if we can change our life back a little to what it was."

Why did that thought bring him no joy? Why must he think of Yarn Allan, tired and lonely, and yet courageously facing the wide universe, carrying a burden of duty too heavy for her?

Carol was asking him, "What was it like, Ken? Out there?"

He shook his head. "Strange— and hostile— and beautiful, in a terrible way."

She said, "I think it changed you, a little. I think it would change anybody."

And she shivered a little, as though even in the touch of him now was a freezing breath of alien deeps, a taint of unearthly worlds.

"No, Carol," he said. "I'm not changed! But I can't stay now. I have to get back— every minute is precious—"

As he hurried back to the others, Kenniston saw that New Middletown had become a rushing, surging swirl of excitement. Machinists and metal-workers of Middletown were called in, every available man and piece of equipment. Great loads were brought in from the ship. Hammers rang with a deafening clamor, shaping metal on improvised forges. Riveting machines gave out their staccato thunder.

And gradually, painfully, shaped out of the sweat and effort of their bodies, a scaffolding of steel girders rose above the mouth of the great shaft.

Magro labored with the technicians over the complicated and delicate electrofuses, and the timing devices, and the radio-control that from a distance would drop and detonate the charge.

Kenniston had little time to think of anything but the work. Yet his mind reverted strangely often to Yarn Allan, locked in her cabin aboard the cruiser, and he wondered what her thoughts were.

Morning came. The city was to be cleared by noon, and the men and women of Middletown were gathering their children in readiness. They would not take much out of the city with them. They would not need much, either way.

The cryptic black ovoid was wheeled into position by the shaft. And with it were brought four small round objects of a different look.

"Capper-bombs, that we made in the ship's laboratory on the way here," explained Arnol. "They will drop an instant alter the energy-bomb and will explode in the shaft just before it detonates below, sealing the shaft to prevent backlash."

Kenniston felt an increasing dread, as the fateful moment loomed close. His dread was for the trusting thousands of Middletown, who accepted the powers of scientists with the same unquestioning faith with which men had once accepted the powers of wizards.

A few more hours now, and the thing would be done. By noon, or a little after, they would know whether Earth was to live or die.

Then one of Arnol's men came running. He had run all the way from the star-cruiser. He was breathless, and his eyes were wild.

He cried out to Arnol.

"A message on the televisor from a Control Squadron! They say they are approaching Earth, and order us to cease operations at once!"

Chapter Twenty— Appointment with Destiny

Kenniston felt the impact of the news as a catastrophe crushing all their desperate hopes. He stood sagging, looking at the technicians who stared frozenly back.

But Jon Arnol, raging at seeing the dream of a lifetime threatened at this last moment, rushed forward to the messenger.

He grabbed the man's collar. "Did you think to use a distance- gauge on the message from those ships?"

The man nodded hastily. "Yes. The readings were—"

"The devil with readings! How far from Earth are those ships?" "I'd estimate that they're three or four hours away, if they come at full speed."

"They'll come at full speed, don't worry," said Arnol grimly. His face was a sweating mask, the bones of it standing out gauntly, as he turned to the

others. "Can we be ready in time?"

"The rack-trip controls are in," answered a technician. "It'll take an hour or more to prepare the timers."

Kenniston had regained a little hope, when he heard of the time- limit they faced.

"Surely we can be ready in time, Arnol! I'll start them moving out the people, at once!"

The next hours were nightmarish. Working under pressure, grudging every second, it seemed that everything conspired against them. The metal, the mechanisms, the very tools seemed determined to betray them.

And yet, at last, the dark shape of the energy bomb swung in its rack over the mouth of the shaft. The last of the timers was set, and it was done.

"Get your equipment ready," Kenniston told them tautly. "Let's go. There's still a lot to be done."

He w'ent out with Hubble and Amol and the rest. The city was as he had first seen it— empty, still, lifeless. The people had gone. As he passed out the portal he could see the dark, trailing mass of them already far across the plain, the thousands streaming slowly up the slope of the distant ridge.

Anxiously he scanned the sky. There was no sign yet of the Control

Squadron.

Arnol sent his technical crew ahead to the ridge, with the remote control mechanisms and recording instruments. Gorr Holl and Magro and Hubble w'ent with them. Then Kenniston and Amol ran toward the star-cruiser.

'There was a little knot of people standing beside it in dust and cold. The Middletowners who were leaving Earth.

Kenniston stared at them in amazement. Out of the two hundred, only a score had actually come to the cruiser.

A few of them picked up their bundles and stood irresolutely glancing from their companions to Kenniston and back, wanting to speak and not knowing what to say. Then they turned and went aboard.

Kenniston counted. Two men, three women, and a child.

"Well," he snapped at those who were left, "what are you waiting for? Get aboard!"

"I guess," said one man, and then stopped to clear his throat. "I guess I'd rather stay with all the rest."

He grabbed his bundle and started away, hurrying after the distant crowd.

Another and another followed him until all were gone, a small hastening group in the immense desolation of the plain.

Arnol smiled. "Among your people, Kenniston, even the cowards are brave. It must be even harder, in some ways, for those who have decided to go."

They entered the cruiser, and released Mathis and Norden Lund and Yarn Allan from their locked cabins. Yarn Allan did not speak, but the Coordinator said icily,

"So you are really going to do it?"

"We are," said Arnol. "My Chief Pilot is about to take this ship off. You'll be safe."

Norden Lund said bitterly, "I hope it blows you all to fragments! But even, if it doesn't, even if it succeeds, you won't win. You'll still have Federation law to face. We'll see to that!"

"I don't doubt it. And now we must go."

He turned, but Kenniston paused, still looking at Yarn Allan. Her face was a little pale but in it was no such anger as Lund's. She was looking at him with a searching, level gaze.

He wanted to speak to her, he w'anted to voice something that was in him, but he could find no words. He could only say, finally, "I'm sorry things had to be this W'ay, Yarn. Good-bye—"

"Wait, Kenniston."

Fie stopped, and she came up to him, pale and calm, her blue eyes very steady on his face. She said,

"I'm staying here, while you do this thing."

He stared at her, dumb with astonishment. And he heard Mathis exclaim,

"Allan, are you mad? What are you thinking of?"

She told Mathis slowly, "I am Administrator of this world's sector. If my mistakes have caused this crisis, I will not evade its consequences. I will stay."

Lund cried to Mathis, "She's not thinking of her responsibility! She's thinking of this primitive, this Kenniston!"

She turned, as though to make furious reply. But she did not speak. She looked instead at Kenniston, her face white and strained.

Mathis was saying to her coldly, "I will not order you to come with us. But be sure that your conduct will be remembered when your fitness for office is re-examined."

She bowed silently to that, and turned and went out of the ship. And Kenniston, following her, felt a wondering, incredulous emotion that he dared not let himself recognize.

They stepped out into the red sunlight, and with a soft humming the star-cruiser mounted into the sky and was lost to view. When they reached the ridge, Gorr Holl and Magro and Hubble were waiting there with the young technicians and their apparatus. And Corr Holl uttered a rumbling exclamation when he saw them.

"I thought you'd stay, Varn!"

Her head went up and she said half angrily, "But why should you—?" She stopped abruptly, and was silent a moment, then asked, "How soon?"

"We're all set now," the big Capellan answered.

Kenniston saw that the radio control box and the panels of strange instruments were set up and ready. He glanced at Arnol.

The scientist's face was filmed with sweat. All the color had gone from it, and his hands shook. In this moment, he was facing the climax of his whole life, all the years and the pain and the effort.

He said, in a strangely toneless voice, "You'd better warn them, Kenniston. Now."

Below them, on the far slope of the ridge, waited the thousands of Middletown's people.

Kenniston went down toward them. He cried out to them, and his voice

carried thin and unreal on the chill wind, across the dead rocks and the dust.

"Keep down behind the ridge! Pass the word to keep down! We're going to blow it!"

A great silence fell up›on them. By ones and twos, and then by hundreds, they knelt to pray. And others, by the hundreds, stood unmoving and unspeaking, looking solemnly upward to the crest of the ridge.

Here and there, a child began to cry.

Slowly, gripped as in a strange and fateful dream, Kenniston mounted again to where Arnol and the others stood. Far beyond them he saw the dome of the city, still glowing with light as they had left it, lonely in the vast barrenness of the plain.

He thought of the black thing waiting alone in the city to make its nightmare plunge, and a deep tremor shook him. He reached out and took Yarn Allan's hand.

In the last minute before Arnol's fingers pressed the final pat- tern on the control board. Yarn Allan looked past Kenniston, down at the silent, waiting thousands who were the last of all the races of old Earth.

"I see now," she whispered, "that in spite of all we have gained since your day, we have lost something, too. A courage, a blind, brave something— I'm glad I stayed!"

Arnol drew a sharp and painful breath,

"It is done," he said.

For a long, eternal moment, the dead Earth lay still. Then Kenniston felt the ridge leap under his feet— once, twice, four times. The sharp grinding shocks of the capper bombs, sealing the great shaft.

Deep, deep within the buried core of the Earth a trembling was born, a dilating shudder that came slowly upward to the barren rocks and touched them and was gone.

It was as though a dead heart had suddenly started to beat again. To beat strongly, exultantly, a planet reborn , . .

The pointers on the panel of dials had gone quite mad. Gradually they quivered back to normal. All but one row of them, at which Arnol and his crew stared with superhuman intensity.

Kenniston could bear the terrible silence no longer,

"Has it . . ." His voice trailed away into hoarseness.

Arnol turned very slowly toward him. It was difficult for him to speak,

"Yes. The reaction is begun. There is a great flame of warmth and life inside Earth now. It will take weeks for that warmth and life to creep up to

the surface but it will come."

He turned his back then, on Kenniston, on all of them. What he had to say was for the tired, waiting young men who had labored with him so long.

He said to them, "Here on this little Earth, long ago, one of our savage ancestors kindled wood to warm him. Now we have kindled a world. And there are all the others, all the cold, dying worlds out there ..."

Kenniston heard no more. A babble had broken loose. Varn Allan was clinging to him, and Gorr Holl was shouting deafeningly, and he heard the stammering questions of Mayor Garris and Hubble's shaking voice.

Over all came the surge of thousands of feet. The thousands of Middletown were coming up the slope, scrambling, running, a life-or-death question iri their white faces.

"Tell them, Ken," said Hubble, his voice thick.

Kenniston stood upon the ridge, and the crowd below froze tensely silent as he shouted down to them,

"It has succeeded! All danger is over, and in weeks the heat of the core will begin to reach the surface ..."

He stopped. These were not the words that could reach their hearts. Then he found those words, and called them to the thousands.

"It has been chill winter on Earth, for a million years. But now, soon, spring is coming back to Earth. Spring!"

They could understand that. They began to laugh, and to weep, and then to shout and shout.

They were still shouting when the great Control cruisers came humming swiftly down from the sky.

Chapter Twenty One— Waking World

Slowly, slowly, during all these weeks, the spring had come. It was not the spring of old Earth, but every day the wind blew a little softer, and now at last the first blades of grass were pushing upward, touching the ocher plains with green.

But only by hearsay did Kenniston know of that. Confined with the others in a building of New Middletown, it had seemed to him that the time would never end. The weeks of waiting for the special Committee of Governors to come from Vega, the weeks of the hearing itself, the slow gathering of testimony and careful sifting of motives. And now, the days they had waited for the final verdict.

When they were led back into the big room for the verdict, Kenniston's eyes swung, not to the group of three men and a humanoid that sat behind the table, but to Varn Allan. He knew that her own career was at stake in this hearing. She did not look upset, and she met his gaze with a grave little smile.

Lund, beside her, looked alert and faintly worried now. He shot a hard glance at Kenniston, but Kenniston had to turn his gaze as the reading of the verdict began.

The aging man who read it, the oldest of the four Governors, had no friendliness in his face. He spoke as one who reluctantly performs an unpleasant duty.

"You, the ring-leaders in this thing, have rendered yourselves liable to the extremest penalties of Federation law by your direct defiance of the Governors," he said. "It would be quite in order to direct a sentence of life imprisonment. But in this case it is quite impossible to reach a verdict on purely legalistic grounds. We must admit that your fait accompli has created a new situation. The Board of Governors has now given approval to the use of the Arnol process—"

Kenniston found it hard, hard, to realize that a long, great battle for the survival of worlds was ending in these phrases.

"—on certain other planets, and that presents us with a legal impasse. To punish you now for your use of it here would be, morally if not legally, punishing you for infraction of a no-longer- existing law."

Gorr Holl uttered such a long and noisy exhalation of relief, that he was promptly glared into silence.

"We are unable, therefore, to do other than dismiss you with the official reprimand of the Board of Governors for your behavior."

Now that the moment had come, now that it was over, Kenniston found that he felt very little emotion, alter all. The issues had been so vast that they had dwarfed his personal fate. He knew that that feeling would pass, that later he would be glad and thankful, but now—

The Governor, though, had not finished. He was speaking directly now to Yarn Allan.

"Over and above the main issue, there remains the conduct of the responsible officials in dealing with it. We are forced to express official censure of what appears to be inexcusable bungling of a psychological problem by the Administrator in charge, and—" here

he looked toward Norden Lund— "and on the part of the Sub-Administrator, obvious attempts to hamper his superior for selfish reasons."

"I he cold voice ended with the brief, hard phrases,

"We recommend, for Administrator Allan: Demotion one grade. For Sub-Administrator Lund: Demotion one grade. This hearing is concluded."

Kenniston looked across the big room at Varn Allan. Her face had not changed, and silently she turned to go.

Gorr Holl was slapping him mightily on the back, Magro was saying something excitedly, but he wrenched away from them and went after her. She saw him coming, and waited. But Norden Lund was between them.

Lund_ face was white with controlled rage, and his voice was thick as he told Kenniston, "So you primitives have ruined my career?"

Varn Allan cut in contemptuously. "You ruined it yourself, Norden, with your ambitious plotting."

He turned and strode away from them. Varn Allan, looking after him, sighed and said, "You have made a deadly enemy, Kenniston."

He was not thinking of that. He waited until she turned back toward him, and he asked,

"Are you my enemy too, for what I've done to you?"

She shook her head gravely. "No. That was not your doing. In a new and confused situation, I failed. That is all."

He had never admired her courage so much as now. He wanted to say so, he wanted to say many things, but she turned away from him a little, and said,

"This is a great day for you, Kenniston. For this is the day when they are allowing those of your people who wish to, to return to your old town."

"Yes, I heard that it was today."

"And you will be going back there, with your Carol. She will be very happy."

He said, "Varn—"

But she would not face him. She said, "This is not goodbye. You'll come back here before we leave Earth."He stood, oppressed by emotions he could not define, and finally he said, "Yes. Yes, I'll come back before then."

She left, and he looked after her until she was gone. Then, slowly, he went back through the big, empty hall and out through the building into the street.

A tremendous, brassy clamor and uproar hit him in the face. The plaza was crowded, but a wide lane was open through to the boulevard that led to the portal. And the Middletown High School Band, brave for the - occasion in its retrieved scarlet uniforms, with its drum majorettes prancing and horns blatting, and cymbals banging and big drums booming, was marching through the lane toward the portal.

Behind it came a glistening, open green convertible, with Mayor Garris standing up on the back seat, hatless, his plump face beaming sunlike, waving his hat joyfully to the cheering throngs. And behind his car rolled a long line of other cars— the ancient jalopies, the shining station-wagons, the family sedans, crowded with excited men and sobbing women, the first of the long caravan forming up to go back to old Middletown.

Kenniston saw the cheering people who surrounded Jon Arnol, and Hubble, and Gorr Holl and Magro, nearby. He knew that he would be drawn into that group, and he went back and circled around the plaza, going by temporarily abandoned streets to the quarters of Carol and her

aunt.

Carol leaped up with a glad cry when he entered. "Oh, Ken, then you're free They said it would be today, and I was waiting and hoping—"

"Yes, it's all done with," he said. He stood, not knowing quite what to say to her, until Mrs. Adams came up.

"Then we can leave here now, like the others?" Mrs. Adams said anxiously. "We can go back to Middletown now?"

"Just as soon as you can pack up and I can get the jeep," he said.

"I've been packed for days," she told him. "I wouldn't stay in this unearthly place one minute longer than I have to! Just imagine, they tell me a lot of the young people are going to stay here from choice. They say they like it better than Middletown, now!"

Kenniston felt a curious sense of unreality as he got the jeep, and packed their things into it, and then joined the slow, bottle- necked traffic that was now steadily rolling out of the doomed city.

Could it all be ending like this? Could it be true that he was going back to the old town, the old life, after all that he had done and seen?

Cars ahead of them and cares behind them, rolling toward the ridge, eager for sight of the old city. And now they were passing Jon Arnol's small cruiser, and then the titan black bulks of the great star-ships, brooding

upon the plain, wrapped in the majesty of giants who knew the secrets of infinity.

He looked back at the great ships, and he thought of the vast, star-shot spaces whither they would go, then he looked on ahead.

And at last, at last, the eager cars topped the ridge and went hurrying joyously down into old Middletown.

All along the familiar streets, houses were already beginning to come to life. Shutters flung open, storm windows raised, doors standing wide to the soft wind, women busy with brooms on dust-drifted porches. The shrill voices of children and barking of dogs mingled with the noisy impatience of the auto horns.

Down Mill Street to Main Street, and on. And finally, the old gray house, just as they had left it.

Kenniston stopped the jeep at the curb. Mrs. Adams got out. She went slowly up the steps and unlocked the door. She stood for a moment, looking in.

"Nothing is changed," she whispered. "But all this dust. -I'll have to clean—"

Suddenly she sat down in her chair by the window and began to cry.

Carol did not go in at once. Feeling an odd sense of strain, Kenniston

asked,

"Are you happy too, Carol?"

She nodded, half smiling, looking out along the awakening street. "Yes, Ken."

He said, "Well— I want to return to New Middletown to see Gorr and the others before they leave. But I'll be back soon."

She looked at him now, and she said, "No, Ken. Don't come back to me."

He stared at her, astonished. "Carol, what do you mean?"

Her soft face was quite steady, "I mean, that you don't altogether belong here now, Ken. You changed, when you went out there. You'll change more, in the days ahead— will turn more and more toward the strange new life," She added, "And I can't change. Not like that. You'd be miserable with me, clinging to the old things,"

He knew she spoke truth, and yet he must protest. "But the plans we made together, Carol—"

She shook her head. "I made those plans with another man, a man who isn't quite here anymore, and won't ever be here again."

She reached up and kissed him, and then she went inside and closed the door.

Kenniston stood a moment, hesitating. Then, slowly, he climbed back into the jeep and drove out of Middletown.

From the ridge he could see again the star-ships that rested on the plain by the doomed city. And the city itself still lived. It was the younger folk of Middletown who had chosen to stay in it— the young in mind who could still look forward to the new.

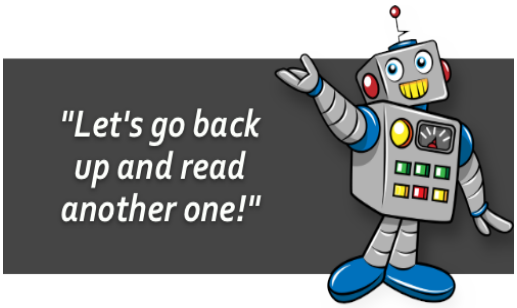
The star-ships would continue to come, now the Earth was habitable again. The people of far stars would mingle with the people of Middletown, and the young men here would go out to other Suns, and gradually the whole strange story of Middletown would be absorbed into the stream of history.

Kenniston sent the jeep speeding toward the domed city. He felt now a sense of new freedom, and a deep gratitude toward Carol, who had not tried to hold him back. But he felt, today, an uncertainty, a shrinking. Vast new horizons stretched before him now, the boundless horizons of space, the endless avenues of new thought. He was still a child of older Earth, and it would be strange and lonely.

He found the others still in the plaza, talking together— Gorr Holl and Magi'o and Arnol. And with them. Yarn Allan. They saw him, Gorr waved and bawled to him. As he drove toward them, he saw Yarn Allan's eager eyes awaiting him, and he knew suddenly that he w'as wrong and that in all the strangeness of the years to come, he would not be alone.

THE END

ABOUT THE AUTHOR: Despite his somewhat obscure name, Edmund Hamilton was an extremely prolific writer of science fiction and fantasy stories for magazines, books, and comics. Be sure to see contributing writer Anderson Rearick III's complete bio about him in Issue 03 of The Interocitor Magazine.



EXQUISITE *Vintage* SCI-FI

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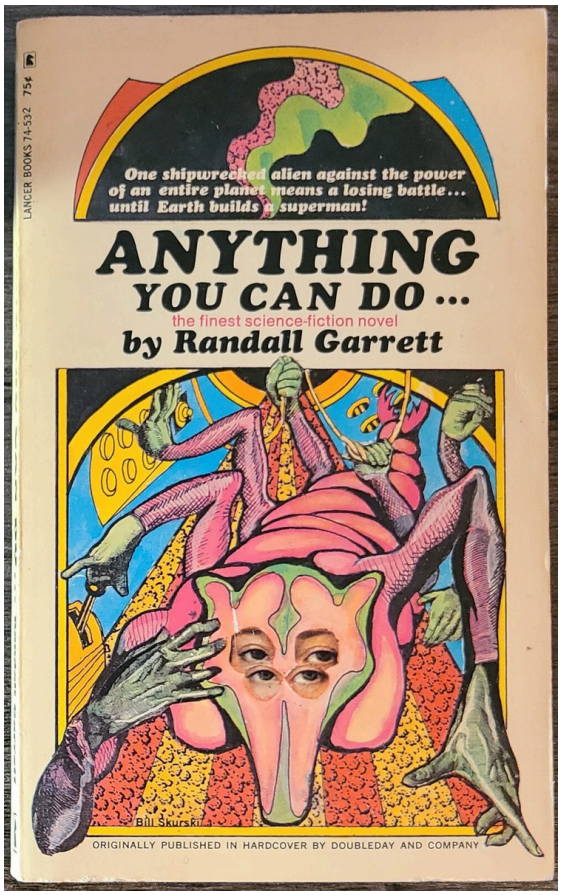
INVASIONWARE!

Anything You Can Do

Darrell T. Langart (aka Randall Garrett)

The Alien was really alien--and Earth was faced with a strange problem indeed. They had to have a superman. And there weren't any. So....

Like some great silver-pink fish, the ship sang on through the eternal night. There was no impression of swimming; the fish shape had neither fins nor a tail. It was as though it were hovering in wait for a member of some smaller species to swoop suddenly down from nowhere, so that it, in turn, could pounce and kill.



But still it moved.

Only a being who was thoroughly familiar with the type could have told that this fish was dying.

In shape, the ship was rather like a narrow flounder--long, tapered, and oval in cross-section--but it showed none of the exterior markings one might expect of either a living thing or of a spaceship. With one exception, the smooth, silver-pink exterior was featureless.

That one exception was a long, purplish-black, roughened discoloration that ran along one side for almost half of the ship's seventeen meters of length. It was the only external sign that the ship was dying.

Inside the ship, the Nipe neither knew nor cared about the discoloration. Had he thought about it, he would have deduced the presence of the burn, but it was the least of his worries. The internal damage that had been done to the ship was by far the more serious. It could, quite possibly, kill him.

The Nipe, of course, had no intention of dying. Not out here. Not so far, so very far, from his own people. Not out here, where his death would be so very improper.

He looked at the ball of the yellow-white sun ahead and wondered that such a relatively stable, inactive star could have produced such a tremendously energetic plasmoid that it could still do the damage it had done so far out. It had been a freak, of course. Such suns as this did not normally produce such energetic swirls of magnetic force.

But the thing had been there, nonetheless, and the ship had hit it at high velocity. Fortunately, the ship had only touched the edge of the swirling cloud, otherwise the entire ship would have vanished in a puff of incandescence. But it had done enough. The power plants that drove the ship at ultralight velocities through the depths of interstellar space had been so badly damaged that they could only be used in short bursts, and each burst brought them nearer to the fusion point. Most of the instruments were powerless; the Nipe was not even sure he could land the vessel. Any attempt to use the communicator to call home would have blown the ship to atoms.

The Nipe did not want to die, but, if die he must, he did not want to die foolishly.

It had taken a long time to drift in from the outer reaches of this sun's planetary system, but using the power plants any more than absolutely necessary would have been fool-hardy.

The Nipe missed the companionship his brother had given him for so long; his help would be invaluable now. But there had been no choice. There had not been enough supplies for two to survive the long fall inward toward the distant sun. The Nipe, having discovered the fact first, had, out of his mercy and compassion, killed his brother while the other was not looking. Then, having eaten his brother with all due ceremony, he had settled down to the long, lonely wait.

Beings of another race might have cursed the accident that had disabled the ship, or regretted the necessity that one of them should die, but the Nipe did neither, for, to him, the first notion would have been foolish, and the second incomprehensible.

But now, as the ship fell ever closer toward the yellow-white sun, he began to worry about his own fate. For a while, it had seemed almost certain that he would survive long enough to build a communicator--for the instruments had already told him and his brother that the system ahead was inhabited by creatures of reasoning power, if not true intelligence, and it would almost certainly be possible to get the equipment he needed for them. Now, though, it looked as if the ship would not survive a landing. He had had to steer it away from a great gas giant, which had seriously endangered the power plants.

He did not want to die in space--wasted, forever endeavored. At least, he must die on a planet, where there might be creatures with the compassion and wisdom to give his body the proper ingestion. The thought of feeding inferior creatures was repugnant, but it was better than rotting to feed monocells or ectogenes, and far superior to wasting away in space.

Even thoughts such as these did not occupy his mind often or for very long. Far, far better than any of them was the desire--and planning for survival.

The outer orbits of the gas giants had been passed at last, and the Nipe fell on through the asteroid belt without approaching any of the larger pieces of rock-and-metal. That he and his brother had originally elected to come into this system along its orbital plane had been a mixed blessing; to have come in at a different angle would have avoided all the debris--from planetary size on down--that is thickest in a star's equatorial plane, but it would also have meant a greater chance of missing a suitable planet unless too much reliance were placed on the already weakened power generators. As it was, the Nipe had been able to use the gravitational field of the gas giant to swing his ship toward the precise spot where the third planet would be when the ship arrived in the third orbit. Moreover, the third planet would be retreating from the Nipe's line of flight, which would make the velocity difference that much the less.

For a while, the Nipe had toyed with the idea of using the mining bases that the local life form had set up in the asteroid belt as bases for his own operations, but he had decided against it. Movement would be much freer and much more productive on a planet than it would be in the Belt.

He would have preferred using the fourth planet for his base. Although much smaller, it had the same reddish, arid look as his own home planet, while the third world was three-quarters drowned in water. But there were two factors that weighed so heavily against that choice that they rendered it impossible. In the first place, by far the greater proportion of the local inhabitants' commerce was between the asteroids and the third planet. Second, and much more important, the fourth world was at such a point in her orbit that the energy required to land would destroy the ship beyond any doubt.

It would have to be the third world.

As the ship fell inward, the Nipe watched his pitifully inadequate instruments, doing his best to keep tabs on every one of the feebly-powered ships that the local life form used to move through space. He did not want to be spotted now, and even though the odds were against these beings having any instrument highly developed enough to spot his craft, there was always the possibility that he might be observed optically.

So he squatted there in the ship, a centipede-like thing about five feet in length and a little less than eighteen inches in diameter, with eight articulated limbs spaced in pairs along his body, any one of which could be used as hand or foot. His head, which was long and snouted, displayed two pairs of violet eyes which kept a constant watch on the indicators and screens of the few instruments that were still functioning aboard the ship.

And he waited as the ship fell towards its rendezvous with the third planet.

II

Wang Kulichenko pulled the collar of his uniform coat up closer around his ears and pulled the helmet and face-mask down a bit. It was only early October, but here in the tundra country the wind had a tendency to be chill and biting in the morning, even at this time of year. Within a week or so, he'd have to start using the power pack on his horse to electrically warm his protective clothing and the horse's wrappings, but there was no necessity of that yet. He smiled a little as he always did when he thought of his grandfather's remarks about such "new-fangled nonsense".

"Your ancestors, son of my son," he would say, "conquered the tundra and lived upon it for thousands of years without the need of such womanish things. Are there no men anymore? Are there none who can face nature alone and unafraid without the aid of artifices that bring softness?"

But Wang Kulichenko noticed--though, out of politeness, he never pointed it out--that the old man never failed to take advantage of the electric warmth of the house when the short days came and the snow blew across the country like fine white sand. And he never complained about the lights or the television or the hot water, except to grumble occasionally that they were a little old and out of date and that the mail-order catalog showed that better models were available in Vladivostok.

And Wang would remind the old man, very gently, that a paper-forest ranger made only so much money, and that there would have to be more saving before such things could be bought. He did not--ever--remind the old man that he, Wang, was stretching a point to keep his grandfather on the payroll as an assistant.

Wang Kulichenko patted his horse's rump and urged her softly to step up her pace just a bit. He had a certain amount of territory to cover, and, although he wanted to be careful in his checking, he also wanted to get home early.

Around him, the neatly-planted forest of paper-trees spread knotty, alien branches, trying to catch the rays of the winter-waning sun. Whenever Wang thought of his grandfather's remarks about his ancestors, he always wondered, as a corollary, what those same ancestors would have thought about a forest growing up here, where no forest like this one had ever grown before.

They were called paper-trees because the bulk of their pulp was used to make paper (they were of no use whatever as lumber), but they weren't trees, really, and the organic chemicals that were leached from them during the pulping process were of far more value than the paper pulp.

They were mutations of a smaller plant that had been found in the

temperate regions of Mars and purposely changed genetically to grow on the Siberian tundra, where the conditions were similar to, but superior to, their natural habitat. They looked as though someone had managed to cross breed the Joshua tree with the cypress and then persuaded the result to grow grass instead of leaves.

In the distance, Wang heard the whining of the wind and he automatically pulled his coat a little tighter, even though he noticed no increase in the wind velocity around him.

Then, as the whine became louder, he realized that it was not the wind.

He turned his head toward the noise and looked up. For a long minute, he watched the sky as the sound gained volume, but he could see nothing at first. Then he caught a glimpse of motion. A dot that was hard to distinguish against the cloud-mottled gray sky.

What was it? An air transport in trouble? There were two trans-polar routes that passed within a few hundred miles of here, but no air transport he had ever seen had made a noise like that. Normally, they were so high as to be both invisible and inaudible. Must be trouble of some sort.

He reached down to the saddle pack without taking his eyes off the moving speck and took out the radiophone. He held it to his ear and thumbed the call button insistently.

Grandfather, he thought with growing irritation as the seconds passed, wake up! Come on, old dozer, rouse yourself from your dreams!

At the same time, he checked his wrist compass and estimated the direction of flight of the dot and its direction from him. He'd at least be able to give the airline authorities some information if the ship fell. He

wished there were some way to triangulate its height and so on, but he had no need for that kind of thing, so he hadn't the equipment.

"Yes? Yes?" came a testy, dry voice through the earphone.

Quickly, Wang gave his grandfather all the information he had on the flying thing. By now, the whine had become a shrill roar, and the thing in the air had become a silver-pink fish shape.

"I think it's coming down very close to here," Wang concluded. "You call the authorities and let them know that one of the aircraft is in trouble. I'll see if I can be of any help here. I'll call you back later."

"As you say," the old man said hurriedly. He cut off.

Wang was beginning to realize that the thing was a spaceship, not an airship. By this time, he could see the thing more clearly. He had never actually seen a spacecraft, but he'd seen enough of them on television to know what they looked like. This one didn't look like a standard type at all, and it didn't behave like one, but it looked even less like an airship, and he knew enough to know that he didn't necessarily know every type of spaceship ever built.

In shape, it resembled the old rocket-propelled jobs that had been first used for space exploration a century before, rather than looking like the fat ovoids that he was used to. But there were no signs of rocket exhausts, and yet the ship was very obviously slowing, so it must have an inertia drive.

It was coming in much lower now, on a line north of him, headed almost due east. He urged the mare forward, in order to try to keep up with the

craft, although it was obviously going several hundred miles per hour--hardly a horse's pace.

Still, it was slowing rapidly--very rapidly. Maybe--

He kept the mare moving.

The strange ship skimmed along the treetops in the distance and disappeared from sight. Then there was a thunderous crash, a tearing of wood and foliage, and a grinding, plowing sound.

For a few seconds afterward, there was silence. Then there came a soft rumble, as of water beginning to boil in some huge, but distant, samovar. It seemed to go on and on and on.

And there was a bluish, fluctuating glow on the horizon.

Radioactivity? Wang wondered. Surely not an atomic-powered ship without safety cutoffs in this day and age.

He pulled out his radiophone and thumbed the call button again.

This time, there was no delay. "Yes?"

"How are the radiation detectors behaving there, Grandfather?"

"One moment. I shall see." There was a silence. Then: "No unusual activity, young Wang. Why?"

Wang told him, then asked: "Did you get hold of the air authorities?"

"Yes. They have no missing aircraft, but they're checking with the space

fields. The way you describe it, the thing must be a spaceship of some kind."

"I think so, too. I wish I had a radiation detector here, though. I'd like to know whether that thing is hot or not. It's only a couple of miles or so away. I think I'd better stay away. Meanwhile, you'd better put in a call to Central Headquarters Fire Control. There's going to be a holocaust if I'm any judge unless they get here fast with plenty of equipment."

"I'll see to it," said his grandfather, cutting off.

The bluish glow in the sky had quite died away by now, and the distant rumbling was gone, too. And, oddly enough, there was not much smoke in the distance. There was a small cloud of gray that rose, streamerlike, from where the glow had been, but even that faded away fairly rapidly in the chill breeze. Quite obviously, there would be no fire. After several more minutes of watching, he was sure of it. There couldn't have been much heat produced in that explosion--if it could really be called an explosion.

Then he saw something moving in the trees between himself and the spot where the ship had come down. He couldn't quite see what it was, but it looked like someone crawling.

"Halloo, there!" he called out. "Are you hurt?"

There was no answer. Perhaps whoever it was didn't understand Russian. Wang's command of English wasn't too good, but he called out in that language.

Still there was no answer. Whoever it was had crawled out of sight.

Then he realized that it couldn't be anyone crawling. No one could even

have run the distance between here and the ship in the time since it had hit, much less crawled.

He frowned. A wolf, then? Possibly. They weren't too common, but there were still plenty of them around.

He unholstered the heavy pistol at his side.

And, as he slid the barrel free, he became the first human being ever to see the Nipe.

For an instant, as the Nipe came out from behind a tree fifteen feet away, Wang Kulichenko froze as he saw those four baleful violet eyes glaring at him from the snouted head. He jerked up the pistol to fire.

He was much too late. His reflexes were too slow by far. The Nipe launched itself across the intervening space in a blur of speed that would have made a leopard seem slow. The alien's hands slapped aside the gun with a violence that broke the man's wrist, while other hands slammed at his skull.

Wang Kulichenko hardly had time to be surprised before he died.

The Nipe stood quietly for a moment, looking down at the thing he had killed. His stomach churned with disgust. He ignored the fading hoofbeats of the slave-animal from which he had knocked the thing that lay on the ground with a crushed skull. The slave-animal was unintelligent and unimportant.

This was the intelligent one.

But so slow! So incredibly slow! And so weak and soft!

It seemed impossible that such poorly-equipped beasts could have survived long enough on any world to evolve to become the dominant life form.

Perhaps it was not the dominant form. Perhaps it was merely a higher slave-animal. He would have to do more investigating.

He picked up the weapon the thing had drawn and examined it carefully. The mechanism was unfamiliar, but a glance at the muzzle told him that it was a projectile weapon of some sort. The twisted grooves in the barrel were obviously designed to impart a spin to the projectile, to give it gyroscopic stability while in flight.

The dead thing must have thought he was a wild animal, the Nipe decided. Surely no being would carry a weapon for use against members of its own or another intelligent species.

He examined the rest of the equipment on the thing. Not much information there. Too bad the slave-animal was gone; there had apparently been more equipment strapped to it.

The next question was, what should he do with the body?

Devour it properly, as one should with a validly slain foe?

It didn't seem that he could do anything else, and yet his stomachs wanted to rebel at the thought. After all, it wasn't as if the thing were really a proper being. It was astonishing to find another intelligent race; none had ever been found before. But he was determined to show them that he was civilized and intelligent, too.

On the other hand, they were obviously of a lower order than the Nipe, and that made the question even more puzzling.

In the end, he decided to leave the thing here, for others of its kind to find. They would doubtless consume it properly.

And--he glanced at the sky and listened--they would be here in time. There were aircraft coming.

He would have to leave quickly. He had to find one of their production or supply centers, and he would have to do it alone, with only the equipment he had on him. The utter destruction of his ship had left him seriously hampered.

He began moving, staying in the protection of the trees. His ethical sense still bothered him. It was not at all civilized to leave a body to the mercy of lesser animals or monocells like that. What kind of monster would they think he was?

Still, there was no help for it. If they caught him while feeding, they might have thought him a lower animal and shot him. He couldn't put an onus like that upon them.

He moved on.

III

Two-fifths of a second. That was all the time Bart Stanton had from the first moment his supersensitive ears heard the faint whisper of metal against leather.

He made good use of it.

The noise had come from behind and slightly to the left of him, so he drew his own gun with his left hand and spun to his left as he dropped to a crouch. He had turned almost completely around, drawn his gun, and fired three shots before the other man had even leveled his own weapon.

The bullets from Stanton's gun made three round spots on the man's jacket, almost touching each other and directly over the heart. The man blinked stupidly for a moment, looking down at the round spots.

"My God," he said softly.

Then the man returned his weapon slowly to his holster.

The big room was noisy. The three shots had merely added to the noise of the gunfire that rattled intermittently around the two men. And even that gunfire was only a part of the cacophony. The tortured molecules of the air in the room were so besieged by the beat of drums, the blare of trumpets, the crackle of lightning, the rumble of heavy machinery, the squawks and shrieks of horns and whistles, the rustle of autumn leaves, the machine-gun snap of popping popcorn, the clink and jingle of falling coins, and the yelps, bellows, howls, roars, snarls, grunts, bleats, moos, purrs, cackles, quacks, chirps, buzzes, and hisses of a myriad of animals, that each molecule would have thought that it was being shoved in a hundred thousand different directions at once if it had had a mind to think with.

The noise wasn't deafening, but it was certainly all-pervasive.

Bart Stanton had reholstered his own weapon and half opened his lips to

speak when he heard another sound behind him.

Again he whirled his guns in hand--both of them this time--and his forefingers only fractions of a millimeter from the point that would fire the hair triggers.

But he did not fire.

The second man had merely shifted the weapons in his holsters and then dropped his hands away.

The noise, which had been flooding into the room over the speaker system, died instantly.

Stanton shoved his guns back into place and rose from his crouch. "Real cute," he said, grinning. "I wasn't expecting that one."

The man he was facing smiled back. "Well, Bart, maybe we've proved our point. What do you think, Colonel?" The last was addressed to the third man, who was still standing quietly, looking worried and surprised about the three spots on his jacket that had come from the special harmless projectiles in Stanton's gun.

Colonel Mannheim was four inches shorter than Stanton's five-ten, and was fifteen years older. But, in spite of the differences, he would have laughed at anyone who had told him, five minutes before, that he couldn't outdraw a man who was standing with his back turned.

His bright blue eyes, set deep beneath craggy brows in a tanned face, looked speculatively at the younger man. "Incredible," he said gently. "Absolutely incredible." Then he looked at the other man, a lean civilian with mild blue eyes a shade lighter than his own. "All right, Dr.

Farnsworth, I'm convinced. You and your staff have quite literally created a superman. Anyone who can stand in a noise-filled room and hear a man draw a gun twenty feet behind him is incredible enough. The fact that he could and did outdraw and outshoot me after I had started ... well, that's almost beyond comprehension."

He looked back at Bart Stanton. "What's your opinion, Mr. Stanton? Think you can handle the Nipe?"

Stanton paused imperceptibly before answering, while his ultrafast mind considered the problem and arrived at a decision. Just how much confidence should he show the colonel? Mannheim was a man with tremendous confidence in himself, but who was capable of recognizing that there were men who were his superiors, in one field or another.

"If I can't dispose of the Nipe," Stanton said, "no one can."

Colonel Mannheim nodded slowly. "I believe you're right," he said at last. His voice was firm with inner conviction. He shot a glance at Farnsworth. "How about the second man?"

Farnsworth shook his head. "He'll never make it. In another two years, we can put him into reasonable shape again, but his nervous system just couldn't stand the gaff."

"Can we get another man ready in time?"

"Hardly. We can't just pick a man up off the street and turn him into a superman. Even if we could find another subject with Bart's genetic possibilities, it would take more time than we have to spare."

"This isn't magic, Colonel. You don't change a nobody into a physical and

mental giant by saying abracadabra or by teaching him how to pronounce shazam properly."

"I'm aware of that," said Colonel Mannheim without rancor. "Five years of work on Mr. Stanton must have taught you something, though. I should think you could repeat the process in less time."

Farnsworth repeated the head shaking. "Human beings aren't machines, Colonel. They require time to heal, time to learn, time to integrate themselves. Remember that, in spite of all our increased knowledge of anesthesia, antibiotics, viricides, and obstetrics, it still takes nine months to produce a baby. We're in the same position, only more so."

"I see," said Mannheim.

"Besides," Dr. Farnsworth continued, "Stanton's body and nervous system are now close to the theoretical limit for human tissue. I'm afraid you don't realize what kind of mental stability and organization are required to handle the equipment he now has."

"I'm sure I don't," the colonel agreed. "I doubt if anyone besides Stanton himself knows."

Dr. Farnsworth's manner softened a little. "You're probably quite right. Suffice it to say that Bartholomew Stanton is the only answer we've found so far, and the only answer visible in the foreseeable future to the problem posed by the Nipe."

The colonel's face darkened. "I keep hoping that our policy of handling the Nipe hasn't been a mistake. If it has, it's going to prove a fatal one--for the whole race."

"Let's go into the lounge," Farnsworth said. "Standing around in an empty chamber like this isn't the most comfortable way to discuss the fate of mankind." His voice brought hollow echoes from the walls.

Colonel Mannheim grinned at the touch of lightness the biophysicist had injected into the conversation. "Very well. I could do with some coffee, if you have some."

"All you want," said Dr. Farnsworth, leading the way toward the door of the chamber and opening it. "Or, if you'd prefer something with a little more power to it--?"

"Thanks, no. Coffee will do fine," said Mannheim. "How about you, Mr. Stanton?"

Bart Stanton shook his head. "I'd love to have some coffee, but I'll leave the alcohol alone. I'd just have the luck to be finishing a drink when our friend, the Nipe, popped in on us. And when I do meet him, I'm going to need every microsecond of reflex speed I can scrape up."

They walked down a soft-floored, warmly-lit corridor to an elevator which whisked them up to the main level of the Neurophysical Institute Building.

Another corridor led them to a room that might have been the common room of one of the more exclusive men's clubs. There were soft chairs and shelves of books and reading tables and smoking stands, all quietly luxurious. There was no one in the room when the three men entered.

"We can have some privacy here," Dr. Farnsworth said. "None of the rest

of the staff will come in until we're through."

Colonel Mannheim looked at the biophysicist speculatively. "You seem to think secrecy's important all of a sudden."

Bart Stanton grinned and kept silent.

Dr. Farnsworth went over to a table, where an urn of coffee radiated soft warmth. "Cream and sugar over there on the tray," he said as he began to fill cups.

"Frankly," Colonel Mannheim said, "I was going to ask you to find us a place where we could talk privately. You seem to have anticipated me."

"I thought you might have something like that in mind," said Dr. Farnsworth without looking up.

The cups were filled and the three men sat down in a triangle of chairs before any of them spoke again. Colonel Mannheim took a sip from his cup and then looked up.

"All right, we'll begin this way. Mr. Stanton, granted that you've been through five years of hell--but how closely have you stayed in touch with the Nipe situation?"

"As best I could through news bulletins and information that your office has sent here."

"Could you give me an oral summary?"

Bart Stanton thought for a moment. It was true that he'd been out of touch with what had been going on outside the walls of the Neurophysical

Institute for the past five years. In spite of the reading he'd done and the newscasts he'd watched and the TV tapes he'd seen, he still had no real feeling for the situation.

There were hazy periods during that five years. He had undergone extensive glandular and neural operations of great delicacy, many of which had resulted in what could have been agonizing pain without the use of suppressors. As a result, he possessed a biological engine that, for sheer driving power and nicety of control, surpassed any other known to exist or to have ever existed on Earth--with the possible exception of the Nipe. But those five years of rebuilding and retraining had left a gap in his life.

Several of the steps required to make the conversion from man to superman had resulted in temporary insanity; the wild, swinging imbalances of glandular secretions seeking a new balance, the erratic misfirings of neurons as they attempted to adjust to higher nerve-impulse velocities, and the sheer fatigue engendered by cells which were acting too rapidly for a lagging excretory system, all had contributed to periods of greater or lesser mental abnormality.

That he was sane now, there was no question. But there were holes in his memory that still had to be filled.

He began to talk, rapidly but carefully, telling the colonel all he knew about the situation up to the present.

It wasn't much. It was late October, 2091, and the Nipe, blithely evading capture for ten long years, was still going about his unknown and possibly incomprehensible business.

The Nipe had become a legend. He had replaced Satan, the Bogeyman, Frankenstein's monster, and Mumbo Jumbo, Lord of the Congo, in the public mind. He had taken on, in popular thought, the attributes of the djinn, the vampire, the ghoul, the werewolf, and every other horror and hobgoblin that the mind of Man had conjured up in the previous half-million years.

That he had been connected with the mysterious crash in Siberia ten years before was almost a certainty. How he had managed to get from there to Leningrad without being seen once was more of a mystery, but certainly not impossible in the light of what had been done since.

Eight months later, a non-vision phone call had been received by the Regent's Board of the Khrushchev Memorial Psychiatric Hospital in Leningrad. An odd, breathy voice offered (in very bad Russian!) a meeting. The Nipe had managed to explain, in spite of the language handicap, that he did not want to be mistaken for a wild animal, as had happened with the forest ranger.

The psychiatrists were divided in their opinions. Some thought that the call had been from a deranged person. When the Nipe actually showed up at the appointed place, those minds changed rapidly.

The Nipe's ability to use any human language was limited. He picked up vocabulary and grammatical rules very rapidly, but he seemed completely unable to use a language beyond discussion of concrete actions and objects. His mind was simply too alien to enable him to do more than touch the edges of human communication.

In the discussion of mathematics, in particular, the Nipe seemed to be completely at a loss. He apparently thought of mathematics as a spoken language instead of a written one, and could not progress beyond simple diagrams.

He wasn't captured in any real sense of the word. He refused to allow any physical tests on his body, and, short of threatening him at gun-point, there didn't seem to be any practicable way to force him to accede to the human's wishes. And they couldn't do that.

The Nipe had to be treated as an emissary from his home world, wherever that was. He'd killed a man, yes. But that had to be allowed as justifiable homicide in self-defense, since the forester had drawn a gun and was ready to fire. Nobody could blame the late Wang Kulichenko for that, but nobody could blame the Nipe, either.

For six weeks, the humans and the Nipe had tried to arrive at a meeting of minds, and just when it would seem within grasp, it would fade away into mist. It was nearly a month before the Russian psychologists and psychiatrists realized that the reason the Nipe had come to them was because he had thought that they were the ruling body of that territory!

The UN observers stayed out of it at first. Before there was any kind of talk on a Government level, there must be some kind of understanding on a personal level. And that, of course, was never achieved.

Just what had set off the Nipe's anger hasn't been established yet, as far as Stanton knew. At a meeting one day, he had simply become more and more incomprehensible, and then, without any warning, he had leaped out, killed three of the men with his bare hands, and gone out the window.

And that had been the end of any diplomatic relations between humanity and the Nipe.

Since that time, he'd been on a rampage of robbery and murder. He was as callously indifferent to human life and property as a human being might be with the life and property of a cockroach.

There have been human criminals whose actions could be described in the same way, but the Nipe had a few touches that few human criminals would have thought of and almost none would have had the capacity to execute.

If, for instance, the Nipe had time to spare, his victims would be an annoying problem in identification when found, for there would be nothing left but well-gnawed bones. And "time to spare," in this case meant twenty or thirty minutes. The Nipe had, if nothing else, a very efficient digestive tract. He ate like a shrew.

And the Nipe never, under any circumstances, used any weapon but the weapons Nature had given him--hands-or-feet, or claws or teeth. Never did he use a knife or gun or even a club.

Almost as an afterthought, one realized that the loot which the Nipe stole was seemingly unpredictable. Money, as such, he apparently had no use for. He had taken gold, silver, and platinum, but one raid for each of these elements had evidently been enough, except for silver, which had required three raids over a period of four years. Since then, he hadn't touched silver again.

He hadn't tried yet for any of the radioactives except radium. He'd taken a full ounce of that in five raids, but hadn't attempted to get his hands on uranium, thorium, plutonium, or any of the other elements normally associated with atomic energy. Nor had he tried to steal any of the fusion materials; the heavy isotopes of hydrogen or any of the lithium isotopes. Beryllium had been taken, but whether there was any significance in the thefts or not, no one knew.

There was a pattern in the thefts, nonetheless. They had begun small and increased. Scientific and technical instruments--oscilloscopes, X-ray generators, radar equipment, maser sets, dynostatic crystals, thermolight resonators, and so on--were stolen complete or gutted for various parts. After awhile, he went on to bigger things--whole aircraft, with their crews, had vanished.

That he had not committed anywhere near all the crimes that had been attributed to him was certain; that he had committed a great many of them was equally certain.

There was no doubt at all that his loot was being used to make instruments and devices of unknown kinds. He had used several of them on his raids. The one that could apparently phase out almost any electromagnetic frequency up to about a hundred thousand megacycles--including sixty-cycle power frequencies--was considered to be a particularly cute item. So was the gadget that reduced the tensile strength of concrete to about that of a good grade of marshmallow.

After he had been operating for a few years, there was no installation on the face of the earth that could be considered Nipe-proof for more than a few minutes. He struck when and where he wanted and took whatever he needed.

It was manifestly impossible to guard against the Nipe, since no one knew what sort of loot might strike his fancy next, and there was therefore no way of knowing where or how he would hit next.

Nor could he ever be found after one of his raids. They were plotted and followed out with diabolical accuracy and thoroughness. He struck, looted, and vanished. And wasn't seen again until his next strike.

Colonel Mannheim, who had carefully puffed a cigar alight and smoked it

thoughtfully during Stanton's recitation, dropped the remains of the cigar into an ash receptacle. "Accurate but incomplete," he said quietly. "You must have made some guesses." He looked from Bart Stanton to Dr. Farnsworth. "I'd like to hear them."

Farnsworth finished off the last of his coffee. "We've talked about it," he admitted. "Although I must say the hypothesis Bart has come up with would never have occurred to me. I'm still not sure I credit it, but" ... he shrugged ... "I can't say that I disbelieve it, either."

Mannheim turned his eyes back to Stanton. His silence was a question.

"Logically, my theory mightn't hold much water," Stanton admitted. "But the evidence seems to be conclusive enough to me." He got up, went over to the coffee urn, and refilled his cup. "It seems incredible to me that the combined intelligence and organizational ability of the UN Government is incapable of finding anything out about one single alien, no matter how competent he may be," he said as he returned to his seat.

"Somehow, somewhere, someone must have gotten a line on the Nipe. He must have a base for his operations, and someone should have found it by this time.

"If there is such a base, then it must be possible to blast him out of it without resorting to the kind of work it took to produce--me.

"I may be faster and more sensitive and stronger than the average man, but that doesn't mean that I have superhuman abilities to the extent that I can do in two or three years what the combined forces of the Government couldn't do in ten. Certainly you wouldn't rely too heavily on it.

"And yet, apparently, you are.

"To me that can only mean that you've got another ace up your sleeve. You know we're going to get the Nipe before I die. You either have a sure way of tracing him or else you already know where he is.

"Which is it?"

Colonel Mannheim sighed. "We know where he is. We've known for six years."

IV

INTERLUDE

The woman's eyes were filled with tears, for which the doctor was privately thankful. At least the original shock had worn off.

"And there's nothing we can do? Nothing?" There was a slight catch in her voice.

"I'm afraid not. Not yet. There are research teams working on the problem, and one day ... perhaps...." Then he shook his head. "But not yet." He paused. "I'm sorry, Mrs. Stanton."

The woman sat there on the comfortable chair and looked at the specialist's diploma that hung on the doctor's wall--and yet, she didn't really see the diploma at all. She was seeing something else--a kind of dream that had been shattered.

After a moment, she began to speak, her voice low and gentle, as though the dream were still going on and she were half afraid she might waken

herself if she spoke too loudly.

"Jim and I were so glad they were twins. Identical twin boys. He said--I remember, he said, 'We ought to call 'em Ike and Mike.' And he laughed a little when he said it, to show he didn't mean it.

"I remember, I was propped up in the bed, the afternoon they were born, and Jim had brought me a new bed jacket, and I said I didn't need a new one because I would be going home the next day, and he said: 'Hell, kid, you don't think I'd just buy a bed jacket just for hospital use, do you? This is for breakfasts in bed, too.'

"And that's when he said he'd seen the boys and said we ought to name them Ike and Mike."

The tears were coming down Mrs. Stanton's cheeks heavily now, and grief made her look older than her twenty-four years, but the doctor said nothing, letting her spill out her emotions in words.

"We'd talked about it before, you know--as soon as the obstetrician found out that I was going to have twins. And Jim ... Jim said that we shouldn't name them alike unless they were identical twins or mirror twins. If they were fraternal twins, we'd just name them as if they'd been ordinary brothers or sisters or whatever. You know?" She looked at the doctor, pleading for understanding.

"I know," he said.

"And Jim was always kidding. If they were girls, he said we ought to call them Flora and Dora, or Annie and Fanny, or maybe Susie and Floozie. He was always kidding about it. You know?"

"I know," said the doctor.

"And then, when they were identical boys, he was very sensible about it. 'We'll call them Martin and Bartholomew,' he said. 'Then if they want to call themselves Mart and Bart, they can, but they won't be stuck with rhyming names if they don't want them.' Jim was very thoughtful that way, Doctor. Very thoughtful."

She suddenly seemed to realize that she was crying, and took a handkerchief out of her sleeve to dab at her eyes and face.

"I'll have to quit crying," she said, trying to sound brave and strong. "After all, it could have been worse, couldn't it? I mean, the radiation could have killed my boys, too. Jim's dead, yes, and I've got to get used to that. But I still have two boys to take care of, and they'll need me."

"Yes, Mrs. Stanton, they will," said the doctor. "They'll both need you. And you'll have to be very gentle and very careful with both of them."

"How ... how do you mean that?" she asked.

The doctor settled back in his chair and chose his words carefully. "Identical twins tend to identify with each other, Mrs. Stanton. There is a great deal of empathy between people who are not only of the same age, but genetically identical. If they were both healthy, there would be very little trouble in their education at home or at school. Any of the standard texts on psychodynamics in education will show you the pitfalls to avoid when dealing with identical siblings.

"But these boys are no longer identical. One is normal, healthy, and lively.

The other is ... well, as you have seen, he is slow, sluggish, and badly co-ordinated. That condition may improve with time, but, until we know more about such damage than we do now, he will be an invalid."

"That's the trouble with radiation damage, Mrs. Stanton. Even when we can save the victim's life, we cannot always save his health.

"You can see, I think, what sort of psychic disturbances this can bring about in such a pair. The ill boy tends to identify with the well one and, unfortunately, the reverse is true. If they are not properly handled during their formative years, Mrs. Stanton, both can be badly damaged emotionally."

"I ... I think I understand," the woman said. "But what sort of thing should I look out for?"

"I suggest that you get a good man in psychic development," the doctor said. "I'd hesitate to prescribe. It's out of my field. But, in general, most of your trouble will be caused by a tendency for the pair to swing into one of two extremes.

"Mutual antagonism can arise if one becomes jealous of the other's health, while the healthy one becomes jealous of the extra consideration shown his crippled brother.

"Or, on the other hand, the healthy boy may identify so closely with his brother that he feels every hurt or slight, real or imagined. He becomes over-solicitous, over-protective. At the same time, the other brother may come to depend completely on the healthy twin.

"In both these situations, there is a positive feedback which constantly worsens the situation. It requires a great deal of careful observation and

careful application of the proper educational stimuli to keep the situation from developing toward either extreme. You'll need expert help, if you want both boys to display the full abilities of which they are potentially capable."

"I see. Could you give me the name of a good man, Doctor?"

The doctor nodded and picked up a book on his desk. "I'll give you several names. You can pick the one you like. They're all good men. There are many good women in the field, too, but in this case, I think a man would be best. Of course, if one of them thinks a woman is indicated, that's up to him. As I said, that isn't my field."

He opened the small book and riffled through it to find the names he wanted.

V

The image of the Nipe on the glowing screen was clear and finely detailed. It was, Bart thought, as though one were looking through a window into the Nipe's nest itself. Only the tremendous depth of focus of the lens which caught the picture gave the illusion a sense of unreality. Everything--background and foreground alike--was sharply in focus.

The Nipe moved in slow motion, giving the watchers the eerie feeling that he was moving through a thicker, heavier medium than air, in a place where the gravity was much less than that of Earth.

"Speed the tape up to normal," said Colonel Mannheim to the man who was operating the machine. "If there's anything Mr. Stanton wants to look at more closely, we can run it through again."

As if in obedience to the colonel's command, the Nipe seemed to shake himself a little and go about his business more briskly, and the air and gravity seemed to revert to those of Earth.

"What's he doing?" Stanton asked. The Nipe was doing something with an odd-looking box that sat on the floor in front of him.

"He's got a screwdriver that he's modified to give it a head with an L-shaped cross-section, and he's wiggling it around inside that hole in the box. But what he's doing is a secret between God and the Nipe at this point," the colonel said glumly.

Stanton glanced away from the screen for a moment to look at the other men who were there. Some of them were watching the screen, but most of them seemed to be watching Stanton, although they looked away as soon as they saw his eyes on them.

Trying to see what kind of a bloke this touted superman is, Stanton thought. Well, I can't say I blame 'em.

He brought his attention back to the screen.

So this was the Nipe's hideaway. He wondered if it were furnished in the fashion that a Nipe's living quarters would be furnished on whatever planet the multilegged horror called home. Probably it had the same similarity as Robinson Crusoe's island home had to a middle-class Nineteenth Century English home.

There was no furniture at all, as such. Low-slung as he was, the Nipe needed no tables for his work, and sleeping was a form of metabolic rest that he evidently found unnecessary, although he would sometimes just

remain quiet for periods of time ranging from a few minutes to a couple of hours.

"We had a hard time getting the first cameras in there," the colonel was saying. "That's why we missed some of the early stages of his work. There! Look at that!"

"That attachment he's making?"

"That's right. Now, it looks as though it's a meter of some kind, but we don't know whether it's a test instrument or an integral part of the machine he's making. The whole thing might be a test instrument. After all, he had to start out from the very beginning--making the tools to make the tools to make the tools, you know."

"It's not quite as bad as all that," said one of the other men, who had been briefly introduced to Stanton as Fred Meyer. "After all, he had our technology to draw upon. If he'd been wrecked on Earth two or three centuries ago, he wouldn't have been able to do a thing."

"Granted," the colonel said agreeably, "but it's quite obvious that there are parts of our technology that are just as alien to him as parts of his are to us. Remember how he went to all the trouble of building a pentode vacuum tube for a job that could have been done by transistors. His knowledge of solid-state physics seems to be about a century and a half behind ours."

"Not completely, Colonel," Meyer said. "That gimmick he built last year--the one that blinded those people in Bagdad--had five perfect emeralds in it, connected in series with silver wire."

"That's true. Our technologies seem to overlap in some areas, but in others there's total alienness."

"Which one would you say was ahead of the other?" Stanton asked.

"Hard to say," said Colonel Mannheim, "but I'd put my money on his technology as encompassing more than ours--at least insofar as the physical sciences are concerned."

"I agree," said Meyer, "he's got things in that little nest of his that--" He stopped and shook his head slowly, as though he couldn't find words.

"I'll say this," Bart Stanton said musingly, "our friend, the Nipe, has plenty of guts. And patience." He smiled a little and then amended his statement. "From our own point of view, that is."

Colonel Mannheim's face took on a quizzical expression. "How do you mean? I was about to agree with you until you tacked that last phrase on. What does point of view have to do with it?"

"Everything, I should say," Stanton said. "It all depends on the equipment an individual has. A man who rushes into a burning building to save a life, wearing nothing but street clothes, has courage. A man who does the same thing when he's wearing a nullotherm suit is an unknown quantity. There is no way of knowing, from that action alone, whether he has courage or not."

Meyer looked a little dazed. "Pardon me if I seem thick, Mr. Stanton, but... . Are you saying that the Nipe's technological equipment is better than ours?"

"Not at all. I'm talking about his personal equipment." He turned again to

the colonel. "Colonel Mannheim, do you think it would require any personal courage on my part to stand up against you in a face-to-face gunfight?"

The colonel grinned tightly. "I see what you mean. No, it wouldn't."

"On the other hand, if you were to challenge me," Bart Stanton continued, "would that show courage?"

"Not really. Foolhardiness, stupidity, or insanity--not courage."

"Then neither of us can prove we have guts enough to fight the other. Can we?"

Colonel Mannheim smiled grimly and said nothing, but Meyer, who evidently had a great deal of respect for the colonel, said: "Now, wait a second! That depends on the circumstances! If Colonel Mannheim, say, knew that forcing you to shoot him would save someone else's life--someone more important, say, or maybe a lot of people, then--"

Colonel Mannheim laughed. "Meyer, you've just proved Mr. Stanton's point!"

Meyer gaped for a half second, then burst into laughter himself. "Pardon my point of view, Mr. Stanton! I guess I am a little slow!"

Mannheim said: "Precisely! Whether the Nipe has courage or patience or any other human feeling depends on his own abilities and on how much information he has. A man can perform any action without fear if he knows that it will not hurt him--or if he does not know that it will." He glanced at the screen. The Nipe had settled down into his "sleeping position"--unmoving, although his baleful violet eyes were still open. "Cut that off,

Meyer," the colonel said. "There's not much to learn from the rest of that tape."

"Have you actually managed to build any of the devices he's constructed?" Stanton asked.

"Some," said Colonel Mannheim. "We have specialists all over the world studying the tapes. We have the advantage of being able to watch every step the Nipe makes, and we know the materials he's using to work with. But, even so, the scientists are baffled by many of them. Can you imagine the time James Clerk Maxwell would have had trying to build a modern television set from tapes like this?"

"I know exactly how he'd feel," Meyer said glumly.

"You can see, then, why we're depending on you," Mannheim told Stanton.

Stanton merely nodded. The knowledge that he was actually a focal point in human history, that the whole future of the human race depended to a tremendous extent on him, was a realization that weighed heavily, and, at the same time, was immensely bracing.

"And now," the colonel said, "I'll turn you over to the psychology department. They'll be able to give you a great deal more information on the Nipe than I can."

VI

The Nipe squatted, brooding, in his underground nest, waiting for the special crystallization process to take place in the sodium-gold alloy that

was forming in the reactor.

How long? he wondered. He was not thinking of the crystallization reaction; he knew the timing of that to the fraction of a second. His dark thoughts were focused inwardly, upon himself.

How long would it be before he would be able to construct the communicator that would put him in touch with his own race again? How long before he could discourse again with reasonable beings? For how much longer would he be stranded on an insane planet, surrounded by degraded, insane beings?

The work was going incredibly slowly. He had known at the beginning that his knowledge of the basic arts required to build a communicator was incomplete, but he had not realized just how painfully inadequate it was. Time after time, his instruments had simply refused to function because of some basic flaw in their manufacture--some flaw that an expert in that field could have pointed out at once. Time after time, equipment had had to be rebuilt almost from the beginning. And, time after time, only cut-and-try methods were available for correcting his errors.

Not even his prodigious and accurate memory could hold all the information that was necessary for the work, and there were no reference tapes available, of course.

He had long since given up any attempt to understand the functioning of the mad pseudo-civilization that surrounded him. He was quite certain that the beings he had seen could not possibly be the real rulers of this society, but he had, as yet, no inkling as to who the real rulers were.

As to where they were, that question seemed a little easier to answer. It was highly probable that they were out in space, on the asteroids that his instruments had detected as he had dropped in toward this planet so many

years before. He had made an error back then in not landing in the Belt, but at no time since had he experienced the emotion of regret or wished he had done differently; both thoughts would have been incomprehensible to the Nipe. He had made an error; the circumstances had been checked and noted; he would not make that error again.

What further action could be taken by a logical mind?

None. The past was unchangeable. It existed only as a memory in his own mind, and there was no way to change that indelible record, even had he wished to do such an insane thing.

Surely, he thought, the real rulers must know of his existence. He had tried, by his every action, to show that he was a reasoning, intelligent, and civilized being. Why had they taken no action?

His hypotheses, he realized, were weak because of lack of data. He could only wait for more information.

That--and continue to work.

VII

INTERLUDE

Mrs. Frobisher touched the control button that depolarized the window in the breakfast room, letting the morning sun stream in. Then she said, in a low voice, "Larry, come here."

Larry Frobisher looked up from his morning coffee. "What is it, hon?"

"The Stanton boys. Come look."

Frobisher sighed. "Who are the Stanton boys, and why should I come look?" But he got up and came over to the window.

"See--over there on the walkway toward the play area," she said.

"I see three girls and a boy pushing a wheeled contraption," Frobisher said. "Or do you mean that the Stanford boys are dressed up as girls?"

"Stanton," she corrected him. "They just moved into the apartment on the first floor."

"Who? The three girls?"

"No, silly! The two Stanton boys and their mother. One of them is in that 'wheeled contraption'. It's called a therapeutic chair."

"Oh? So the poor kid's been hurt. What's so interesting about that, aside from morbid curiosity?"

The boy pushing the chair went around a bend in the walkway, out of sight, and Frobisher went back to his coffee while his wife spoke.

"Their names are Mart and Bart. They're twins."

"I should think," Frobisher said, applying himself to his breakfast, "that the mother would get a self-powered chair for the boy instead of making the other boy push it."

"The poor boy can't control the chair, dear. Something wrong with his nervous system. I understand that he was exposed to some kind of

radiation when he was only two years old. That's why the chair has all the instruments built into it. Even his heartbeat has to be controlled electronically."

"Shame." Frobisher speared a bit of sausage. "Kind of rough on both of 'em, I'd guess."

"How do you mean?"

"Well, I mean, like.... Well, for instance, why are they going over to the play area? Play games, right? The one that's well has to push his brother over there--can't just get out and go; has to take the brother along. Kind of a burden, see?

"And then, the kid in the chair has to sit there and watch his brother play basketball or jai alai, while he can't do anything himself. Like I say, kind of rough on both of them."

"Yes, I suppose it must be. More coffee?"

"Thanks, honey. And another slice of toast, hunh?"

VIII

The two objects floating in space both looked like pitted pieces of rock. The larger one, roughly pear-shaped and about a quarter of a mile in its greatest dimension, was actually that--a hunk of rock. The smaller--much smaller--of the two was a camouflaged spaceboat. The smaller was on a near-collision course with reference to the larger, although their relative velocities were not great.

At precisely the right time, the smaller drifted by the larger, only a few hundred yards away. The weakness of the gravitational fields generated between the two caused only a slight change of orbit on the part of both bodies. Then they began to separate.

But, during the few seconds of their closest approach, a third body had detached itself from the camouflaged spaceboat and shot rapidly across the intervening distance to land on the surface of the floating mountain.

The third body was a man in a spacesuit. As soon as he landed, he sat down, stock-still, and checked the instrument case he held in his hands.

No response. Thus far, then, he had succeeded.

He had had to pick his time precisely. The people who were already on this small planetoid could not use their detection equipment while the planetoid itself was within detection range of Beacon 971, only two hundred and eighty miles away. Not if they wanted to keep from being found. Radar pulses emanating from a presumably lifeless planetoid would be a dead giveaway.

Other than that, they were mathematically safe--if they depended on the laws of chance. No ship moving through the Asteroid Belt would dare to move at any decent velocity without using radar, so the people on this particular lump of planetary flotsam would be able to spot a ship's approach easily, long before their own weak detection system would register on the pick-ups of the approaching ship.

The power and range needed by a given detector depends on the relative velocity--the greater that velocity, the more power, the greater range needed. At one mile per second, a ship needs a range of only thirty miles to spot an obstacle thirty seconds away; at ten miles per second, it needs a range of three hundred miles.

The man who called himself Stanley Martin had carefully plotted the orbit of this particular planetoid and then let his spaceboat coast in without using any detection equipment except the visual. It had been necessary, but very risky.

Had the people here seen his boat? If so, had they recognized it, in spite of the heavy camouflage? And, even if they only suspected, what would be their reaction?

He waited.

It takes nerve and patience to wait for thirteen solid hours without moving more than an occasional flexure of muscles, but he managed that long before the instrument case waggled a meter needle at him. The one relieving factor was the low gravity; on an asteroid, the problem of sleeping on a bed of nails is caused by the likelihood of accidentally throwing oneself off the bed. The probability of puncture or discomfort from the points is almost negligible.

When the needle on the instrument panel flickered, he got to his feet and began moving. He was almost certain that he had not been detected.

Walking was out of the question. This was a silicate-alumina rock, not a nickel-iron one. The group that occupied it had deliberately chosen it that way, so that there would be no chance of its being picked out for slicing by one of the mining teams in the Asteroid Belt. Granted, the chance of any given metallic planetoid's being selected was very small, they had not even wanted to take that chance. Therefore, without any magnetic field to hold him down, and only a very tiny gravitic field, the man had to use different tactics.

It was more like mountain climbing than anything else, except that there

was no danger of falling. He crawled over the surface in the same way that an Alpine climber might crawl up the side of a steep slope--seeking handholds and toeholds and using them to propel himself onward. The only difference was that he covered distance a great deal more rapidly than a mountain climber could.

When he reached the spot he wanted, he carefully concealed himself beneath a craggy overhang. It took a little searching to find exactly the right spot, but when he did, he settled himself into place in a small pit and began more elaborate preparations.

Self-hypnosis required nearly ten minutes. The first five or six minutes were taken up in relaxing from his exertion. Gravity notwithstanding, he had had to push his hundred and eighty pounds of mass over a considerable distance. When he was completely relaxed and completely hypnotized, he reached up and cut down the valve that fed oxygen into his suit.

Then, of his own will, he went cataleptic.

A single note, sounded by the instruments in the case by his side, woke him instantly. He came fully awake, as he had commanded himself to do.

Immediately, he turned up his oxygen intake, at the same time glancing at the clock dial in his helmet. He smiled. Nineteen days and seven hours. He had calculated it almost precisely. He wasn't more than an hour off, which was pretty good, all things considered.

He consulted his instruments again. The supply ship was ten minutes away. The smile stayed on his face as he prepared for further action.

The first two minutes were conscientiously spent in inhaling oxygen. Even under the best cataleptic conditions, the body tended to slow down too much. He had to get himself prepared for violent movement.

Eight minutes left. He climbed out of the little grotto where he had concealed himself and moved toward the spot where he knew the air lock to the caverns underneath the planetoid's surface was hidden. Then again, he concealed himself and waited, while he continued to breathe deeply of the highly oxygenated air in his suit. Five minutes before the ship landed, he swallowed eight ounces of the nutrient solution from the tank in the back of his helmet. The solution of amino acids, vitamins, and honey sugar also contained a small amount of stimulant of the dexedrine type and one per cent ethanol. Then he unholstered his gun.

It wasn't a big ship. He had known it wouldn't be. It was only a little larger than the one he had used to come here. It dropped down to the surface of the small planetoid only ten meters from the hidden trapdoor that led to the air lock beneath the surface.

He could suddenly hear voices in the earphones of his helmet.

Lasser?

It's me, Fritz. I got your supplies and good news.

The air lock trapdoor opened, and a spacesuited figure came out. How about the deal?

That's the good news, said the second suited figure as it came from the air lock of the grounded spaceboat. Another five million.

The man who was hidden behind the nearby crag of rock listened and

watched for a minute or so more while the two men began unloading cases of foodstuffs from the spaceboat. Then, satisfied that it was perfectly safe, he aimed his gun and shot twice in rapid succession. The range was almost point-blank, and there was, of course, no need to take either gravity or air resistance into account.

The pellets of the shotgun-like charge that blasted out from the gun were small, needle-shaped, and heavy. They were oriented point-forward by the magnetic field along the barrel of the weapon. Of the hundreds in each charge fired, only a few penetrated the spacesuits of the targets, but those few were enough. The powerful drug in the needle-pointed head of each went into the bloodstream of the target.

Each man felt an itching sensation. He had less than two seconds to think about it before unconsciousness overtook him and he slumped nervelessly.

The man with the gun ran across the intervening space quickly, his body only a few degrees from the horizontal, and his toes paddling rapidly to propel him over the rough rock.

He braked himself to a halt and slapped air patches over the area where his charges had struck the men's suits, sealing the tiny air leaks, and, at the same time, driving more of the tiny needles into their skins. They would be out for a long time.

Neither of them had yet fallen to the ground; that would take several minutes under this low gravity. He left them to drop and headed toward the open air lock.

This was what he had been waiting for all those nineteen days in cataleptic hypnosis. He couldn't have cut his way in from the outside; he had had to wait until it was opened, and that time would come only when the supply ship came.

Once in the air lock, he touched the control stud that would close the outer door, pump air into the waiting room, and open the inner door. Here was his greatest point of danger--greater, even, than the danger of coming to the planetoid, or the danger of waiting nineteen days for the coming of the supply ship. If the ones who remained within suspected anything--anything at all!--then his chances of coming out of this alive were practically nil.

But there was no reason why they should suspect. They should think that the man coming in was one of their own. The radio contact between the men outside had been limited to a few millimicrowatts of power--necessarily, since radio waves of very small wattage can be decoded at tremendous distances in open space. The men inside the planetoid certainly should not have been able to pick up any more than the beginning of the conversation, before it had been cut off by solid rock.

It was a high-speed air lock. Unlike the soundless discharge of his special gun in the outer airlessness, the blast of air that came into the waiting chamber was like a hurricane in noise and force, as the room filled in a few seconds.

He held onto the handholds tightly while the brief but violent winds buffeted him. He turned as the inner door opened.

His eyes took in the picture in a fraction of a second. In an even smaller fraction, his mind assimilated the picture.

The woman was dark-haired, dark-eyed, and muscular. Her mouth was wide and thick-lipped beneath a large nose.

The man was leaner and lighter, bony-faced and beady-eyed.

The woman said: "Fritz, what--"

And then he shot them both with gun number two.

No needle charges this time; such shots would have blown them both in two, unprotected as they were by spacesuits. The small handgun merely jangled their nerves with a high-powered blast of accurately beamed supersonics. While they were still twitching, he went over and jabbed them with a drug needle.

Then he went on into the hideout.

He had to knock out one more man, whom he found sound asleep in a room off the short corridor.

It took a gas bomb to get the two women who were guarding the kid.

He made sure that the BenChaim boy was all right, then he went to the little communications room and called for help.

IX

Colonel Walther Mannheim tapped the map that glowed on the wall before him. "He's right there, where those tunnels come together."

Bart Stanton looked at the map of Manhattan Island and at the gleaming colored traceries that threaded their various ways across it. "Just what was the purpose of those tunnels?" he asked curiously.

"They were for rail transportation," said the colonel. "The island was hit by

a sun bomb during the Holocaust, and almost completely leveled and slagged down. When the city was rebuilt, there was naturally no need for such things, so they were simply sealed off and forgotten."

"Right under Government City," Stanton said. "Incredible."

"It used to be one of the largest seaports in the world," Colonel Mannheim said, "and it probably still would be if the inertia drive hadn't made air travel cheaper and easier than seagoing."

"How did he find out about the tunnels?" Stanton asked.

The colonel pointed at the north end of the island. "After the Holocaust, the first returnees to the island were wild animals which crossed from the mainland from the north. The Harlem River isn't very wide at this point. Also, because of the rocky hills at this end of the island, there were places which were spared the direct effects of the bomb, and grasses and trees began growing there. That's why it was decided to leave that section as a game preserve when the Government built the capital on the southern part of the island." His finger moved down the map. "The upper three miles of the island, down to here, where it begins to widen, are all game preserve. There's a high wall here which separates it from the city, and the ruins of the bridges which connected with the mainland have been removed, so the animals can't get back across any more.

"Two years after he arrived, the Nipe was almost caught. He had managed, somehow--we're not sure yet exactly how--to get here from Asia. According to the psychologists who have been studying him, he apparently does not believe that human beings are any more than trained animals; he was looking then--as he is apparently still looking--for the 'real' rulers of Earth. He expected to find them, of course, in Government City. Needless to say," said the colonel with a touch of irony, "he failed."

"But he was seen?" asked Stanton.

"He was seen. And pursued. But he got away easily, heading north. The island was searched, and the police were ready to start an inch-by-inch going over of the island two days later. But the Nipe hit and robbed a chemical supply house in northern Pennsylvania, killing two men, so the search was called off.

"It wasn't until two years later, after exhaustive analysis of the pattern of his raids had given us something to work with, that we decided that he must have found an opening into one of the tunnels up here in the game preserve." He gestured again at the map. "It wouldn't take him long to see that no human being had been down there in a long time. It was a perfect place for his base."

"How does he move in and out?" Stanton asked.

"This way." The colonel traced a finger down one of the red lines on the map, southward, until he came to a spot only a little over two miles from the southernmost tip of the island. The line turned abruptly toward the western edge of the island, where it stopped. "This tunnel goes underneath the Hudson River at this point, and emerges on the other side. It's only one of several that do so. They're all flooded now; the sun bomb caved them in when the primary shock wave hit the surface of the river.

"In spite of his high rate of metabolism, the Nipe can store a tremendous amount of oxygen in his body, and can stay underwater for as long as half an hour without breathing apparatus--if he conserves his energy. When he's wearing his scuba apparatus, he's practically a self-contained submarine. The pressure doesn't seem to bother him much. He's a tough cookie."

Stanton nodded silently and slowly. Could he beat the Nipe in hand-to-hand combat? There would be no way of knowing until the final moment of success or failure.

"At that time," the colonel went on, "we hadn't formulated any definite policy on the Nipe. We didn't know what he was up to; we weren't even sure he was actually down in those tunnels. We had to find out."

He walked over to the nearby table and opened a box some twelve inches long and five-by-five inches in cross section.

"See this?" he said as he took something out.

It looked like a large dead rat.

"Our spy," said Colonel Mannheim.

The rat moved along the rusted steel rail that ran the length of the huge tunnel. To a human being, the tunnel would have seemed to be in utter darkness, but the little eyes of the rat saw its surroundings as faintly luminescent, glowing from the infra-red radiations given out by the internal warmth of cement and steel. The main source came from above, where the heat of the sun and of the energy sources in the buildings on the surface seeped through the roof of the tunnel.

On and on it moved, its little pinkish feet pattering almost silently on the oxidized metal surface of the rail. Its sensitive ears picked up the movements and the squeals of other rats, but it paid them no heed. Several times, it met other rats on the rail, but most of them sensed the alienness of this rat and scuttled out of its way.

Once, it met a rat who did not give way. Hungry, perhaps, or perhaps merely yielding to the paranoid fury that was a normal component of the rattish mind, it squealed its defiance to the rat that was not a rat. It advanced, baring its teeth.

The rat that was not a rat became suddenly motionless, its sharp rodent's nose pointed directly at the enemy. There came a noise, a tiny popping hiss, like that of a very small drop of water striking hot metal. From the left nostril of the not-rat, a tiny glasslike needle snapped out at bullet speed. It struck the advancing rat in the center of the pink tongue that was visible in the open mouth. Then the not-rat scuttled backwards faster than any rat could have moved.

For a second, the real rat hesitated, and it may be that the realization penetrated into its dim brain that rats did not fight this way. Then, as the tiny needle dissolved in its bloodstream, it closed its eyes and collapsed, rolling limply off the rail.

The rat might come to before it was found and devoured by its fellows--or it might not. The not-rat moved on, not caring either way. The human intelligence that looked out from the eyes of the not-rat was only concerned with getting to the Nipe.

"That's how we found the Nipe," Colonel Mannheim said, "and that's how we keep tabs on him now. We have over seven hundred of these remote-controlled robots hidden in strategic spots in those tunnels now, but it took time to get everything set up this way. Now, we can follow the Nipe wherever he goes, so long as he stays in the tunnels. If he went out through an open air exit, we could have him followed by bird-robots but--" He shrugged wryly. "I'm afraid the underwater problem still has us stumped.

We can't get the carrier wave for the remote-control impulses to go far underwater."

"How do you get your carrier wave underground to those tunnels?" Stanton asked.

The colonel grinned widely. "One of the boys dreamed up a real cute gimmick. The rails themselves act as antenna for the broadcaster, and the rat's tail is the pickup antenna. As long as the rat is crawling right on the rail, only a microscopic amount of power is needed for control, not enough for the Nipe to pick up with his instruments. Each rat carries its own battery for motive power, and there are old copper power cables down there that we can send direct current through to recharge the batteries. And, when we need them, the copper cables can be used as antennas. It took us quite a while to work the system out."

Stanton rubbed his head thoughtfully. Darn these gaps in my memory! he thought. It was sometimes embarrassing to ask questions that any schoolboy should know.

"Aren't there ways of detecting objects underwater?" he asked after a moment.

"Yes," said the colonel, "But they all require beamed energy of some kind to be reflected from the object, and we don't dare use anything like that." He sat down on one corner of the table, his bright blue eyes looking up at Stanton.

"That's been our problem all along," he said seriously. "Keeping the Nipe from knowing that he's being watched. In the tunnels, we've used only equipment that was already there, adding only what we absolutely had to--small things, a few strands of wire, a tiny relay, things that can be hidden in out of the way places. After all, he has his own alarm system in the

maze of tunnels, and we've deliberately kept away from his detecting devices. He knows about the rats and ignores them; they're part of the environment. But we don't dare use anything that would tip him off to our knowledge of his whereabouts. One slip like that, and hundreds of human beings will have died in vain."

"And if he stays there too long," Stanton said levelly, "millions more may die."

The colonel's face was grim as he looked directly into Stanton's eyes. "That's why you have to know your job down to the most minute detail when the time comes to act. The whole success of the plan will depend on you and you alone."

Stanton's eyes didn't avoid the colonel's. That's not true, he thought. I'll only be one man on a team, and you know it, Colonel Mannheim. But you'd like to shove all the responsibility off onto someone else--someone stronger. You've finally met someone that you consider superior in that way, and you want to unload. I wish I felt as confident as you do, but I don't.

Aloud, he said: "Sure. Nothing to it. All I have to do is take into account everything that's known about the Nipe and make allowances for everything that's not known." Then he smiled. "Not," he added, "that I can think of any other way to go about it."

X

St. Louis hadn't been hit during the Holocaust; it still retained much of the old-fashioned flavor of the Nineteenth and Twentieth Centuries, especially in the residential districts. Bart Stanton liked to walk along those quiet streets of an evening, just to let the peacefulness seep into him.

And, knowing it was rather childish, he still enjoyed the small pleasure of playing hooky from the Neurophysics Institute. Technically, he supposed, he was still a patient there. More, now that he had accepted Colonel Mannheim's assignment, he was presumably under military discipline. But he assumed that, if he had asked permission to leave the Institute's grounds, he would have been given that permission without question.

But, like playing hooky, or stealing watermelon, it was more fun if it was done on the sly. The boy who comes home feeling deliciously wicked and delightfully sinful after staying away from school all day can have his whole day ruined by being told that it was a holiday and that the school had been closed. Bart Stanton didn't want to spoil his own fun by asking for permission to leave the grounds when it was so easy for a man with his special abilities to get out without asking.

Besides, there was a chance--a small one, he thought--that permission might be refused for one reason or another, and Bart was fully aware that he would not disobey a direct request--to say nothing of a direct order--that he stay within the walls of the Institute. He didn't want to run any risk of losing his freedom, small though it was. After five years of mental and physical hell, he felt a need to get out into the world of normal, everyday people.

His legs moved smoothly, surely, and unhurriedly, carrying him aimlessly along the resilient walkway, under the warm glow of the street lights. The people around him walked as casually and with seemingly as little purpose as he did. There was none of the brisk sense of urgency that he felt inside the walls of the Institute.

He knew he could never get away from that sense of urgency completely, even out here. There were times when it seemed that all he had ever done, all his life, was to train himself for the single purpose of besting the Nipe.

If he wasn't training physically, he was listening to lectures from the psychologists or from Colonel Mannheim--laying plans and considering possibilities for the one great goal that seemed to be the focal point of his whole life.

What would happen if he failed? He would die, of course, and Mannheim's Plan Beta would immediately go into effect. The Nipe would be killed eventually.

But what if he, Stanton, won? Then what?

The people around him were not a part of his world, really. Their thoughts, their motions, their reactions, were slow and clumsy in comparison with his own. Once the Nipe had been conquered, what purpose would there be in the life of Bartholomew Stanton? He was surrounded by people, but he was not one of them. He was immersed in a society that was not his own because it was not, could not be, geared to his abilities and potentials. But there was no other society to turn to, either.

He was not a man "alone, afraid" in a world he had never made; he was a man who had been made for a world, a society, that did not exist.

Women? A wife? A family life?

Where? With whom?

He pushed the thoughts from his mind, the questions, unanswered and perhaps unanswerable. In spite of the apparent bleakness of the future, he had no desire to die, and there was the possibility that too much brooding of that kind would evoke a subconscious reaction that could slow him down or cause a wrong decision at a vital moment. A feeling of futility

could operate to bring on his death in spite of his conscious determination to win the coming battle with the Nipe.

The Nipe was his first duty. When that job was finished, he would consider the problem of himself. Just because he could not now see the answer to that problem did not mean that no answer existed.

He suddenly realized that he was hungry. He had been walking through Memorial Park, past the museum, an old, worn edifice that was still called the Missouri Pacific Building. There was a small restaurant only a block away. He reached into his pocket and took out the few coins that were there. Not much, but enough to buy a sandwich and a glass of milk. Because of the trust fund that had been set up when he had started the treatment at the Neurophysics Institute, he was already well off, but he didn't have much cash. What good was cash in the Institute, where everything was provided?

He stopped at a news-vendor, dropped in a coin, and waited for the reproducing mechanism to turn out a fresh paper. Then he took the folded sheets and went on to the restaurant.

He rarely read a news-sheet. Mostly, his information about the world that existed outside the walls of the Institute came from the televised newscasts. But, occasionally, he liked to read the small, relatively unimportant little stories about people who had done small, relatively unimportant things--stories that didn't appear in the headlines or on the newscasts.

The last important news story had come two nights before, when the Nipe had robbed an optical products company in Miami. The camera had shown the shop on the screen. Whatever had been used to blow open the door of

the vault had been more effective than necessary. It had taken the whole front door of the shop and both windows, too. The bent and twisted paraglass that had lain on the pavement showed how much force had been applied from within.

And yet, the results were not that of an explosion. It was more as though some tremendous force had pushed outward from within. It had not been the shattering shock of high explosive, but some great thrust that had unhurriedly, but irresistibly, moved everything out of its way.

Nothing had been moved very far, as it would have been by a blast. It appeared that everything had simply fallen aside, as though scattered by a giant hand. The main braces of the store front were still there, bent outward a little, but not broken.

The vault door had lain on the floor of the shop, only a few feet from the front door. The vault itself had been farther back, and the camera had showed it, standing wide open, gaping. Inside, there had been pieces of fragile glass standing on the shelves, unmoved, unharmed.

The force, whatever it had been, had moved in one direction only, from a point within the vault, just a few feet from the door, pushing outward to tear out the heavy door as though it had been made of paraffin or modeling clay.

Stanton had recognized the vault construction type: the Voisier construction, which, by test, could withstand almost everything known, outside of the actual application of atomic energy itself. In a widely-publicized demonstration several years before, a Voisier vault had been cut open by a team of well-trained, well-equipped technicians. It had taken twenty-one hours for them to breach the wall, and they had no fear of interruption, or of making a noise, or of setting off the intricate alarms that were built into the safe itself. Not even a borazon drill could make

much of an impression on a metal which had been formed under millions of atmospheres of pressure.

And yet the Nipe had taken that door out in a second, without much effort at all.

The crowd that had gathered at the scene of the crime had not been large. The very thought of the Nipe kept people away from places where he was known to have been. The specter of the Nipe evoked a fear, a primitive fear--fear of the dark and fear of the unknown, combined with the rational fear of a very real, very tangible danger.

And yet, there had been a crowd of onlookers. In spite of their fear, it is hard to keep human beings from being curious. It was known that the Nipe didn't stay around after he had struck; and, besides, the area was now full of armed men. So the curious came to look and to stare in revulsion at the neat pile of gnawed and bloody bones that had been the night watchman, carefully killed and eaten by the Nipe before he had opened the vault.

Thus curiosity does make fools of us all, and the native hue of caution is crimsoned o'er by the bright red of morbid fascination.

Stanton went through the door of the automat restaurant and walked over to the vending wall. The dining room was only about three-quarters full of people; there were plenty of seats available. He fed coins into the proper slots, took his sandwich and milk over to a seat in one corner and made himself comfortable.

He flipped open the newspaper and looked at the front page.

And, for a moment, his brain seemed to freeze.

The story itself was straightforward enough:

BENCHAIM KIDNAPERS NABBED! STAN MARTIN DOES IT AGAIN!

Ceres, June 3 (Interplanetary News Service)--The three men and three women who allegedly kidnapped ten-year-old Shmuel BenChaim were brought to justice today through the single-handed efforts of Stanley Martin, famed investigator for Lloyd's of London. The boy, held prisoner for more than ten months on a small asteroid, was reported in very good health.

According to Lt. John Vale, of the Planetoid Police, the kidnap gang could not have been taken by direct assault on their hideout because of fear that the boy might be killed. "The operation required a carefully-planned, one-man infiltration of their hideout," he said. "Mr. Martin was the man for the job."

Labeled "the most outrageous kidnapping in history", the affair was conceived as a long-term method of gaining control of Heavy Metals Incorporated, controlled by Moishe BenChaim, the boy's father. The details....

But Bart Stanton wasn't interested in the details. After only a glance through the first part of the article, his eyes returned to the picture alongside the article. The line of print beneath it identified the man in the picture as Stanley Martin.

But a voice in Bart Stanton's brain said: Not Stan Martin! The name is Mart Stanton!

And Bartholomew felt a roar of confusion in his mind, because he didn't know who Mart Stanton was, and because the face in the picture was his own.

XI

He was walking again.

He didn't quite remember how he had left the automat, and he didn't even try to remember.

He was trying to remember other things--farther back--before he had--

Before he had what?

Before the Institute; before the beginning of the operations.

The memories were there, just beyond the grasp of his conscious mind, like the memories of a dream after one has awakened. Each time he tried to reach into the darkness to grasp one of the pieces, it would break up into smaller bits. The patterns were too fragile to withstand the direct probing of his conscious mind. Only the resulting fragments held together long enough to be analyzed.

And, while part of his mind probed frantically after the elusive particles of memory, another part of it watched the process with semi-detached amusement.

He had always known there were holes in his memory (Always? Don't be silly, pal!), but it was disconcerting to find an area that was as riddled as a used machine-gun target. The whole fabric had been punched to bits.

No man's memory is completely available at any given time. However it is recorded, however completely every bit of data may be recorded during a lifetime, much of it is unavailable because it is incompletely cross-indexed or, in some cases, labeled Do Not Scan. Or, metaphorically, the file drawer may be locked. It may be that, in many cases, if a given bit of data remains unscanned long enough it fades into illegibility, never reinforced by the scanning process. Sensory data, coming in from the outside world as it does, is probably permanent. But the thought patterns originating within the mind itself, the processes that correlate and cross-index and speculate on and hypothesize about the sensory data, those are much more fragile. A man might glance once through a Latin primer and have every page imprinted indelibly on his recording mechanism and still be unable to make sense of the Nauta in cubito cum puella est.

Sometimes a man is aware of the holes in his memory. ("What was the name of that fellow I met at Eddie's party? Can't remember it for the life of me.") At other times, a memory may lay dormant and unremembered, leaving no apparent gap, until a tag of some kind brings it up. ("That girl with the long hair reminds me of Suzie Blugerhugle. My gosh! I haven't thought of her for years!") Both factors seemed to be operating in Bart Stanton's mind at this time.

Incredibly, he had never, in the past year at least, had occasion to try to remember much about his past life. He had known who he was without thinking about it particularly, and the rest of his knowledge--language, history, politics, geography, and so on--had been readily available for the most part. Ask any educated man to give the product of the primes 2, 13, and 41, or ask him to give the date of the Norman Conquest, and he can give the answer without having to think of where he learned it or who

taught it to him or when he got the information.

But now the picture and the name in the paper had brought forth a reaction in Stanton's mind, and he was trying desperately to bring the information out of oblivion.

Did he have a mother? Surely--but could he remember her? Yes! Certainly. A pretty, gentle, rather sad woman. He could remember when she had died, although he couldn't remember ever having attended the funeral.

What about his father?

He could find no memory of his father, and, at first, that bothered him. He could remember his mother--could almost see her moving around in the apartment where they had lived ... in ... in ... in Denver! Sure! And he could remember the building itself, and the block, and even Mrs. Frobisher, who lived upstairs! And the school! A great many memories came crowding back, but there was no trace of his father.

And yet....

Oh, of course! His father had been killed in an accident when Martinbart were very young.

Martinbart!

The name flitted through his mind like a scrap of paper in a high wind, but he reached out and grasped it.

Martinbart. Martin-Bart. Mart 'n' Bart. Mart and Bart.

The Stanton Twins.

It was curious, he thought, that he should have forgotten his brother. And even more curious that the name in the paper had not brought him instantly to mind.

Martin, the cripple. Martin, the boy with the radiation-shattered nervous system. The boy who had had to stay in a therapy chair all his life because his efferent nerves could not control his body. The boy who couldn't speak. Or, rather, wouldn't speak because he was ashamed of the gibberish that resulted.

Martin. The nonentity. The nothing. The nobody.

The one who watched and listened and thought, but could do nothing.

Bart Stanton stopped suddenly and unfolded the newspaper again under the glow of the street lamp. His memories certainly didn't gibe with this!

His eyes ran down the column of type.

"... Mr. Martin has, in the eighteen months since he came to the Belt, run up an enviable record, both as an insurance investigator and as a police detective, although his connection with the Planetoid Police is, necessarily, an unofficial one. Probably not since Sherlock Holmes has there been such mutual respect and co-operation between the official police and a private investigator."

The was only one explanation, Stanton thought. Martin, too, had been treated by the Institute. His memory was still blurry and incomplete, but he did suddenly remember that a decision had been made for Martin to take the treatment.

He chuckled a little at the irony of it. They hadn't been able to make a superman of Martin, but they had been able to make a normal and extraordinarily capable man of him. Now it was Bart who was the freak, the odd one.

Turn about is fair play, he thought. But somehow it didn't seem quite fair.

He crumpled the newspaper, dropped it into a nearby waste chute, and walked on through the night toward the Neurophysical Institute.

XII

INTERLUDE

"You understand, Mrs. Stanton," said the psychiatrist, "that a great part of Martin's trouble is mental as much as physical. Because of the nature of his ailment, he has withdrawn, pulled himself away from communication with others. If these symptoms had been brought to my attention earlier, the mental disturbance might have been more easily analyzed and treated."

"I'm sorry, Doctor," said Mrs. Stanton. Her manner betrayed weariness and pain. "It was so--so difficult. Martin could never talk very well, you know, and he just talked less and less as the years went by. It was so gradual that I never really noticed it."

Poor woman, the doctor thought. She's not well, herself. She should have married again, rather than carry the whole burden alone. Her role as a doting mother hasn't helped either of the boys to overcome the handicaps that were already present.

"I've tried to do my best for Martin," Mrs. Stanton went on unhappily. "And so has Bart. When they were younger, Bart used to take him out all the time. They went everywhere together. Of course, I don't expect Bart to do that so much any more; he has his own life to live. He can't take Martin out on dates or things like that. But when he's home, Bart helps me with Martin all the time."

"I understand," said the doctor. This is no time to tell her that Bartholomew's tests indicate that he has subconsciously resented Martin's presence for a long time. She has enough to worry about.

"I don't understand," said Mrs. Stanton, breaking into sudden tears. "I don't understand why Martin should behave this way! Why should he just sit there with his eyes closed and ignore us both?"

The doctor comforted her in a warmly professional manner, then, as her tears subsided, he said: "We don't understand all of the factors ourselves, Mrs. Stanton. Martin's reactions are, I admit, unusual. His behavior doesn't quite follow the pattern that we usually expect from such cases as this. His physical disability has drastically modified the course of his mental development, and, at the same time, makes it difficult for us to make any analysis of is mental state."

"Is there anything you can do, Doctor?"

"We don't know yet," he said gently. He considered for a moment, then said: "Mrs. Stanton, I'd like for you to leave both the boys here for a few days, so that we can perform further tests. That will help us a great deal in getting at the root of Martin's trouble."

She looked at him with a little surprise. "Why, yes, of course. But ... why should Bart stay?"

The doctor weighed his words carefully before he spoke.

"Bart is our control, Mrs. Stanton. Since the boys are genetically identical, they should have been a great deal alike in personality if it hadn't been for Martin's accident. In other words, our tests of Bart will tell us what Martin should be like. That way we can tell just how much and in what way Martin deviates from what he should ideally be. Do you understand?"

"Yes. Yes, I see. All right, Doctor--whatever you say."

After Mrs. Stanton had left, the psychiatrist sat quietly in his chair and stared thoughtfully at his desk top for several minutes. Then, making his decision, he picked up a small book that lay on his desk and looked up a number in Arlington, Virginia. He punched out the number on his phone, and when the face appeared on his screen, he said: "Hello, Sidney. Look, I have a very interesting case out here that I'd like to talk to you about. Do you happen to have a telepath who's strong enough to take a meshing with an insane mind? If my suspicions are correct, I'll need a man with an impregnable sense of identity, because he's going to get into the weirdest situation I've ever come across."

XIII

Pok! Pok! Ping!

Pok! Pok! Ping!

Pok! Pok! Ping!

The action in the handball court was beautiful to watch. The robot mechanism behind Bart Stanton would fire out a ball at random intervals

ranging from a tenth to a quarter of a second, bouncing them off the wall in a random pattern. Stanton would retrieve the ball before it hit the ground, bounce it off the wall again to strike the target on the moving robot. Stanton had to work against a machine; no ordinary human being could have given him any competition.

Pok! Pok! Ping!

Pok! Pok! Ping!

Pok! Pok! PLUNK.

"One miss," Stanton said to himself. But he fielded the next one nicely and slammed it home.

Pok! Pok! Ping!

The physical therapist who was standing by glanced at his watch. It was almost time.

Pok! Pok! Ping!

The machine, having delivered its last ball, shut itself off with a smug click. Stanton turned away from the handball court and walked toward the physical therapist, who held out a robe for him.

"That was good, Bart," he said, "real good."

"One miss," Stanton said as he shrugged into the robe.

"Yeah. Your timing was a shade off there, I guess. But you ran a full minute over your previous record."

Stanton looked at him. "You re-set the timer again," he said accusingly. But there was a grin on his face.

The P.T. man grinned back. "Yup. Come on, step into the mummy case." He waved toward the narrow niche in the wall of the court, a niche just big enough to hold a standing man. Stanton stepped in, and various instrument pick-ups came out of the walls and touched his body. Hidden machines recorded his heartbeat, blood pressure, brain activity, muscular tension, and several other factors.

After a minute, the P.T. man said, "O.K., Bart; let's hit the steam box."

Stanton stepped out of the niche and accompanied the therapist to another room, where he took off the robe again and sat down on the small stool inside an ordinary steam box. The box closed, leaving his head free, and the box began to fill with steam.

"Did I ever tell you what I don't like about that machine?" Bart asked as the therapist draped a heavy towel around his head.

"Nope. Didn't know you had any gripe. What is it?"

"You can't gloat after you beat it. You can't walk over and pat it on the shoulder and say, 'Well, better luck next time, old man.' It isn't a good loser, and it isn't a bad loser. The darn thing doesn't even know it lost, and if it did, it wouldn't care."

"I see what you mean," said the P.T. man, chuckling. "You beat the pants off it and what d'you get? Not even a case of the sulks out of it."

"Exactly. And what's worse, I know perfectly good and well that it's only

half trying. The darned thing could beat me easily if you just turned that knob over a little more."

"You're not competing against the machine, anyway," the therapist said. "You're competing against yourself, trying to beat your own record."

"I know. And what happens when I can't do that any more, either?" Stanton asked. "I can't just go on getting better and better forever. I've got limits, you know."

"Sure," said the therapist easily. "So does a golf player. But every golfer goes out and practices by himself to try to beat his own record."

"Bunk! The real fun in any game is beating someone else! The big kick in golf is in winning over the other guy in a twosome."

"How about crossword puzzles or solitaire?"

"Solve a crossword puzzle, and you've beaten the guy who made it up. In solitaire, you're playing against the laws of chance, and even that can become pretty boring. What I'd like to do is get out on the golf course with someone else and do my best and then lose. Honestly."

"With a handicap...." the therapist began. Then he grinned weakly and stopped. On the golf course, Stanton was impossibly good. One long drive to the green, one putt to the cup. An easy thirty-six strokes for eighteen holes; an occasional hole-in-one sometimes brought him below that, an occasional worm-cast or stray wind sometimes raised his score.

"Sure," Stanton said. "A handicap. What kind of handicap do you want on a handball game with me?"

The P.T. man could imagine himself trying to get under one of Stanton's lightning-like returns. The thought of what would happen to his hand if he were to accidentally catch one made him wince.

"We wouldn't even be playing the same game," Stanton said.

The therapist stepped back and looked at Stanton. "You know," he said puzzledly, "you sound bitter."

"Sure I'm bitter," Stanton said. "All I get is exercise. All the fun has gone out of it." He sighed and grinned. There was no point in worrying the P.T. man. "I'll just have to stick to cards and chess if I want competition. Speed and strength don't help anything if I'm holding two pair against three of a kind."

Before the therapist could say anything, the door opened and a tall, lean man stepped into the fog-filled room. "You are broiling a lobster?" he asked the P.T. blandly.

"Steaming a clam," came the correction. "When he's done, I'll pound him to chowder."

"Excellent. I came for a clam-bake," the tall man said.

"You're early then, George," Stanton said. He didn't feel in the mood for light humor, and the appearance of Dr. Yoritomo did nothing to improve his humor.

George Yoritomo beamed, crinkling up his heavy-lidded eyes. "Ah! A talking clam! Excellent! How much longer does he have to cook?"

"Twenty-three minutes, why?"

"Would you be so good as to return at the end of that time?"

The therapist opened his mouth, closed it, opened it again, and said: "Sure, Doc. I can get some other stuff done. I'll see you then. I'll be back, Bart." He went out through the far door.

After the door closed, Dr. Yoritomo pulled up a chair and sat down. "New developments," he said, "as you may have surmised."

"I guessed," Stanton said. "What is it?" He flexed his muscles under the caress of the hot, moist currents in the box.

He wondered why it was so important that the psychologist interrupt him while he was relaxing after strenuous exercise. Yoritomo looked excited, in spite of his calm. And yet Stanton knew that there couldn't be anything urgent or Yoritomo would have acted differently.

It was relatively unimportant now, anyway, Stanton thought. Having made his decision to act on his own had changed his reaction to the decisions of others.

Yoritomo leaned forward in his chair, his thin lips in an excited smile, his black-irised eyes sparkling. "I had to come tell you. The sheer, utter beauty of it is too much to contain. Three times in a row was almost absolute, Bart; the probability that our hypothesis is correct was computed as straight nines to seven decimals. But now! The fourth time! Straight nines to twelve decimals!"

Scanton lifted an eyebrow. "Your Oriental calm is deserting you, George.

I'm not reading you."

Yoritomo's smile became broader. "Ah! Sorry. I refer to the theory we have been discussing--about the memory of the Nipe. You know?"

Stanton knew. Dr. Yoritomo was, in effect, one of his training instructors. Advanced Alien Psychology, Stanton thought; Seminar Course. The Mental Whys & Wherefores of the Nipe, or How to Outthink the Enemy in Twelve Easy Lessons. Instructor: Dr. George Yoritomo.

After six years of watching the recorded actions of the Nipe, Yoritomo had evolved a theory about the kind of mentality that lay behind the four baleful violet eyes in that alien head. Now he evidently had proof of that theory. He was smiling and rubbing his long, bony hands together. For George Yoritomo, that was the equivalent of hysterical excitement.

"We have been able to predict the behavior of the Nipe!" he said. "For the fourth time in succession!"

"Great. But how does that fit in with that rule you once told me about? You know, the one about experimental animals."

"Ah, yes. The Harvard Law. 'A genetically standardized strain, under precisely controlled laboratory conditions, when subjected to carefully calibrated stimuli, will behave as it darned well pleases.' Yes. Very true.

"But an animal could not do otherwise, could it? Only as it pleases. And it could not please to behave as something it is not, could it?"

"Draw me a picture," Stanton said.

"I mean that any organism is limited in its choice of behavior. A hamster,

for instance, cannot choose to behave in the manner of a Rhesus monkey. A dog cannot choose to react as a mouse would. If I prick a rat with a needle, it may squeal, or bite, or jump--but it will not bark. Never. Nor will it leap up to a trapeze, hang by its tail, and chatter curses at me. Never.

"By observing an organism's reactions, one can begin to see a pattern. If you tell me that you put an armful of hay into a certain animal's enclosure, and that the animal trotted over, ate the hay, and brayed, I can tell you with reasonable certainty that the animal has long ears. Do you see?"

"You haven't been able to pinpoint the Nipe that easily, have you?" Stanton asked.

"Ah, no. The more intelligent a creature is, the greater its scope of action. The Nipe is far from being so simple as a monkey or a hamster. On the other hand--" He smiled widely, showing bright, white teeth. "--he is not so bright as a human being."

"What!? I wouldn't say he was exactly stupid, George. What about all those prize gadgets of his?" He blinked. "Wipe the sweat off my forehead, will you? It's running into my eyes."

Dr. Yoritomo wiped with the towel as he continued. "Ah, yes. He is quite capable in that respect, my friend. It is his great memory--at once his finest asset and his greatest curse."

He draped the towel around Stanton's head again and stepped back, his face unsmiling. "Imagine having a near-perfect memory."

Stanton's jaw muscles tightened. "I think I'd like it."

Yoritomo shrugged slightly. "Perhaps you would. But it would not be the asset you think. Look at it soberly, my friend.

"The most difficult teaching job in the universe is the attempt to teach an organism something it already knows. True? Yes. If a man already knows the shape of the Earth, it will do you no good to attempt to teach him. If he knows that the Earth is flat, your contention that it is round will make no impression whatever. He knows, you see. He knows.

"Now. Imagine a race with a perfect memory--one which does not fade. A memory in which each bit of data is as bright and fresh as the moment it was imprinted, and as readily available as the data stored in a robot's mind. It is, in effect, a robotic memory.

"If you put false data into the memory bank of a computer--such as telling it that the square of two is five--you cannot correct the error simply by telling it that the square of two is four. You must first remove the erroneous data, not so?

"Very good. Then let us look at the Nipe race, wherever it was spawned in this universe. Let us look at their race a long time back--when they first became Nipe sapiens. Back when they first developed a true language. Each child, as it is born or hatched or budded--whatever it is they do--is taught as rapidly as possible all the things it must know to survive. And once it is taught a thing, it knows. And if it is taught a falsehood, then it cannot be taught the truth."

"Wouldn't cold reality force a change?" Stanton asked.

"Ah. In some cases, yes. In most, no. Look: Suppose a primordial Nipe

runs across a tiger--or whatever passes for a tiger on their planet. He has never seen a tiger before, so he does not see that this particular tiger is old, ill, and weak. He hits it on the head, and it drops dead. He takes it home for the family to feed on.

"'How did you kill it, Papa?"'

"'I walked up to it, bashed it on the noggin, and it died. That is the way to kill tigers."'

Yoritomo smiled. "It is also a good way to kill Nipes. Eh?" He took the towel and wiped Stanton's brow again.

"The error," he continued, "was made when Papa Nipe generalized from one tiger to all tigers. If tigers were rare, this bit of lore might be passed on for many generations. Those who learned that most tigers are not conquered by walking up to them and hitting them on the noggin undoubtedly died before they could pass this bit of information on. Then, one day, a Nipe survived the ordeal. His mind now contained conflicting information, which must be resolved. He knows that tigers are killed in this way. He also knows that this one did not die. Plainly, then, this one is not a tiger. Ha! He has the solution!

"What does he tell his children? Why, first he tells them how tigers are killed. Then he warns them that there is an animal that looks just like a tiger, but is not a tiger. One should not make the mistake of thinking it is a tiger or one will get badly hurt. Since the only way to tell the true tiger from the false is to hit it, and since that test may prove fatal to the Nipe who tries it, it follows that one is better off if one avoids all animals that look like tigers. You see?"

"Yeah," said Stanton. "Some snarks are boojums."

"Exactly! Thank you for that allusion. I must remember to use it in my report."

"It seems to me to follow," Stanton said musingly, "that there would be some things that they'd never learn the truth about, once they'd gotten a wrong idea in their heads."

"Ah! Indeed. It is precisely that which led me to formulate my theory in the first place. How else to explain the fact that the Nipe, for all his technical knowledge, is still in the ancient ritual-taboo stage of development?"

"A savage?"

Yoritomo smiled. "As to his savagery, I think no one on Earth would disagree. But they are not the same thing. What I do mean is that the Nipe is undoubtedly the most superstitious and bigoted being on the face of this planet."

XIV

There was a knock at the door, and the physical therapist put his head in. "Sorry to interrupt, but the clam is done. I'll give him a rubdown, Doc, and you can have him back."

"Excellent. Would you come up to my office, Bart, as soon as you've had your mauling?"

"Sure. I'll be right up."

Yoritomo left, and the P.T. man opened the steam box. "Feel O.K., Bart?"

"Yeah, sure," he said abstractedly as he got up on the rubdown table and lay prone. The therapist saw that Stanton was in no mood for conversation, so he proceeded with the massage in silence.

For the first time, Stanton was seeing the Nipe as an individual, as a person, as a thinking, feeling being.

We have a great deal in common, you and I, he thought. Except that you're a lot worse off than I am.

I'm actually feeling sorry for the poor guy, Stanton thought. Which, I suppose, is better than feeling sorry for myself. The only difference between us freaks is that you're a bigger freak than I am. "Molly O'Grady and the Colonel's lady are sisters under the skin."

Where'd that come from? Something I learned in school, I guess--like the snarks and boojums.

"He would answer to Hi! or to any loud cry, Such as Fry me! or Fritter my wig!"

Who was that? The snark? No.

Darn this memory of mine!

Or can I even call it mine when I can't even use it?

"For now we see through a glass, darkly; but then face to face: now I know

in part; but then shall I know even as also I am known."

Another jack-in-the-box thought popping up from nowhere.

The only way I'll ever get all this stuff straightened out is to get more information. And it doesn't look as though anyone is going to give it to me on a platter. The Institute seems to be awfully chary about giving information away. George even had to chase away old rub-and-pound, here (That feels good!) before he would talk about the Nipe. Can't blame 'em for that, I guess. There'd be heck to pay if the public ever found out that the Nipe has been kept as a pet for six years.

How many people has he killed in that time? Twenty? Thirty? How much blood does Colonel Mannheim have on his hands?

"Though they know not why, Or for what they give, Still, the few must die, That the many may live."

I wonder whether I read all that stuff complete or just browsed through a copy of Bartlett's Quotations. Fragments.

We've got to get organized here, brother. Colonel Mannheim's little puppet is going to cut his strings and do a Pinocchio.

"O.K., Bart," the P.T. said, giving Stanton a final slap, "you're all set. See you tomorrow."

"Right. Gimme my clothes."

Stanton dressed and took the elevator up to Yoritomo's office. This section

of the building was off-limits to the other patients in the Institute, but Stanton, the star border, had free rein.

Not that it mattered, one way or another. There wasn't any way they could have stopped him. Aside from the fact that he was physically capable of going through or around almost any guards they wanted to put up, there was also the little matter of gentle blackmail. When a man is genuinely indispensable, he can work wonders by threatening to drop the whole business.

He felt as though he had been slowly awakening from a long sleep. At first, he had accepted as natural that he should obey orders and do as he was told without question, as thought he had been drugged or hypnotized.

And it's very likely they subjected me to both at one time or another, he told himself.

But now his brain was beginning to function again, and the need to know was strong in his mind.

Dr. Yoritomo was sitting in one of the big, soft chairs, puffing at his pipe, but he leaped to his feet when Stanton came in.

"Ah! About the ritual-taboo culture of the Nipe! Yes. Sit down. Yes. So. Do you find it impossible that a high technology could be present in such a system?"

"No. I've been thinking about it."

"Ah, so." He sat down again. "Then you will please tell me."

"Well, let's see. In the first place, let's take religion. In tribal cultures, religion is--uh--animistic, I think the word is."

Yoritomo nodded silently.

"There are spirits everywhere," Scanton went on. "That sort of belief, it seems to me, would grow up in any race that had imagination, and the Nipes must have plenty of that, or they wouldn't have the technology they do have."

"Very good. Very good. But what evidence have you that this technology was not given them by some other race?"

"I hadn't thought of that." Stanton stared into space for a moment, then nodded his head. "Of course. It would take too long for another race to teach it to them; it wouldn't be worth the trouble unless this hypothetical other race killed off all the adult Nipes and started the little ones off fresh. And if that had happened, their ritual-taboo system would have disappeared, too."

"That argument is imperfect," Yoritomo said, "but it will do for the moment. Go on with the religion."

"O.K.; religious beliefs are not subject to pragmatic tests. That is, the spiritual beliefs aren't. Any belief that could be disproven would eventually die out. But beliefs in ghosts or demons or angels or life after death aren't disprovable. So, as a race increases its knowledge of the physical world, its religion tends to become more and more spiritual."

"Agreed. Yes. But how do you link this with ritual-taboo?"

"Well, once a belief gains a foothold, it's hard to wipe it out, even among humans. Among Nipes, it would be well-nigh impossible. Once a code of ritual and social behavior was set up, it became permanent."

"For example?" Yoritomo urged.

"Well, shaking hands, for example. We still do that, even if we don't have it fixed solidly in our heads that we must do it. I suppose it would never occur to a Nipe not to perform such a ritual."

"Just so," Yoritomo agreed vigorously. "Such things, once established, would tend to remain. But it is a characteristic of a ritual-taboo system that it resists change. How, then, do you account for their high technological achievements?"

"The pragmatic engineering approach, I imagine. If a thing works, it is usable. If not, it isn't."

"Very good. Now it is my turn to lecture." He put his pipe in an ash tray and held up a long, bony finger. "Firstly, we must remember that the Nipe is equipped with an imagination. Secondly, he has in his memory a tremendous amount of data, all ready at hand. He is capable of working out theories in his head, you see. Like the ancient Greeks, he finds no need to test such theories--unless his thinking indicates that such an experiment would yield something useful. Unlike the Greeks, he has no aversion to experiment. But he sees no need for useless experiment, either.

"Oh, he would learn, yes. But, once a given theory proved workable, how resistant he would be to a new theory. How long--how incredibly long--it would take such a race to achieve the technology the Nipe now has!"

"Hundreds of thousands of years," said Stanton.

Yoritomo shook his head briskly. "Puh! Longer! Much longer!" He smiled with satisfaction. "I estimate that the Nipe race first invented the steam engine not less than ten million years ago." He kept smiling into the dead silence that followed.

After a long minute, Scanton said: "What about atomic energy?"

"At least two million years ago. I do not think they have had the interstellar drive more than fifty thousand years."

"No wonder our pet Nipe is so patient," Stanton said wonderingly. "I wonder what their individual life span is."

"Not long, in comparison," said Yoritomo. "Perhaps no longer than our own, perhaps five hundred years. Considering their handicaps, they have done quite well. Quite well, indeed, for a race of illiterate cannibals."

"How's that again?" Stanton realized that the scientist was quite serious.

"Hadn't it occurred to you, my friend, that they must be cannibals? And that they are very nearly illiterate?"

"No," Stanton admitted, "it hadn't."

"The Nipe, like Man, is omnivorous. Specialization tends to lead any race up a blind alley, and dietary restrictions are a particularly pernicious form of specialization. A lion would starve to death in a wheat field. A horse would perish in a butcher shop full of steaks. A man will survive as long as there's something around to eat--even if it's another man.

"Also, Man, early in his career as top dog on Earth, began using a method of increasing the viability of the race by removing the unfit. It survives today in some societies. Before and immediately after the Holocaust, there were still primitive societies on Earth which made a rather hard ordeal out of the Rite of Passage--the ceremony that enabled a boy to become a Man, if he passed the tests.

"A few millennia ago, a boy was killed outright if failed. And eaten.

"The Nipe race must, of necessity, have had some similar ritualistic tests or they would not have become what they are. And we have already agreed that, once the Nipes adopted something of that kind, it remained with them, not so? Yes.

"Also, it is extremely unlikely that the Nipe civilization--if such it can be called--has any geriatric problem. No old age pensions, no old folks' homes, no senility. When a Nipe becomes a burden because of age, he is ritually murdered and eaten with due solemnity.

"Ah. You frown, my friend. Have I made them sound heartless, without the finer feelings that we humans are so proud of? Not so. When Junior Nipe fails his puberty tests, when Mama and Papa Nipe are sent to their final reward, I have no doubt that there is sadness in the hearts of their loved ones as the honored T-bones are passed around the table.

"My own ancestors, not too far back, performed a ritual suicide by disemboweling themselves with a sharp knife. Across the abdomen--so!--and up into the heart--so! It was considered very bad form to die or faint before the job was done. Nearby, a relative or close friend stood with a sharp sword, to administer the coup de grace by decapitation. It was all very sad and very honorable. Their loved ones bore the sorrow with pride."

His voice, which had been low and tender, suddenly became very brisk. "Thank goodness it's gone out of fashion!"

"But how can you be sure they're cannibals?" Stanton asked. "Your argument sounds logical enough, but logic alone isn't enough."

"True! True!" Yoritomo jabbed the air twice with his finger. "Evidence would be most welcome, would it not? Very well, I give you the evidence. He eats human beings, our Nipe."

"That doesn't make him a cannibal."

"Not strictly, perhaps. But consider. The Nipe is not a monster. He is not a criminal. No. He is a gentleman. He behaves as a gentleman. He is shipwrecked on an alien planet. Around his, he sees evidence that ours is a technological society. But that is a contradiction! A paradox!

"For we are not civilized! No! We are not rational! We are not sane! We do not obey the Laws, we do not perform the Rituals. We are animals. Apparently intelligent animals, but animals never the less. How can this be?

"Ha! Says the Nipe to himself. These animals must be ruled over by Real People. It is the only explanation. Not so?"

"Colonel Mannheim mentioned that. Are you implying that the Nipe thinks that there are other Nipes around, running the world from secret hideouts, like the Fu Manchu novel?"

"Not quite. The Nipe is not incapable of learning something new; in fact, he is quite good at it, as witness the fact that he has learned many Earth

languages. He picked up Russian in less then eight months simply by listening and observing. Like our own race, his undoubtedly evolved many languages during the beginnings of its progress--when there were many tribes, separated and out of communication. It would not surprise me to find that most of those languages have survived and that our distressed astronaut knows them all. A new language would not distress him.

"Nor would strangely-shaped intelligent beings distress him. His race should be aware, by now, that such things exist. But it is very likely that he equates true intelligence with technology, and I do not think he has ever met a race higher than the barbarian level before. Such races were not, of course, human--by his definition. They showed possibilities, perhaps, but they had not evolved far enough. Considering the time span involved, it is not at all unlikely that the Nipe thinks of technology as something that evolves with a race in the same way intelligence does--or the body itself.

"So it would not surprise him to find that the Real People of this system were humanoid in shape. That is something new, and he can absorb it. It does not contradict anything he knows.

"But--! Any truly intelligent being which did not obey the Law and follow the Ritual would be a contradiction in terms. For he has no notion of a Real Person without those characteristics. Without those characteristics, technology is impossible. Since he sees technology all around him, it follows that there must be Real People with those characteristics. Anything else is unthinkable."

"It seems to me that you're building an awfully involved theory out of pretty flimsy stuff," Stanton said.

Yoritomo shook his head. "Not at all. All evidence points to it. Why, do you suppose, does the Nipe conscientiously devour his victims, often risking his own safety to do so? Why do you suppose he never uses any

weapons but his own hands to kill with?

"Why? To tell the Real People that he is a gentleman!"

It made perfect sense, Stanton thought. It fitted every known fact, as far as he knew. Still--

"I would think," he said, "that the Nipe would have realized, after ten years, that there is no such race of Real People. He's had access to all our records, and such things. Or does he reject them as lies?"

"Possibly he would, if he could read them. Did I not say he was illiterate?"

"You mean he's learned to speak our languages, but not to read them?"

The scientist smiled broadly. "Your statement is accurate, my friend, but incomplete. It is my opinion that the Nipe is incapable of reading any written language whatever. The concept does not exist in his mind, except vaguely."

"A technological race without a written language? That's impossible!"

"Ah, no. Ask yourself: What need has a race with a perfect memory for written records--at least, in the sense we know them. Certainly not to remember things. All their history and all their technology exists in the collective mind of the race--or, at least, most of it. I dare say that the less important parts of their history has been glossed over and forgotten. One important event in every ten centuries would still give a historian ten thousand events to remember--and history is only a late development in our own society."

"How about communications?" Stanton said, "What did they use before they invented radio?"

"Ah. That is why I hedged when I said he was almost illiterate. There is a possibility that a written symbology did at one time exist, for just that purpose. If so, it has probably survived as a ritualistic form--when an officer is appointed to a post, let's say, he may get a formal paper that says so. They may use symbols to signify rank and so on. They certainly must have a symbology for the calibration of scientific instruments.

"But none of these requires the complexity of a written language. I dare say our use of it is quite baffling to him. And if he thinks of symbols as being unable to convey much information, then he might not be able to learn to read at all. You see?"

"Where's your evidence for that?"

"It is sketchy, I will admit," said Yoritomo. "It is not as solidly based as our other reconstructions of his background. The pattern of his raids indicates, however, that his knowledge of the materials he wants and their locations comes from vocal sources--television advertising, eaves-dropping, and so on. In other words, he cases the joint by ear. If he could understand written information, his job would have been much easier. He could have found the materials more quickly and easily. From this evidence, we are fairly certain that he can't read any Terrestrial writing.

"Add to that the fact that he has never been observed writing down anything himself, and the suspicion dawns that perhaps he knows that symbols can only convey a very small amount of specialized information. Eh?

"As I said, it is not proof."

"No. But the whole thing makes for some very interesting speculation, doesn't it?"

"Very interesting indeed." Yoritomo folded his hands in his lap, smiled seraphically, and looked at the ceiling. "In fact, my friend, we are now so positive of our knowledge of the Nipe's mind that we are prepared to enter into the next phase of our program. Within a very short while, if we are correct, we shall, with your help, arrest the most feared arch-criminal that Earth has ever known." He chuckled, but there was little mirth in it. "I dare say that the public will be extremely happy to hear of his death, and I know that Colonel Mannheim and the rest of us will be glad to know that he will never kill again."

Stanton saw that the fateful day was looming suddenly large in the future. "How soon?"

"Within days." He lowered his eyes from the ceiling and looked into Stanton's face with a mildly bland expression.

"By the way," he said, "did you know that your brother is returning to Earth tomorrow?"

XV

INTERLUDE

"Is this our young man, Dr. Farnsworth?" asked the man in uniform.

"Yes, it is. Colonel Mannheim, I'd like you to meet Mr. Bartholomew Stanton."

"How are you, Mr. Stanton?"

"Fine, Colonel. A little nervous."

The colonel chuckled softly. "I can't say that I blame you. It's not an easy decision to make." He looked at Dr. Farnsworth. "Has Dr. Yoritomo any more information for us?"

Farnsworth shook his head. "No. He admits that his idea is nothing more than a wild hunch. He seems to think that five years of observing the Nipe won't be too much time at all. We may have to act before then."

"I hope not. It would be a terrible waste," said Mannheim. "Mr. Stanton, I know that Dr. Farnsworth has outlined the entire plan to you, and I'm sure you're aware that many things can change in five years. We may have to play by ear long before that. Do you understand what we are doing, and why it must be done this way?"

"Yes, sir."

"You know that you're not to say anything."

"Yes, sir. Don't worry; I can keep my mouth shut."

"We're pretty sure of that," the colonel said with a smile. "Your psychometric tests showed that we were right in picking you. Otherwise, we couldn't have told you. You understand your part in this, eh?"

"Yes, sir."

"Any questions?"

"Yes, sir. What about my brother, Martin? I mean, well, I know what's the matter with him. Aside from the radiation, I mean. Do you think he'll be able to handle his part of the job after--after the operations?"

"If the operations turn out as well as Dr. Farnsworth thinks they will, yes. And, with the therapy we'll give him afterwards, he'll be in fine shape."

"Well." He looked thoughtful. "Five more years. And then I'll have the twin brother that I never really had at all. Somehow, it doesn't really register, I guess."

"Don't worry about it, Mr. Stanton," said Dr. Farnsworth. "We've got a complex enough job ahead of us without your worrying in the bargain. By the way, we'll need your signature here." He handed him a pen and spread the paper on the desk. "In triplicate."

The young man read quickly through the release form. "All nice and legal, huh? Well...." He hesitated for a moment, then bent over and wrote: Bartholomew Stanton in a firm, clear hand.

XVI

The tunnel was long and black and the air was stale and thick with the stench of rodents. Stanton stood still, trying to probe the luminescent gloom that the goggles he wore brought to his eyes. The tunnel stretched out before him--on and on. Around him was the smell of viciousness and death. Ahead ...

It goes on to infinity, Stanton thought, ending at last at zero.

"Barbell," said a voice near his ear, "Barhop here. Do you read?" It was the barest whisper, picked up by the antennae in his shoes from the steel rail that ran along the tunnel.

"Read you, Barhop."

"Move out, then. You've got a long stroll to go."

Stanton started walking, keeping his feet near the rail, in case Barhop wanted to call again. As he walked, he could feel the slight motion of the skin-tight, woven elastic suit that he wore rubbing against his skin.

And he could hear the scratching patter of the rats.

Mostly, they stayed away from him, but he could see them hiding in corners and scurrying along the sides of the tunnel. Around him, six rat-like remote-control robots moved with him, shifting their pattern constantly as they patrolled his moving figure.

Far ahead, he knew, other rat robots were stationed, watching and waiting, ready to deactivate the Nipe's detection devices at just the right moment. Behind him, another horde moved forward to turn the devices on again.

It had taken a long time to learn how to shut off those detectors without giving the alarm to the Nipe's instruments.

There were nearly a hundred men in on the operation, operating the robot rats or watching the hidden cameras that spied upon the Nipe. Nearly a hundred. And all of them were safe.

They were outside the tunnel. They were with Stanton only in proxy. They could not die here in this stinking hole, but Stanton could.

There was no help for it. Stanton had to go in person. A full-sized robot proxy would be stronger, although not faster unless Stanton controlled it, than the Nipe. But the Nipe would be able to tell that it was a robot, and he would simply destroy it with one of his weapons. A remote-controlled robot would never get close enough to the Nipe to do any good.

"We do not know," Dr. Yoritomo had said, "whether he would recognize it as a robot or not, but his instruments would show the metal easily enough, and his eyes might be able to see that it was not covered with human skin. The rats are covered with real rat hides; they are small, and he is used to seeing them around. But a human-sized robot? Ah, no. Never."

So Stanton had to go in in person, walking southward, along the miles of blackness that led to the nest of the Nipe.

Overhead was Government City.

He had walked those streets only the night before, and he knew that only a short distance above him was an entirely different world.

Somewhere up there, his brother was waiting after having run the gamut of televised interviews, dinner at one of the best restaurants, and a party afterward. A celebrity. "The greatest detective in the Solar System," they'd called him. Fine stuff, that. Stanton wondered what the asteroids were like. Maybe that would be the place to go after this job was done. Maybe they'd have a place in the asteroids for a hopped-up superman.

Or maybe there'd only be a place here, beneath the streets of Government City for a dead superman.

Not if I can help it, Stanton thought with a grim smile.

The walking seemed to take forever, but, somehow, Stanton didn't mind it. He had a lot to think over. Seeing his brother had been unnerving yesterday, but today he felt as though everything had been all right all along.

His memory still was a long way from being complete, and it probably always would be. He could still scarcely recall any real memories of a boy named Martin Stanton, but--and he smiled at the thought--he knew more about him than his brother did, at that.

It didn't matter. That Martin Stanton was gone. In effect, he had been demolished--what little there had been of him--and a new structure had been built on the old foundation.

And yet, in another way, the new structure was very like what would have developed naturally if the accident so early in life had not occurred.

Stanton skirted a pile of rubble on his right. There had been a station here, once; the street above had caved in and filled in with brick, concrete, cobblestones, and steel scrap, and then it had been sealed over when Government City was built.

A part of one wall was still unbroken, though. A sign built of tile said 86th Street, he knew, although it wasn't visible in the dim glow. He kept walking, ignoring the rats that scampered over the rubble.

"Barhop to Barbell," said the soft voice near his ear. "No sign of activity from the Nipe. So far, you haven't triggered any of his alarms."

"Barbell to Barhop," Stanton whispered. "What's he doing?"

"Still sitting motionless. Thinking, I guess. Or sleeping. It's hard to tell."

"Let me know if he starts moving around."

"Will do."

Poor, unsuspecting beastie, Stanton thought. Ten years of hard work, ten years of feeling secure, and within a very short time he's going to get the shock of his life.

Or maybe not. There was no way of knowing what kind of shocks the Nipe had taken in his life, Stanton thought. Not even of knowing whether the Nipe was capable of feeling anything like security.

It was odd, he thought, that he should feel a kinship toward both the Nipe and his brother in such similar ways. He had never met the Nipe, and his brother was a dim picture in his old memories, but they were both very well known to him. Certainly better known to him than he was to them.

And yet, seeing his brother's face on the TV screen, hearing him talk, watching the way he moved about, watching the expressions on his face, had been a tremendously moving thing. Not until that moment had he really known himself.

Meeting him face to face would be easier now, but it would still be a scene highly charged with emotional tension.

He kicked something that rattled and rolled away from him. He stopped, freezing in his tracks, trying to pierce the dully glowing gloom. It was a human skull.

He relaxed and began walking again.d

There were plenty of bones down here. Mannheim had said that the tunnels had been used as air-raid shelters when the sun bomb had hit the island during the Holocaust. Thousands had crowded underground after the warning had come, and they had died when the bright, hot, deadly gas had roared down through ventilators and open stairwells.

There were even caches of canned goods down here, some of them still sealed after all this time. But the rats, wiser than they knew, had chewed at them, exposing the steel beneath the tin plate. After a while, oxidation would weaken a can to the point where some lucky rat could bite through it and find himself a meal. Then he could move the empty can aside and gnaw the next one in the pile, and the cycle would begin again. It kept the rats fed almost as well as an automatic machine might have.

The tunnel was an endless monochromatic world that was both artificial and natural. Here, there was a neatly squared-off mosaic of ceramic tile; over there, on a little hillock of earth, squatted a colony of fat mushrooms. In one place, he had to skirt a pool of water; in another, climb over a heap of rust and debris that had once been a subway car.

One man, alone, walking through the dark towards a superhuman monster that had terrorized Earth for a decade.

A drug that would knock out the Nipe would have been useful, but that would have required a greater knowledge of the Nipe's biochemistry than anyone had. The same applied to anesthetic gases, or electric shock, or supersonics.

The only answer was a man called Stanton.

And the voice near his ear said: "A hundred yards to go, Barbell."

"I know," he whispered. "He hasn't moved?"

"No."

Wouldn't it be funny if he were dead? Stanton thought. If his heart had stopped, or something. Wouldn't that be a big joke on everybody? Especially me.

Ahead the tunnel made a curving turn, and there was a large area that had once been a major junction of two tunnels, one below the other. The Nipe had taken over a part of that area to build his home-away-from-home.

Stanton approached the turn and took off the infra-red goggles. Enough light spilled over from the Nipe's lair to illuminate the tunnel. He put the goggles on the trackway. He wouldn't need them again.

He went on around the curve, slowly and quietly. He didn't want to fight down here in the tracks, and he didn't want to be caught just yet.

Cautiously, he lifted himself up to the platform, where long-gone passengers had once waited for long-gone trains. Now that he was out of the trench that the tracks lay in, he could move more easily. He moved away from the tracks.

"Barbell! He's heard you! Watch it!"

But Stanton had already heard the movement of the Nipe. He jerked off

the communicator and threw it away. He didn't want any encumbrances now.

And then, as fast as any express train that had ever moved in these underground ways, the Nipe came around a corner thirty feet away, his four violet eyes gleaming, his limbs rippling beneath his centipede-like body.

From fifteen feet away, he launched himself through the air, his outstretched hands ready to kill.

But Stanton's marvelous neuromuscular system was already in action.

At this stage of the game, it would be suicide to let the Nipe get close. He couldn't fend off eight grasping hands with his own two. He leaped to one side, and the Nipe got his first surprise in ten years when Stanton's fist slammed against the side of his snouted head, knocking him in the opposite direction from that in which Stanton had moved.

The Nipe landed, turned, and charged back toward the man. This time, he reared up, using his two rear pairs of limbs for locomotion, while the two forward pair were held out, ready to kill.

He got surprise number two when Stanton's fist landed on his snout, rocking his head back. His own hands met nothing but air, and by the time he had recovered from the blow, Stanton was well back, out of the way.

He's so small! Stanton thought wonderingly. Even when he reared up, the Nipe's head was only three feet above the concrete floor.

The Nipe came in again--more cautiously, this time.

Stanton punched again with a straight right. The Nipe moved his head aside, and Stanton's knuckles merely grazed the side of his head, below the lower right eye. One of the Nipe's hands came in in a chopping right hook that took Stanton just below the ribs. Stanton leaped back with a gasp of pain.

The Nipe didn't use fists. He used his open hand, fingers together, like a judo fighter.

The Nipe came forward once more, and as Stanton danced back, the Nipe made a grab for his ankle, almost catching it.

There were too many hands to watch! Stanton had two advantages: weight and reach. His arms were almost half again as long as the Nipe's.

Against that, the Nipe had all those hands; and with his low center of gravity and four-footed stance, it would be hard to knock him down. If Stanton lost his footing, the fight would be over fast.

Stanton lunged suddenly forward and planted a left in the Nipe's right upper eye, then followed it with a right uppercut to the Nipe's jaw as his head snapped back. The Nipe's four hands cut inward from the sides like sword blades, but they found no target.

Backing away, Stanton suddenly realized that he had another advantage. The Nipe couldn't throw a straight jab! His shoulder--if that's what they should be called--were narrow and the upper arm bones weren't articulated properly for such a blow. He could throw a mean hook, but he had to get in close to deliver it.

On the other side of the coin was the fact that the Nipe knew plenty about human anatomy--from the bones out. Stanton's knowledge of Nipe

anatomy was almost totally superficial.

He wished he knew if and where the Nipe had a solar plexus. He would like to punch something soft for a change.

Instead, he tried for another eye. He danced in, jabbed and danced out again, The Nipe had ducked again, taking it on the side of his head.

Then the Nipe came in low, at an angle, trying for the groin. For his troubles, he got a knee in the jaw that staggered him badly. One grasping hand clutched at Stanton's right thigh and grasped hard. Stanton swung his fist down like a pendulum and knocked the arm aside.

But there was a slight limp in his movement as he back-pedaled away from the Nipe. That full-handed pinch had hurt!

Stanton was angry now, with the hot, controlled anger of a fighting man. He stepped in and slammed two fast, hard jabs into the point of the Nipe's snout, jarring the monster backwards. This time, it was the Nipe who scuttled backwards.

Stanton moved in to press his advantage and landed a beaut on the Nipe's lower left eye. Then he tried a body blow. It wasn't too successful. The alien had an endoskeleton, but he also had a hide that was like somewhat leathery chitin.

He pulled back, out of the way of the Nipe's judo cuts.

His fists were beginning to hurt, and his leg was paining him badly where the Nipe had clamped on to it. And his ribs--

And then he realized that, so far, the Nipe had only landed one blow!

One punch and one pinch, he thought with a touch of awe. The only other damage he's inflicted has been to my knuckles!

The Nipe charged in again, then he leaped suddenly and clawed for Stanton's face with his first pair of hands. The second and third pairs chopped in toward the man's body. The last pair propelled him off the floor.

Stanton stepped back and let him have a right just below the jaw, where his throat would have been if he'd been human.

The Nipe arced backwards in a half-somersault and landed flat on his back.

Stanton backed up a little more, waiting, while the Nipe wriggled feebly for a moment. The Marquis of Queensbury should have lived to see this, he thought.

The Nipe rolled over and crouched on all eight limbs. His violet eyes watched Stanton, but the man could read no expression on that inhuman face.

"You did not kill."

For a moment, Stanton found it hard to believe that the hissing, guttural voice had come from the crouching monster.

"You did not even try to kill."

"I have no wish to kill you," Stanton said evenly.

"I can see that. Do you ... Are you...." He stopped, as if baffled. "There are not the proper words. Do you follow the Customs?"

Stanton felt a surge of triumph. This was what George Yoritomo had guessed might happen!

"If I must kill you," he said carefully, "I, myself, will do the honors. You will not go uneaten."

The Nipe sagged a little, relaxing all over. "I had hoped it was so. It was the only thinkable thing. I saw you on the television, and it was only thinkable that you came for me."

Stanton blinked, stunned. What was the Nipe thinking? But, of course, he knew. And he saw that even his brother's return had been a part of the plan.

"I knew you were out in the asteroids," the Nipe went on. "But I had decided you had come to kill. Since you did not, what are your thoughts, Stanley Martin?"

"That we should help each other," Stanton said.

It was as simple as that.

XVII

Stanton sat in his hotel room, smoking a cigarette, staring at the wall, and thinking.

He was alone again. All the fuss, feathers, and fooferaw were over.

Farnsworth was in another room of the suite, making his plans for a complete physical examination of the Nipe. Yoritomo was having the time of his life, holding a conversation with the Nipe, drawing the alien out and getting him to talk about his own race and their history. And Mannheim was plotting the next phase of the capture--the cover-up.

Stanton smiled a little. Colonel Mannheim was a great one for planning, all right. Every little detail was taken care of. It sometimes made his plans more complex than necessary, Stanton suspected. Mannheim tended to try to account for every eventuality, and, after he had done that, he would set aside reserves here and there, just in case they might be useful if something unforeseen happened.

Stanton got up, walked over to the window, and looked down at the streets of Government City, eight floors below.

All things considered, the Government had done the right thing. And, in picking Mannheim, they had picked the right man. What would the average citizen think if he knew the true story of the Nipe? If he discovered that, at this very moment, the Nipe was being treated almost as an honored guest of the Government? If he suspected that the Nipe could have been killed easily at any time during the past six years?

Would it be possible to explain that, in the long run, the knowledge possessed by the Nipe was tremendously more valuable to the Race of Man that the lives of a few individuals?

Could those people down there, and the others like them all over the world, be made to understand that, by his own lights, the Nipe had been acting in a most civilized and gentlemanly way he knew? Would they see that, because of the priceless information stored in that alien brain, the Nipe's life had to be preserved at any cost?

Dr. Yoritomo assumed that Mannheim would spread a story about the Nipe's death--perhaps even display a carefully-made "corpse". But Stanton had the feeling that the colonel had something else up his sleeve.

The phone rang. Stanton walked over, thumbed the answer stud, and watched Dr. Farnsworth's face take shape on the screen.

"Bart, I just saw the tapes of your fight with the Nipe, Incredible! I'm going to have them run over again, slowed down, so that I can see what went on, and I'd like to have you tell as best you can, what went on in your mind at each stage of the fight."

"You mean right now? I have an appointment--"

Farnsworth waved a hand. "No, no. Later. Take your time. But I am honestly amazed that you won so easily. I knew you were good, and I knew you'd win, but I honestly expected you to be injured."

Stanton looked down at his bandaged hands, and felt the ache of his broken rib and the blue bruise on his thigh. In spite of the way it looked, he had actually been hurt worse than the Nipe had. That boy was tough!

"The trouble was that he couldn't adapt himself to fighting in a new way," he told Farnsworth. "He fought me as he would have fought another Nipe, and that didn't work. I had the reach on him, and I could maneuver faster."

"It looked to me as though you were fighting him as you would fight another human being," Farnsworth said.

Stanton grinned. "I was, in a modified way. But I won--the Nipe didn't."

Farnsworth grinned back. "I see. Well, I'll let you know when I'm ready for

your impressions. Probably tomorrow some time."

"Fine."

He walked back over to the window, but this time he looked at the horizon, not at the street.

Farnsworth had called him "Bart". It's funny, Stanton thought, how habit can get the best of a man. Farnsworth had known the truth all along, and now he knew that his patient--former patient--was aware of the truth. And still, he had called him "Bart".

And I still think of myself as Bart, he thought. I probably always will.

And why not? Martin Stanton no longer existed--in fact he had never had much of a real existence. He was only a bad dream; only "Bart" was real.

Take two people, genetically identical. Damage one of them so badly that he is helpless and useless--and always only a step away from death. It is inevitable that the weaker will identify himself with the stronger.

The vague telepathic bond that always links identical twins (they "think alike", they say) becomes unbalanced under such conditions. Normally, there is a give-and-take, and each preserves the sense of his own identity, since the two different sets of sense receptors give different viewpoints. But if one of the twins is damaged badly enough something must happen to the telepathic link. Usually, it is broken.

But the link between Mart and Bart Stanton had not been broken. It had become a one-way channel. Martin, in order to escape the prison of his

own body, had become a receptor for Bart's thoughts. He felt as Bart felt--the thrill of running after a baseball, the pride of doing something clever with his hands.

In effect, Martin ceased to think. The thoughts in his mind were Bart's. The feeling of identity was almost complete.

To an outside observer, it appeared that Martin had become a cataleptic schizophrenic, completely cut off from reality. The "Bart" part of him did not want to be disturbed by the sensory impressions that "Mart's" body provided. Like the schizophrenic, Martin was living in a little world that was cut off from the actual physical world around his body.

The difference between Martin's condition and that of the ordinary schizophrenic was that his little world actually existed. It was an almost exact counterpart of the world that existed in the perfectly sane, rational mind of his brother, Bart. It grew and developed as Bart did, fed by the telepathic flow from the stronger mind to the weaker.

There were two Barts, and no Mart at all.

And then the Neurophysical Institute had come into the picture. A new process had been developed, by which a human being could be reconstructed--made, literally, into a superman. The drawback was that a normal human body resisted the process--to the death, if necessary, just as a normal human body will resist a skin graft from an alien donor.

But the radiation-damaged body of Martin Stanton had no resistance of that kind. With him--perhaps--the process might work.

So Bartholomew Stanton, Martin's legal guardian after the death of their mother, had given permission for the series of operations that would

rebuild his brother.

The telepathic link, of course, had to be shut off--for a time, at least. Part of that could be done in the treatment of Martin, but Bart, too, had to do his part. By submitting to hypnosis, he had allowed himself to be convinced that his name was Stanley Martin. He had taken a job on Luna, and then had gone to the asteroids. The simple change of name and environment had been just enough to snap the link during a time when Martin's brain had been inactivated by therapy and anesthetics.

Only the sense of identity remained. The patient was still Bart.

Mannheim had used them both, naturally. Colonel Mannheim had the ability to use anyone at hand, including himself, to get a job done.

Stanton looked at his watch. It was almost time.

Mannheim had sent for "Stanley Martin" when the time had come for him to return in order to give the Nipe data that he would be sure to misinterpret. A special code phrase in the message had released "Stanley Martin" from the posthypnotic suggestion that had held him for so long. He knew that he was Bartholomew Stanton again.

And so do I, thought the man by the window. We have a lot to straighten out, we two.

There was a knock at the door.

Stanton walked over and opened it, trying to think.

It was like looking into a mirror.

"Hello, Bart," he said.

"Hello, Bart," said the other.

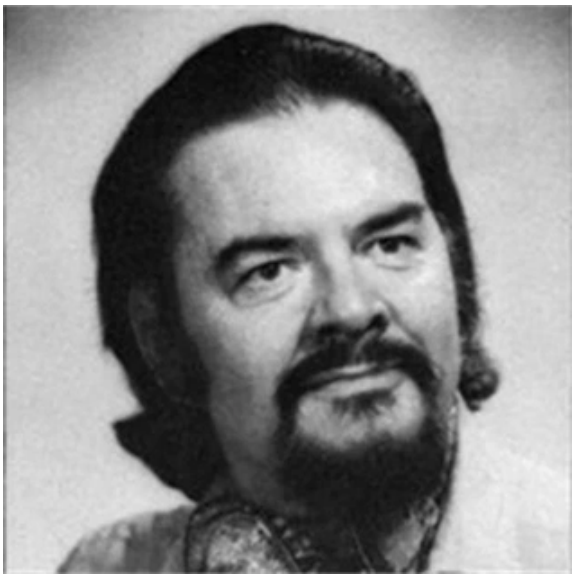
In that instant, the complete telepathic linkage was restored, and they both knew what only one of them had known before--that, for a time, the flow had been one-way again--that "Stanley Martin" had experienced the entire battle with the Nipe. His release from the posthypnotic suggestion had made it possible.

E duobus unum.

There was unity without loss of identity.

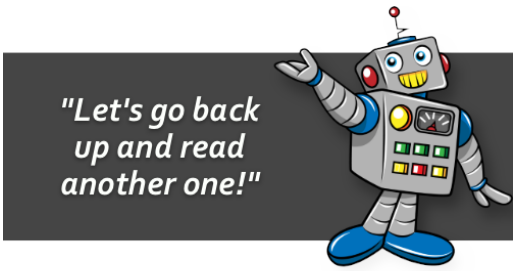
THE END

ABOUT THE AUTHOR:]Gordon Randall Phillip David Garrett (December 16, 1927 – December 31, 1987) was an American science fiction and fantasy author. He used the pen name, "Darrel T. Langart" for this story, but was more widely known for his other, more famous monicker, "Randall Garrett." He was a contributor to Astounding and other science fiction magazines of the 1950s and '60s. He instructed Robert Silverberg in the techniques of selling large quantities of action-adventure science fiction, and collaborated with him on two novels about men from Earth disrupting a peaceful agrarian civilization on an alien planet.



Garrett is best known for the "Lord Darcy" books — the novel Too Many Magicians and two short story collections — set in an alternate world where a joint Anglo-French empire still led by a Plantagenet dynasty has survived into the twentieth century and where magic works and has been scientifically codified. The Darcy books are rich in jokes, puns, and references (particularly to works of detective and spy fiction: Lord Darcy is modeled on Sherlock Holmes), elements often appearing in the shorter works about the detective. Michael Kurland wrote two additional Lord Darcy novels after Garrett's death.

Source: Wikipedia



MOXON'S MASTER

Ambrose Bierce

Most of the stories we feature in The Interocitor Magazine are from the mid-20th Century, the so-called "Golden Age of Science Fiction." We're making an exception for this one, which was actually first published in The San Francisco Examiner on April 16, 1899. It is one of the first descriptions of a robot, written about in English-language literature, (though written well before the word 'robot' came to be used). The story was included in the 1910 edition of the short story anthology Can Such Things Be?.

'Are you serious? -- do you really believe that a machine thinks?'

I got no immediate reply; Moxon was apparently intent upon the coals in the grate, touching them deftly here and there with the fire-poker till they signified a sense of his attention by a brighter glow. For several weeks I had been observing in him a growing habit of delay in answering even the most trivial of commonplace questions. His air, however, was that of preoccupation rather than Moxon's Master

Presently he said:

'What is a "machine"? The word has been variously defined. Here is one definition from a popular dictionary: "Any instrument or organization by which power is applied and made effective, or a desired effect produced." Well, then, is not a man a machine? And you will admit that he thinks -- or thinks he thinks.'

'If you do not wish to answer my question,' said, rather testily, 'why not say so? -- all that you say is mere evasion. You know well enough that when I say "machine" I do not mean a man, but something that man has made and controls.'

'When it does not control him,' he said, rising abruptly and looking out of a window, whence nothing was visible in the blackness of a stormy night. A moment later he turned about and with a smile said: 'I beg your pardon; I had no thought of evasion. I considered the dictionary man's unconscious testimony suggestive and worth something in the discussion. I can give your question a direct answer easily enough: I do believe that a machine thinks about the work that it is doing.'

That was direct enough, certainly. It was not altogether pleasing, for it tended to confirm a sad suspicion that Moxon's devotion to study and work in his machine-shop had not been good for him. I knew, for one thing, that he suffered from insomnia, and that is no light affliction. Had it affected his mind? His reply to my question seemed to me then evidence that it had; perhaps I should think differently about it now. I was younger then, and among the blessings that are not denied to youth is ignorance. Incited by that great stimulant to controversy, I said:

'And what, pray, does it think with -- in the absence of a brain?'

The reply, coming with less than his customary delay, took his favourite

form of counter-interrogation:

'With what does a plant think -- in the absence of a brain?'

'Ah, plants also belong to the philosopher class! I should be pleased to know some of their conclusions; you may omit the premises.'

'Perhaps,' he replied, apparently unaffected by my foolish irony, 'you may be able to infer their convictions from their acts. I will spare you the familiar examples of the sensitive mimosa, the several insectivorous flowers and those whose stamens bend down and shake their pollen upon the entering bee in order that he may fertilize their distant mates. But observe this. In an open spot in my garden I planted a climbing vine. When it was barely above the surface I set a stake into the soil a yard away. The vine at once made for it, but as it was about to reach it after several days I removed it a few feet. The vine at once altered its course, making an acute angle, and again made for the stake. This maneuver was repeated several times, but finally, as if discouraged, the vine abandoned the pursuit and ignoring further attempts to divert it, travelled to a small tree, farther away, which it climbed.

'Roots of the eucalyptus will prolong themselves incredibly in search of moisture. A well-known horticulturist relates that one entered an old drain-pipe and followed it until it came to a break, where a section of the pipe had been removed to make way for a stone wall that had been built across its course. The root left the drain and followed the wall until it found an opening where a stone had fallen out. It crept through and following the other side of the wall back to the drain, entered the unexplored part and resumed its journey.'

'And all this?'

'Can you miss the significance of it? It shows the consciousness of plants. It

proves that they think.'

'Even if it did -- what then? We were speaking, not of plants, but of machines. They may be composed partly of wood -- wood that has no longer vitality -- or wholly of metal. Is thought an attribute also of the mineral kingdom?'

'How else do you explain the phenomena, for example, of crystallization?'

'I do not explain them.'

'Because you cannot without affirming what you wish to deny, namely, intelligent co-operation, among the constituent elements of the crystals. When soldiers form lines, or hollow squares, you call it reason. When wild geese in flight take the form of a letter V you say instinct. When the homogeneous atoms of a mineral, moving freely in solution, arrange themselves into shapes mathematically perfect, or particles of frozen moisture into the symmetrical and beautiful forms of snowflakes, you have nothing to say. You have not even invented a name to conceal your heroic unreason.'

Moxon was speaking with unusual animation and earnestness. As he paused I heard in an adjoining room known to me as his 'machine-shop,' which no one but himself was permitted to enter, a singular thumping sound, as of someone pounding upon a table with an open hand. Moxon heard it at the same moment and, visibly agitated, rose and hurriedly passed into the room whence it came. I thought it odd that anyone else should be in there, and my interest in my friend -- with doubtless a touch of unwarrantable curiosity -- led me to listen intently, though, I am happy to say, not at the keyhole. There were confused sounds, as of a struggle or scuffle; the floor shook. I distinctly heard hard breathing and a hoarse whisper which said 'Curse you!' Then all was silent, and presently Moxon reappeared and said, with a rather sorry smile:

'Pardon me for leaving you so abruptly. I have a machine in there that lost its temper and cut up rough.'

Fixing my eyes steadily upon his left cheek, which was traversed by four parallel excoriations showing blood, I said:

'How would it do to trim its nails?' I could have spared myself the jest; he gave it no attention, but seated himself in the chair that he had left and resumed the interrupted monologue as if nothing had occurred:

'Doubtless you do not hold with those (I need not name them to a man of your reading) who have taught that all matter is sentient, that every atom is a living, feeling, conscious being. I do. There is no such thing as dead, inert matter: it is all alive; all instinct with force, actual and potential; all sensitive to the same forces in its environment and susceptible to the contagion of higher and subtler ones residing in such superior organisms as it may be brought into relation with, as those of man when he is fashioning it into an instrument of his will. It absorbs something of his intelligence and purpose -- more of them in proportion to the complexity of the resulting machine and that of its work.

'Do you happen to recall Herbert Spencer's definition of "Life"? I read it thirty years ago. He may have altered it afterward, for anything I know, but in all that time I have been unable to think of a single word that could profitably be changed or added or removed. It seems to me not only the best definition, but the only possible one.

'"Life," he says, "is a definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external coexistences and sequences."'

'That defines the phenomenon,' I said, 'but gives no hint of its cause.'

'That,' he replied, 'is all that any definition can do. As Mill points out, we know nothing of cause except as an antecedent -- nothing of effect except as a consequent. Of certain phenomena, one never occurs without another, which is dissimilar: the first in point of time we call cause, the second, effect. One who had many times seen a rabbit pursued by a dog, and had never seen rabbits and dogs otherwise, would think the rabbit the cause of the dog.

'But I fear,' he added, laughing naturally enough, 'that my rabbit is leading me a long way from the track of my legitimate quarry: I'm indulging in the pleasure of the chase for its own sake. What I want you to observe is that in Herbert Spencer's definition of "life" the activity of a machine is included -- there is nothing in the definition that is not applicable to it. According to this sharpest of observers and deepest of thinkers, if a man during his period of activity is alive, so is a machine when in operation. As an inventor and constructor of machines I know that to be true.'

Moxon was silent for a long time, gazing absently into the fire. It was growing late and I thought it time to be going, but somehow I did not like the notion of leaving him in that isolated house, all alone except for the presence of some person of whose nature my conjectures could go no further than that it was unfriendly, perhaps malign. Leaning toward him and looking earnestly into his eyes while making a motion with my hand through the door of his workshop, I said:

'Moxon, whom have you in there?'

Somewhat to my surprise he laughed lightly and answered without hesitation:

'Nobody; the incident that you have in mind was caused by my folly in leaving a machine in action with nothing to act upon, while I undertook

the interminable task of enlightening your understanding. Do you happen to know that Consciousness is the creature of Rhythm?'

'O bother them both!' I replied, rising and laying hold of my overcoat. 'I'm going to wish you good night; and I'll add the hope that the machine which you inadvertently left in action will have her gloves on the next time you think it needful to stop her.'

Without waiting to observe the effect of my shot I left the house.

Rain was falling, and the darkness was intense. In the sky beyond the crest of a hill toward which I groped my way along precarious plank sidewalks and across miry, unpaved streets I could see the faint glow of the city's lights, but behind me nothing was visible but a single window of Moxon's house. It glowed with what seemed to me a mysterious and fateful meaning. I knew it was an uncurtained aperture in my friend's 'machine-shop,' and I had little doubt that he had resumed the studies interrupted by his duties as my instructor in mechanical consciousness and the fatherhood of Rhythm. Odd, and in some degree humorous, as his convictions seemed to me at that time, I could not wholly divest myself of the feeling that they had some tragic relation to his life and character -- perhaps to his destiny -- although I no longer entertained the notion that they were the vagaries of a disordered mind. Whatever might be thought of his views, his exposition of them was too logical for that. Over and over, his last words came back to me: 'Consciousness is the creature of Rhythm.' Bald and terse as the statement was, I now found it infinitely alluring. At each recurrence it broadened in meaning and deepened in suggestion. Why, here (I thought) is something upon which to found a philosophy. If Consciousness is the product of Rhythm all things are conscious, for all have motion, and all motion is rhythmic. I wondered if Moxon knew the significance and breadth of his thought -- the scope of this momentous generalization; or had he arrived at his philosophic faith by the tortuous and uncertain road of observation? That faith was then new to me, and all

Moxon's expounding had failed to make me a convert; but now it seemed as if a great light shone about me, like that which fell upon Saul of Tarsus; and out there in the storm and darkness and solitude I experienced what Lewes calls 'The endless variety and excitement of philosophic thought.' I exulted in a new sense of knowledge, a new pride of reason. My feet seemed hardly to touch the earth; it was as if I were uplifted and borne through the air by invisible wings.

Yielding to an impulse to seek further light from him whom I now recognized as my master and guide, I had unconsciously turned about, and almost before I was aware of having done so found myself again at Moxon's door. I was drenched with rain, but felt no discomfort. Unable in my excitement to find the doorbell I instinctively tried the knob. It turned and, entering, I mounted the stairs to the room that I had so recently left. All was dark and silent; Moxon, as I had supposed, was in the adjoining room -- the 'machine-shop.' Groping along the wall until found the communicating door I knocked loudly several times, but got no response, which I attributed to the uproar outside, for the wind was blowing a gale and dashing the rain against the thin walls in sheets. The drumming upon the shingle roof spanning the unsealed room was loud and incessant. I had never been invited into the machine-shop-had, indeed, been denied admittance, as had all others, with one exception, a skilled metal worker, of whom no one knew anything except that his name was Haley and his habit silence. But in my spiritual exaltation, discretion and civility were alike forgotten, and I opened the door. What I saw took all philosophical speculation out of me in short order.

Moxon sat facing me at the farther side of a small table upon which a single candle made all the light that was in the room. Opposite him, his back toward me, sat another person. On the table between the two was a chess-board; the men were playing. I knew little of chess, but as only a few pieces were on the board it was obvious that the game was near its close. Moxon was intensely interested -- not so much, it seemed to me, in the

game as in his antagonist, upon whom he had fixed so intent a look that, standing though I did directly in the line of his vision, I was altogether unobserved. His face was ghastly white, and his eyes glittered like diamonds. Of his antagonist I had only a back view, but that was sufficient; I should not have cared to see his face.

He was apparently not more than five feet in height, with proportions suggesting those of a gorilla -- a tremendous breadth of shoulders, thick, short neck and broad, squat head, which had a tangled growth of black hair and was topped with a crimson fez. A tunic of the same colour, belted tightly to the waist, reached the seat -- apparently a box -- upon which he sat; his legs and feet were not seen. His left forearm appeared to rest in his lap; he moved his pieces with his right hand, which seemed disproportionately long.

I had shrunk back and now stood a little to one side of the doorway and in shadow. If Moxon had looked farther than the face of his opponent he could have observed nothing now, except that the door was open. Something forbade me either to enter or to retire, a feeling -- I know not how it came -- that I was in the presence of an imminent tragedy and might serve my friend by remaining. With a scarcely conscious rebellion against the indelicacy of the act I remained.

The play was rapid. Moxon hardly glanced at the board before making his moves, and to my unskilled eye seemed to move the piece most convenient to his hand, his motions in doing so being quick, nervous and lacking in precision. The response of his antagonist, while equally prompt in the inception, was made with a slow, uniform, mechanical and, I thought, somewhat theatrical movement of the arm, that was a sore trial to my patience. There was something unearthly about it all, and I caught myself shuddering. But I was wet and cold. Two or three times after moving a piece the stranger slightly inclined his head, and each time I observed that Moxon shifted his king. All at once the thought came to me that the man

was dumb. And then that he was a machine -- an automaton chess-player! Then I remembered that Moxon had once spoken to me of having invented such a piece of mechanism, though I did not understand that it had actually been constructed. Was all his talk about the consciousness and intelligence of machines merely a prelude to eventual exhibition of this device -- only a trick to intensify the effect of its mechanical action upon me in my ignorance of its secret?

A fine end, this, of all my intellectual transports -- my 'endless variety and excitement of philosophic thought'! I was about to retire in disgust when something occurred to hold my curiosity. I observed a shrug of the thing's great shoulders, as if it were irritated: and so natural was this -- so entirely human -- that in my new view of the matter it startled me. Nor was that all, for a moment later it struck the table sharply with its clenched hand. At that gesture Moxon seemed even more startled than I: he pushed his chair a little backward, as in alarm.

Presently Moxon, whose play it was, raised his hand high above the board, pounced upon one of his pieces like a sparrow-hawk and with the exclamation 'check-mate!' rose quickly to his feet and stepped behind his chair. The automaton sat motionless.

The wind had now gone down, but I heard, at lessening intervals and progressively louder, the rumble and roll of thunder. In the pauses between I now became conscious of a low humming or buzzing which, like the thunder, grew momentarily louder and more distinct. It seemed to come from the body of the automaton, and was unmistakably a whirring of wheels. It gave me the impression of a disordered mechanism which had escaped the repressive and regulating action of some controlling part -- an effect such as might be expected if a pawl should be jostled from the teeth of a ratchet wheel. But before I had time for much conjecture as to its nature my attention was taken by the strange motions of the automaton itself. A slight but continuous convulsion appeared to have possession of it.

In body and head it shook like a man with palsy or an ague chill, and the motion augmented every moment until the entire figure was in violent agitation. Suddenly it sprang to its feet and with a movement almost too quick for the eye to follow shot forward across table and chair, with both arms thrust forth to their full length -- the posture and lunge of a diver. Moxon tried to throw himself backward out of reach, but he was too late: I saw the horrible thing's hand close upon his throat, his own clutch its wrists. Then the table was overturned, and candle thrown to the floor and extinguished, and all was black dark. But the noise of the struggle was dreadfully distinct, and most terrible of all were the raucous, squawking sounds made by the strangled man's efforts to breathe. Guided by the infernal hubbub, I sprang to the rescue of my friend, but had hardly taken a stride in the darkness when the whole room blazed with a blinding white light that burned into my brain and heart and memory a vivid picture of the combatants on the floor, Moxon underneath, his throat still in the clutch of those iron hands, his head forced backward, his eyes protruding, his mouth wide open and his tongue thrust out; and -- horrible contrast! -- upon the painted face of his assassin an expression of tranquil and profound thought, as in the solution of a problem in chess! This I observed, then all was blackness and silence.

Three days later I recovered consciousness in a hospital. As the memory of that tragic night slowly evolved in my ailing brain I recognized in my attendant Moxon's confidential workman, Haley. Responding to a look he approached, smiling.

'Tell me about it,' I managed to say, faintly -- 'all about it.'

'Certainly,' he said; 'you were carried unconscious from a burning house -- Moxon's. Nobody knows how you came to be there. You may have to do a little explaining. The origin of the fire is a bit mysterious, too. My own notion is that the house was struck by lightning.'

'And Moxon?'

'Buried yesterday -- what was left of him.'

Apparently this reticent person could unfold himself on occasion. When imparting shocking intelligence to the sick he was affable enough. After some moments of the keenest mental suffering I ventured to ask another question:

'Who rescued me?'

'Well, if that interests you -- I did.'

'Thank you, Mr. Haley, and may God bless you for it. Did you rescue, also, that charming product of your skill, the automaton chess-player that murdered its inventor?'

The man was silent a long time, looking away from me. Presently he turned and gravely said:

'Do you know that?'

'I do,' I replied; 'I saw it done.'

That was many years ago. If asked to-day I should answer less confidently.

THE END

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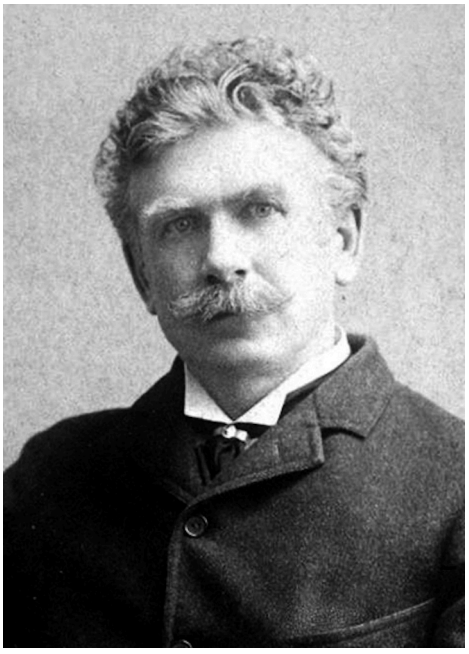
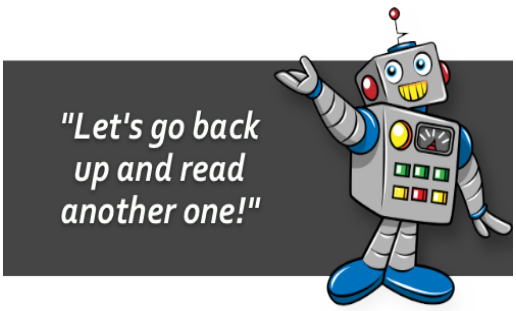
ABOUT THE AUTHOR: Ambrose Gwinnett Bierce (June 24, 1842 – 1914 was an American short story writer, journalist, poet, and American

Civil War veteran. His book The Devil's Dictionary was named one of "The 100 Greatest Masterpieces of American Literature" by the American Revolution Bicentennial Administration. His story "An Occurrence at Owl Creek Bridge" has been described as "one of the most famous and frequently anthologized stories in American literature", and his book Tales of Soldiers and Civilians (also published as In the Midst of Life) was named by the Grolier Club one of the 100 most influential American books printed before 1900.



A prolific and versatile writer, Bierce was regarded as one of the most influential journalists in the United States and as a pioneering writer of realist fiction. For his horror writing, Michael Dirda ranked him alongside Edgar Allan Poe and H. P. Lovecraft. S. T. Joshi speculates that he may well be the greatest satirist America has ever produced, and in this regard can take his place with such figures as Juvenal, Swift, and Voltaire. Source: Wikipedia



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