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You will see there are a SINK, a DIAL, the SOLE of a shoe and various letters of the alphabet. There are two plus and two minus sixns. It
is necessary to add and subtract the is necessary to add and subtract the
names and letters as shown by the names and letters as shown by the
plus and minus signs. First, write plus and minus signs. First, write
down SINK. Then, add DIAL to it. down SINK. Then, add Next, add ONEA. All this equals Next, add ONEA. An, you must subtract the letters in SOLE and K. When this is done you are left with
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No. 1.

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 come s long way in Radio-Telovition ince corat s lons way un radio-rion Eraduating. Street. ${ }^{H}$

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## THE LOBBY

## Where the Readers and the Editor Talk Things Out

(heading by Milton Luros)



OME READERS haven't liked my occasional remarks to the effect that, in the long run, science fiction should be judged pretty much on the same basis as any other type of fiction. They have protested that this puts science fiction on the same level as western, sports, and detective sto-ries-and how could I compare such mundane, and often worthless, material with such soul-stirring prose as sience fiction? They have wondered if I were getting tired of science fiction, and were now out to debunk it.
Yet, these same readers might find it somewhat ridiculous if I were to write letters and articles trying to prove that the "sea story" was really
a unique type of fiction, with possibilities not to be found in stories situated on land, with different requirements for excellence than the latter and somehow above and beyond it. If I were to point out that the sea story, at its best, must be written by someone who knows the sea and ships and sailors-either through first-hand experience, or extensive vicarious expe-rience-I doubt if there would be much objection. But when I claimer, if I did, that the sea story is "above" the basic story-requirements for fiction, because of its uniqueness, then I could expect a fatr amount of ribbing from my readers.

And there is my point: granted that the science fiction story, by nature, does offer plot and background possibilities not to be found in other fields (including that of the sea story)
[Twin To Page 8]

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there are still necessary elements for good fiction in this genre, and these are the same as in any other type of fiction. And it has been this attitude on the part of many readers and writers that science-fiction is somehow "above" the mundane requirements of good story-writing that has partly been responsible for so much bad writing, bad story-making, bad characterization, etc, in science fiction.

You will find the "idea" story, the "mood" story, the "chronology", etc., in other forms of fiction, too; but where the story is a good one, the author has taken pains to fulfill the essentials of story-making. And this is the case more often than not, outside of science-fiction; for the editors of western, detective, sports, adventure, etc., magazines are rarely so infatuated by the medium itself that they will take a bad story just for the sake of a good idea, fine mood, interesting, chronology, etc.

To restate it in another way: a flawed story is none the less flawed simply because it is labelled "science fiction", because it has some mindshattering formulation, because it has a wonderfully strange mood about it, or because it presents an interesting slice of imaginative "future hostory". The best stories in the science fiction field, the ones which are recognized as excellent by non-fans and occasional readers are those which conform to the basic standards of fiction-writing elsewhere.

Writing styles and approaches change, but basic standards remain. One can read H. G. Wells' "When the Sleeper Wakes" today (as I just did) and smile at the picturizations which have failed to forecast our own times, let alone the future century-from our own standpoint-in which the story takes place. One can admire the vision that Wells did show. One can feel a quaintness about the writing at places -remembering that worthy straight fiction was also written in the same
way at the time. But the basic excellence of the novel remains, for all that is outdated about it.

On the other hand, the many stories which had little more than a fascinating idea, etc., but which presented cardboard cutouts for characters, cannot stand re-reading once the gimmick is passe. Take the once-famous "Girl in the Golden Atom": now that there is no longer the slightest doubt about the utter absurdity of the basic plot, the characters seem even more juvenile than before. What remains fascinating about this story is what was excellent to begin with: a vivid description of a person's feelings, and of the sights you might see around you, if, in some manner, you could be reduced in size. The rest is burlesque.

CHARACTERIZATION, of course -as Sprague de Camp, among others, has pointed out-can be overstressed; a faithful and painstaking presentation of a dull- person can make one yearn for Captain Future and his friends. Yet, there's no getting away from the fact that charactershuman or non-human-are what make or break a science fiction story in the long run.

I'd say that one essential for characterization is vividness, whether what you have is a caricature-like the Americans of the Gun Club in Verne's still-delightful "From the Earth to the Moon"-or a believable person with thoughts, feelings and conflictslike Graham in "When the Sleeper Wakes". A good caricature, like Conan the Barbarian or Sherlock Holmes, will survive re-reading, where a cardboard cutout like Larry O'Keefe ("The Moon Pool") becomes more tiresome each time you return to him, if he doesn't disaffect you completely the first time.

There's certainly no onus in creating a viable caricature. Consider the
[Turn To Page 81]

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(illustrated by Paul Orban)


Jiiih clasped the slar-men's arm with one hand, while her oiher arm gripped his waist. The generator in Jorun's skull rezponded to his will... they rese quietly and went slowly seavard...
"Look around you, Jorun of Fulkhis. This is Earth. This is the old home of all mankind. You cannot go off and forget it. Man cannot do so. It is in him, in his blood and bones and soul; he will carry Earth within him forever."


Novelet of Latter Years
by Poul Anderson

66 " "But you don't realize what it means," said Jorun. "You don't know what you're saying."
The old man, Kormt of Huerdar, Gerlaug's son, and Speaker for Solis

Township, shook his head till the long, grizzled locks swirled around his wide shoulders. "I have thought it through," he said. His voice was deep and slow and implacable. "You gave me five years to think about it. And my answer is no."

Jorun felt a weariness rise within him. It had been like this for days now, weeks, and it as like trying to knock down a mountain. You beat on its rocky flanks till your hands were bloody, and still the mountain stood there, sunlight on its high snowfields and in the forests that rustled up its slopes, and $\cdot$ it did not really notice you. You were a brief thin buzz between two long nights, but the mountain was forever.
"You haven't thought at all," he said with a rudeness born of exhaustion. "You've only reacted unthinkingly to a dead symbol. It's not a human reaction, even, it's a verbal reflex."

Kormt's eyes, meshed in crow'sfeet, were serene and steady under the thick gray brows. He smiled a little in his long beard, but made no other reply. Had he simply let the insult glide off him, or had he not understood it at all? There was no real talking to these peasants; too many millennia lay between, and you couldn't shout across that gulf.
"Well," said Jorun, "the ships will be here tomorrow or the next day, and it'll take another day or so to get all your people aboard. You have that long to decide, but after that it'll be too late. Think about it, I beg of you. As for me, I'll be too busy to argue further."
"You are a good man," said Kormt, "and a wise one in your fashion. But you are blind. There is something dead inside you."
He waved one huge gnarled hand. "Look around you, Jorun of Fulkhis. This is Earth. This is the old home of all humankind. You cannot go off and forget it. Man cannot do so. It is in him, in his blood and bones and bones and soul; he will carry Earth within him forever."
Jorun's eyes traveled along the arc
of the hand. He stood on the edge of the town. Behind him were its houses-low, white, half-timbered, roofed with thatch or red tile, smoke rising from the chimneys; carved galleries overhung the narrow, cobbled, crazily-twisting streets; he heard the noise of wheels and wooden clogs, the shouts of children at play. Beyond that were treess and the incredible ruined walls of Sol City. In front of him, the wooded hills were cleared and a gentle landscape of neat fields and orchards rolled down toward the distant glitter of the sea: scattered farm buildings, drowsy cattle, winding gravel roads, fence-walls of ancient marble and granite, all dreaming under the sun.

He drew a deep breath. It was pungent in his nostrils. It smelled of leaf-mould, plowed earth baking in the warmth, summery trees and gardens, a remote ocean odor of salt and kelp and fish. He thought that no two planets ever had quite the same smell, and that none was as rich as Terra's.
"This is a fair world," he said slowly.
"It is the only one," said Kormt. "Man came from here; and to this, in the end, he must return."
"I wonder-" Jorun sighed. "Take me; not one atom of my body was from this soil before I landed. My people lived on Fulkhis for ages, and changed to meet its conditions. They would not be happy on Terra."
" "The atoms are nothing," said Kormt. "It is the form which matters, and that was given to you by Earth."
Jorun studied him for a moment. Kormt was like most of this planet's ten million or so people-a dark, stocky folk, though there were more blond and red-haired throwbacks here than in the rest of the Galaxy. He
was old for a primitive untreated by medical science-he must be almost two hundred years old-but his back was straight, and his stride firm. The coarse, jut-nosed face held an odd strength. Jorun was nearing his thousandth birthday, but couldn't help feeling like a child in Kormt's presence.
That didn't make sense. These few dwellers on Terra were a backward and impoverished race of peasants and handicraftsmen; they were ignorant and unadventurous; they had been static for more thousands of years than anyone knew. What could they have to say to the ancient and mighty civilization which had almost forgotten their little planet?

Kormt looked at the declining sun. "I must go now," he said. "There are the evening chores to do. I will be in town tonight if you should wish to see me."
"I probably will," said Jorun. "There's a lot to do, readying the evacuation, and you're a big help."

THE OLD man bowed with grave courtesy, turned, and walked off down the road. He wore the common costume of Terran men, as archaic in style as in its woven-fabric material: hat, jacket, loose trousers, a long staff in his hand. Contrasting the drab blue of Kormt's dress, Jorun's vivid tunic of shifting rainbow hues was like a flame.

The psychotechnician sighed again, watching him go. He liked the old fellow. It would be criminal to leave him here alone, but the law forbade force-physical or mental-and the Integrator on Corazuno wasn't going to care whether or not one aged man stayed behind. The job was to get the race off Terra.

A lovely world. Jorun's thin mobile features, pale-skinned and large-eyed,
turned around the horizon. A fair world we came from.

There were more beautiful planets in the Galaxy's swarming myriadsthe indigo world-ocean of Loa, Jeweled with islands; the heaven-defying mountains of Sharang; the sky of Jareb, that seemed to drip light—oh, many and many, but there was only one Earth.
Jorun remembered his first sight of this world, hanging free in space to watch it after the gruelling ten-day run, thirty thousand light-years, from Corazuno. It was blue as it turned before his eyes, a burnished turquoise shield blazoned with the living green and brown of its lands, and the poles were crowned with a flimmering haze of aurora. The belts that streaked its face and blurred the continents were cloud, wind and water and the gray rush of rain, like a benediction from heaven, Beyond the planet hung its moon, a scarred golden crescent, and he had wondered how many generations of men had looked up to it, or watched its light like a broken bridge across moving waters. Against the enormous cold of the sky-utter black out to the distant coils of the nebulae, thronging with a million frosty points of dia-mond-hard blaze that were the stars - Earth had stood as a sign of haven. To Jorun, who came from Galactic center and its uncountable hosts of suns, heaven was bare, this was the outer fringe where the stars thinned away toward hideous immensity. He had shivered a little, drawn the envelope of air and warmth closer about him, with a convulsive movement. The silence drummed in his head. Then he streaked for the north-pole rendezvous of his group.
Well, he thought now, we have a pretty routine job. The first expedition here, five years ago, prepared the natives for the fact they'd have
to go. Our party simply has to organize these docile peasants in time for the ships. But it had meant a lot of hard work, and he was tired. It would be good to finish the job and get back home.

Or would it?
He thought of flying with Zarek, his team-mate, from the rendezvous to this area assigned as theirs. Plains like oceans of grass, wind-rippled, darkened with the herds of wild cattle whose hoofbeats were a thunder in the earth; forests, hundreds of kilometers of old and mighty trees, rivers piercing them in a long steel gleam; lakes where fish leaped; spilling sunshine like warm rain, radiance so bright it hurt his eyes, cloud-shadows swift across the land. It had all been empty of man, but still there was a vitality here which was almost frightening to Jorun. His own grim world of moors and crags and spin-drift seas was a niggard beside this; here life covered the earth, filled the oceans, and made the heavens clangerous around him. He wondered if the driving energy within man, the force which had raised him to the stars, made him half-god and half-demon, if that was a legacy of Terra.

Well-man had changed; over the thousands of years, natural and controlled adaptation had fitted him to the worlds he had colonized, and most of his many races could not now feel at home here. Jorun thought of his own party: round, amber-skinned Chuli from a tropic world, complaining bitterly about the cold and dryness; gay young Cluthe, gangling and bulge-chested; sophisticated Taliuvenna of the flowing dark hair and the lustrous eyes-no, to them Earth was only one more planet, out of thousands they, had seen in their long lives.

And I'm a sentimental fool.


E COULD have willed the vague regret out of his trained nervous system, but he didn't want to. This was the last time human eyes would ever look on Earth, and somehow Jorun felt that it should be more to him than just another psychotechnic job.
"Hello, good sir."
He turned at the voice and forced his tired lips into a friendly smile. "Hello, Julith," he said. It was a wise policy to learn the names of the townspeople, at least, and she was a great-great-granddaughter of the Speaker.

She was some thirteen or fourteen years old, a freckle-faced child with a shy smile, and steady green eyes. There was a certain awkward grace about her, and she seemed more imaginative than most of her stolid race.. She curtsied quaintly for him, her bare foot reaching out under the long smock which was daily female dress here.
"Are you busy, good sir?" she asked.
"Well, not too much," said Jorun. He was glad of a chance to talk; it silenced his thoughts. "What can I do for you?"
"I wondered-" She hesitated, then. breathlessly: "I wonder if you could give me a lift down to the beach? Only for an hour or two. It's too far to walk there before I have to be home, and I can't borrow a car, or even a horse. If it won't be any trouble, sir."
"Mmmm-shouldn't you be at home now? Isn't there milking and so on to do?"
"Oh, I don't live on a farm, good sir. My father is a baker."
"Yes, yes, so he is. I should have remembered." Jorun considered for an instant. There was enough to do in town, and it wasn't fair for him to play hooky while Zarek worked alone. "Why do you want to go to the beach, Julith?"
"We'll be busy packing up," she said. "Starting tomorrow, I guess. This is my last chance to see it."

Jorun's mouth twisted a little. "All right," he said; "I'll take you."
"You are very kind, good sir," she said gravely.

He didn't reply, but held out his arm, and she clasped it with one hand while her other arm gripped his waist. The generator inside his skull responded to his will, reaching out and clawing itself to the fabric of forces and energies which was physical space. They rose quietly, and went so slowly seaward that he didn't have to raise a wind-screen.
"Will we be able to fly like this when we get to the stars?" she asked.
"I'm afraid not, Julith," he said. "You see, the people of my civilization are born this way. Thousands of years ago, men learned how to control the great basic forces of the cosmos with only a small bit of energy. Finally they used artificial mutation-that is, they changed themselves, slowly, over many generations, until their brains grew a new part that could generate this controlling force. We can now even, fly between the stars, by this power. But your people don't have that brain, so we had to build spaceships to take you away."
"I see," she said.
"Your great-great-great-grandchildren can be like us, if your people want to be changed thus," he said.
"They didn't want to change before," she answered. "I don't think they'll do it now, even in their new home." Her voice held no bitterness; it was an acceptance:

Privately, Jorun doubted it. The psychic shock of this uprooting would be bound to destroy the old traditions of the Terrans; it would not take many centuries before they were culturally assimilated by Galactic civilization.
Assimilated-nice euphemism. Why not just say-eaten?

THEY LANDED on the beach. It was broad and white, running in dunes from the thin, harsh, saltstreaked grass to the roar and tumble of surf. The sun was low over the watery horizon, filling the damp, blowing air with gold. Jorun could almost look directly at its huge disc.

He sat down. The sand gritted tinily under him, and the wind rumpled his hair and filled his nostrils with its sharp wet smell. He picked up a conch and turned it over in his fingers, wondering at the intricate architecture of it.
"If you hold it to your ear," said Julith, "you can hear the sea." Her childish voice was curiously tender around the rough syllables of Earth's language.

He nodded and obeyed her hint. It was only the small pulse of blood within him-you heard the same thing out in the great hollow silence of spacebut it did sing of restless immensities, wind and foam, and the long waves marching under the moon.
"I have two of them myself," said Julith. "I want them so I can always remember this beach. And my children and their children will hold them, too, and hear our sea talking." She folded his fingers around the shell. "You keep this one for yourself."
"Thank you," he said. "I will."
The combers rolled in, booming and spouting against the land. The Terrans called them the horses of God. A thin cloud in the west was turning rose and gold.
' "Are there oceans on our new planet?" asked Julith.
"Yes," he said. "It's the most Earthlike world we could find that wasn't already inhabited. You'll be happy there."

But the trees and grasses, the soil and the fruits thercoj, the beasts of the field and the birds of the air and the fish of the waters beneath, form and color, smell and sound, taste and texture, everything is different. Is alien. The difference is small, subtle, but it is the abyss of two billion years of separate cvolution, and no other world can ever quite be Earth.

Julith looked straight at him with solemn eyes. "Are you folk afraid of Hulduvians?" she asked.
"Why, no," he said. "Of course not."
"Then why are you giving Earth to them?" It was a soft question, but it trembled just a little.
"I thought all your paople understood the reason by now," said Jorun. "Civilization-the civilization of man and his nonhuman allies-has moved inward, toward the great star-clusters of Galactic center. This part of space means nothing to us any more; it's almost a desert. You haven't seen starlight till you've been by Sagittarius. Now the Hulduvians are another civilization. They are not the least bit like us; they live on big, poisonous worlds like Jupiter and Saturn. I think they would seem like pretty nice monsters if they weren't so alien to us that neither side can really understand the other. They use the cosmic energies too, but in a different way-and their way interferes with ours just as ours interferes with theirs. Different brains, you see.
"Anyway, it was decided that the two civilizations would get along best by just staying away from each other. If they divided up the Galaxy between them, there would be no interference; it would be too far from one civiliza-
tion to the other. The Hulduvians were, really, very nice about it. They're willing to take the outer rim, even if there are fewer stars, and let us have the center.
"So by the agreement, we've got to have all men and manlike beings out of their territory before they come to settle it, just as they'll move out of ours. Their colonists won't be coming to Jupiter and Saturn for centuries yet; but even so, we have to clear the Sirius Sector now, because there'll be a lot of work to do elsewhere. Fortunately, there are only a few people living in this whole part of space. The Sirius Sector has been an isolated, primi-ah-quiet region since the First Empire fell, fifty thousand years ago."

Julith's voice rose a little. "But those people are us!"
"And the folk of Alpha Centauri and Procyon and Sirius and-oh, hundreds of other stars. Yet all of you together are only one tiny drop in the quadrillions of the Galaxy. Don't you see, Julith, you have to move for the good of all of us?"
"Yes," she said. "Yes, I know all that."

She got up, shaking herself. "Let's go swimming."

Jorun smiled and shook his head. "No, I'll wait for you if you want to go."

SHE NODDED and ran off down the beach, sheltering behind a dune to put on a bathing-suit. The Terrans had a nudity taboo, in spite of the mild interglacial climate: typical primitive irrationality. Jorun lay back, folding his arms behind his head, and looked up at the darkening sky. The evening star twinkled forth, low and white on the dusk-blue horizon. Venus-or was it Mercury? He wasn't sure. He wished he knew more about the early history of the Solar System, the first men to
ride their thunderous rockets out to die on unknown hell-worlds-the first clumsy steps toward the stars. He could look it up in the archives of Corazuno, but he knew he never would. Too much else to do, too much to remember. Probably less than one percent of mankind's throngs even knew where Earth was, today-though, for a while, it had been quite a touristcenter. But that was perhaps thirty thousand years ago.

Because this world, out of all the billions, has certain pliysical characteristics, he thought, my race has made them into standards. Our basic units of length and time and acceleration, our comparisons by w,ich we classify the svarming planets of the Galaxy, they all go back ultimately to Earth. We bear that unspoken memorial to our birthplace within our whole civiiiaation, and will bear it forever. But has she given us more than that? Are cur own selves, bodies and minds and dreams, are they also the children of Earth?

Now he was thinking like Kormt, stubborn old Kormt who clung with such a blind strength to this land simply because it was his. When you considered all the races of this wan-der-footed species-how many of them there were, how many kinds of man between the stars! And yet they all walked upright; they all had two eyes and a nose between and a mouth below; they were all cells of that great and ancient culture which had begun here, eons past, with the first hairy half-man who kindled a fire against night. If Earth had not had darkness and cold and prowling beasts, oxygen and cellulose and flint, that culture might never have gestated.

I'm getting unlogical. Too tired, nerves worn too thin, psychosomatic control slipping. Now Earth is becoming some obscure mother-symbol for me.

Or has she always been one, for the whole race of us?
A seagull cried harshly overhead and soared from view.

The surset was smoldering away and dusk rose like fog out of the ground. Julith came running back to him, her face indistinct in the gloom. She was breathing hard, and he couldn't tell if the catch in her voice was laughter or weeping.
"I'd better be gettirg home," she said.

## 3



HEY FLEW slowly back. The town was a yellow twinkle of lights, warmth gleaming from windows across many empty kilometers. Jorun set the girl down outside her home.
"Thank you, good sir," she said, curtseying. "Won't you come in to dinner?"
"Well--"
The door opened, etching the girl black against the rudiness inside. Jorun's luminous tunic made him like a torch in the dark. "Why, it's the starman," said a woman's voice.
"I took your daughter for a swim," he explained. "I hope you don't mind."
"And if we did, what would it matter?" grumbled a bass tone. Jorun recognized Kormt; the old man must have come as a guest from his farm on the outskirts. "What could we do about it?"
"Now, Granther, that's no way to talk to the gentleman," said the woman. "He's been very kind. Won't you come eat with us, good sir?"
Jorun refused twice, in case they were only being polite, then accepted gladly enough. He was tired of cool-
ery at the inn where he and Zarek boarded. "Thank you."

He entered, ducking under the low door. A single long, smoky-raftered room was kitchen, diningroom, and parlor; doors led off to the sleeping quarters. It was furnished with a clumsy elegance, skin rugs, oak wainscoting, carved pillars, glowing ornaments of hammered copper. A radium clock, which must be incredibly old, stood on the stone mantel, above a snapping fire; a chemical-powered gun, obviously of local manufacture, hung over it. Julith's parents, a plain, quiet peasant couple, conducted him to the end of the wooden table, while half a dozen children watched him with large eyes. The younger children were the only Terrans who seemed to find this removal an adventure.
The meal was good and plentifult meat, vegetables, bread, beer, milk, ice cream, coffee, all of it from the farms hereabouts. There wasn't much trade between the few thousand communities of Earth; they were practically self-sufficient. The company ate in silence, as was the custom here. When they were finished, Jorun wanted to go, but it would have been rude to leave immediately. He went over to a chair by the fireplace, across from the one in which Kormt sprawled.
The old man trok out a big-bowled pipe and began stuffing it. Shadows wove across his seamed brown face, his eyes were a gleam out of darkness. "I'll go down to City Hall with you soon," he said; "I imagine that's where the work is going on."
"Yes," said Jorun. "I can relieve Zarek at it. I'd appreciate it if you did come, good sir. Your influence is very steadying on these people."
"It should be," said Kormt. "I've been their Speaker for almost a hundred years. And my father Gerlaug was before me, and his father Kormt was before him." He took a brand
from the fire and held it over his pipe, puffing hard, looking up at Jorun through tangled brows. "Who was your great-grandfather?"
"Why-I don't know. I imagine he's still alive somewhere, but-:"
"I thought so. No marriage. No family. No home. No tradition." Kormt shook his massive head, slowly, "I pity you Galactics!"
"Now please, good sir-" Damn it all, the old clodhopper could get as irritating as a faulty computer. "We have records that go back to before man left this planet. Records of everything. It is you who have forgotten."
Kormt smiled and puffed blue clouds at him. "That's not what I meant."
"Do you mean you think it is good for men to live a life that is unchanging, that is just the same from century to century-no new dreams, no new triumphs, always the same grubbing rounds of days? I cannot agree."

TORUN'S mind flickered over history, trying to evaluate the basic motivations of his opponent. Partly cultural, partly biological, that must be it. Once Terra had been the center of the civilized universe. But the long migration starward, especially after the fall of the First Empire, drained off the most venturesome elements of the population. That drain went on for thousands of years. Sol was backward, ruined and impoverished by the remorseless price of empire, helpless before the storms of barbarian conquest that swept back and forth between the stars. Even after peace was restored, there was nothing to hold a young man or woman of vitality and imagination here-not when you could go toward Galactic center and join the new civilization building out there. Space-traffic came ever less frequently to Sol; old machines rusted away and were not replaced; best to get out while there was still time.

Eventually there was a fixed psychosomatic type, one which lived close to the land, in primitive changeless communities and isolated farm-steads-a type content to gain its simple needs by the labor of hand, horse, or an occasional battered engine. A culture grew up which increased that rigidity. So few had visited Earth in the last several thousand years-perhaps one outsider a century, stopping briefly off on his way to somewhere else-that there was no challenge or encouragement to alter. The Terrans didn't want more people, more machines, more anything; they wished only to remain as they were.

You couldn't call them stagnant. Their life was too healthy, their civilization too rich in its own way-folk art, folk music, ceremony, religion, the intimacy of iamily life which the Galactics had lost-for that term. But to one who flew between the streaming suns, it was a small existence.

Kormt's voice broke in on his reverie. "Dreams, triumphs, work, deeds, love and life and finally death and the long sleep in the earth," he said. "Why should we want to change them? They never grow old; they are new for each child that is born."
"Well," said Jorun, and stopped. You couldn't really answer that kind of logic. It wasn't logic at all, but something deeper.
"Well," he started over, after a while, "as you know, this evacuation was forced on us , too. We don't want to move you, but we must."
"Oh, yes," said Kormt. "You have been very nice about it. It would have been easier, in a way, if you'd come with fire and gun and chains for us, like the barbarians did long ago. We could have understood you better then."
"At best, it will be hard for your people," said Jorun. "It will be a shock, and they'll need leaders to
guide them through it. You have a duty to help them out there, good sir."
"Maybe." Kormt blew a series of smoke rings at his youngest descendant, three years old, who crowed with laughter and climbed up on his knee. "But they'll manage."
"You can't seem to realize," said Jorun, "that you are the last man on Earth who refuses to go. You will be alone. For the rest of your life! We couldn't come back for you later under any circumstances, because there'll be Hulduvian colonies between Sol and Sagittarius which we would disturb in passage. You'll be alone, I say!"

Kormt shrugged. "I'm too ofd to change my ways; there can't be many years left me, anyway. I can live well, just off the food-stores that'll be left here." He ruffled the child's hair, but his face drew into a scowl. "Now, no more of that, good sir, if you please; I'm tired of this argument."

TORUN nodded and fell into the siwould sometimes sit for hours without talking, content to be in each other's nearness. He thought of Kormt, Gerlaug's son, last man on Earth, altogether alone, living alone and dying alone; and yet, he reflected, was that solitude any greater than the one in which all men dwelt all their days?

Presently the Speaker set the child down, knocked out his pipe, and rose. "Come good sir," he said, reaching for his stafi. "Let us go."

They walked side by side down the street, under the dim lamps and past the yellow windows. The cobbles gave back their footfalls in a dull clatter. Once in a while they passed someone else, a vague figure which bowed to Kormt. Only one did not notice them,
an old woman who walked crying between the high walls.
"They say it is never night on your worlds," said Kormt.

Jorun threw him a sidelong glance. His face was a strong jutting of highlights from sliding shadow. "Some planets have been given luminous skies," said the technician, "and a few still have cities, too, where it is always light. But when every man can control the cosmic energies, there is no real reason for us to live together; most of us dwell far apart. There are very dark nights on my own world, and I cannot see any other home from my own-just the moors."
"It must be a strange life," said Kormt. "Belonging to no one."

They came out on the marketsquare, a broad paved space walled in by houses. There was a fountain in its middle, and a statue dug out of the ruins had been placed there. It was broken, one arm gone-but still the white slim figure of the dancing girl stood with youth and laughter, forever under the sky of Earth. Jorun knew that lovers were wont to meet here, and briefly, irrationally, he wondered how lonely the girl would be in all the millions of years to come.

The City Hall lay at the farther end of the square, big and dark, its eaves carved with dragons, and the gables topped with wing-spreading birds. It was an old building; nobody knew how many generations of men had gathered here. A long, patient line of folk stood outside it, shuffling in one by one to the registry desk; emeraing, they went off quietly into the darkness, toward the temporary shelters erected for them.

Walking by the line, Jorun picked faces out of the shadows. There was a young mother holding a crying child, her head bent over it in a timeless pose, murmuring to soothe it. There was a mechanic, still sooty from his work, smiling wearily at some tired joke of the man behind him. There
was a scowling, black-browed peasant who muttered a curse as Jorun went by; the rest seemed to accept their fate meekly enough. There was a priest, his head bowed, alone with his God. There was a younger man, his hands clenching and unclenching, big helpless hands, and Jorun heard him saying to someone else: "-if they could have waited till after harvest. I hate to let good grain stand in the field."

JORUN WENT into the main room, toward the desk at the head of the line. Hulking hairless Zarek was patiently questioning each of the hundreds who came hat in hand before him: name, age, sex, occupation, dependents, special needs or desires. He punches the answers out on the recorder machine, half a million lives were held in its electronic memory.
"Oh, there you are," his bass rumbled. "Where've you been?"
"I had to do some concy work," said Jorun. That was a private code term, among others: concy, conciliation, anything to make the evacuation go smoothly. "Sorry to be so late. I'll take over now."
"All right. I think we can wind the whole thing up by midnight." Zarek smiled at Kormt. "Glad you came, good sir. There are a few people I'd like you to taik to." He gestured at half a dozen seated in the rear of the room. Certain complaints were best handled by native leaders.

Kormt nodded and strode over to the folk. Jorun heard a man begin some long-winded explanation: he wanted to take his own plow along, he'd made it himself and there was no better plow in the universe, but the star-man said there wouldn't be room.
"They'll furnish us with all the stuff we need, son," said Kormi.
"But it's my plow!" said the man. His fingers twisted his cap.

Kormt sat down and began soothing him.

The head of the line waited a few
meters off while Jorun took Zarek's place. "Been a long grind," said the latter. "About done now, though. And will I be glad to see the last of this planet!"
"I don't know," said Jorun. "It's a lovely world. I don't think I've ever seen a more beautiful one."

Zarek snorted. "Me for Thonnvar! I can't wait to sit on the terrace by the Scarlet Sea, fern-trees and red grass all around, a glass of oehl in my hand and the crystal geysers in front of me. You're a funny one, Jorun."

The Fulkhisian shrugged slender shoulders. Zarek clapped him on the back and went out for supper and sleep. Jorun beckoned to the next Terran and settled down to the long, almost mindless routine of registration. He was interrupted once by Kormt, who yawned mightily and bade him goodnight; otherwise it was a steady, halfconscious interval in which one anonymous face after another passed by. He was dimly surprised when the last one came up. This was a plump, cheerful, middle-aged fellow with small shrewd eyes, a little more colorfully dressed than the others. He gave his occupation as merchant-a minor tradesman, he explained, dealing in the little things it was more convenient for the peasants to buy than to manufacture themselves.
"I hope you haven't been waiting too long," said Jorun. Concy statement.
"Oh, no." The merchant grinned. "I knew those dumb farmers would be here for hours, so I just went to bed and got up half an hour ago, when it was about over."
"Clever." Jorun rose, sighed, and stretched. The big room was cavernously empty, its lights a harsh glare. It was very quiet here.
"Well, sir, I'm a middling smart chap, if I say it as shouldn't. And you know, I'd like to express my appreciation of all you're doing for us."
"Can't say we're doing much." Jorun locked the machine.
"Oh, the apple-knockers may not like it, but really, good sir, this hasn't been any place for a man of enterprise. It's deai. I'd have got out long ago if there'd been any transportation. Now, when we're getting back into civilization, there'll be some real opportunities. I'll make my pile inside of five years, you bet."

Jorun smiled, but there was a bleakness in him. What chance would this barbarian have even to get near the gigantic work of civilization-let alone comprehend it or take part in it. He hoped the little fellow wouldn't break his heart trying.
"Well," he said, "goodnight, and good luck to you."
"Goodnight, sir. We'll meet again, I trust."

Jorun switched off the lights and went out into the square. It was completely deserted. The moon was up now, almost full, and its cold radiance dimmed the lamps. He heard a dog howling far off. The dogs of Earthsuch as weren't taken along-would be lonely, too.

Well, he thought, the job's over. Tomorrow, or the next day, the ships come.


E FELT VERY tired, but didn't want to sleep, and willed himself back to alertness. There hadn't been much chance to inspect the ruins, and he felt it would be appropriate to see them by moonlight.
Rising into the air, he ghosted above roofs and trees until he came to the dead city. For a while he hovered in a sky like dark velvet,
a faint breeze murmured around him, and he heard the remote noise of crickets and the sea. But stillness enveloped it all, there was no real sound.

Sol City, capital of the legendary First Empire, had been enormous. It must have sprawled over forty or fifty thousand square kilometers when it was in its prime, when it was the gay and wicked heart of human civilization and swollen with the lifeblood of the stars. And yet those who built it had been men of taste, they had sought out genius to create for them. The city was not a collection of buildings; it was a balanced whole, radiating from the mighty peaks of the central palace, through colonnades and parks and leaping skyways, out to the templelike villas of the rulers. For all its monstrous size, it had been a fairy sight, a woven lace of polished metal and white, black, red stone, colored plastic, music and light-everywhere light.

Bombarded from space; sacked again and again by the barbarian hordes who swarmed maggot-like through the bones of the slain Empire; weathered, shaken by the slow sliding of Earth's crust; pried apart by patient, delicate roots; dug over by hundreds of generations of archeologists, treasure-seekers, the idly curious; made a quarry of metal and stone for the ignorant peasants who finally huddled about it-still its empty walls and blind windows, crumbling arches and toppled pillars held a ghost of beauty and magnificence which was like a half-remembered dream. A dream the whole race had once had.

## And now we're waking up.

Jorun moved silently over the ruins. Trees growing between tumbled blocks dappled them with moonlight and shadow; the marble was very white and fair against darkness. He
hovered by a broken caryatid, marveling at its exquisite leaping litheness; that girl had borne tons of stone like a flower in her hair. Further on, across a street that was a lane of woods, beyond a park that was thick with forest, lay the nearly complete outline of a house. Only its rain-blurred walls stood, but he could trace the separate rooms: here a noble had entertained his friends, robes that were fluid rainbows, jewels dripping fire, swift cynical interplay of wits like sharpened swords rising above music and the clear sweet laughter of dancing-girls; here people whose flesh was now dust had slept and made love and lain side-by-side in darkness to watch the moving pageant of the city; here the slaves had lived and worked and sometimes wept; here the children had played their ageless games under willows, between banks of roses. Oh, it had been a hard and cruel time; it was well gone but it had lived. It had embodied man, all that was noble and splendid and evil and merely wistful in the race, and now its late children had forgotten.
A cat sprang up on one of the walls and flowed noiselessly along it, hunting. Jorun shook himself and flew toward the center of the city, the imperial palace. An owl hooted somewhere, and a bat fluttered out of his way like a small damned soul blackened by hellfire. He didn't raise a wind-screen, but let the air blow around him, the air of Earth.

THE PALACE was almost completely wrecked, a mountain of heaped rocks, bare bones of "eternal" metal gnawed thin by steady ages of wind and rain and frost, but once it must have been gigantic. Men rarely built that big nowadays, they didn't need to; and the whole human spirit had changed, become ever more abstract, finding its treasures within itself. But there had been an elemental
magnificence about early man and the works he raised to challenge the sky.

One tower still stood-a gutted shell, white under the stars, rising in a filigree of columns and arches which seemed impossibly airy, as if it were built of moonlight. Jorun settled on its broken upper balcony, dizzily high above the black-and-white fantasy of the ruins. A hawk flew shrieking from its nest, then there was silence.

No-wait-another yell, ringing down the star ways, a dark streak across the moon's face. "Hai-ah!" Jorun recognized the joyful shout of young Cluthe, rushing through heaven like a demon on a broomstick, and scowled in annoyance. He didn't want to be bothered now.

Well, they had as much right here as he. He repressed the emotion, and even managed a smile. After all, he would have liked to feel gay and reckless at times, but he had never been able to. Jorun was little older than Cluthe-a few centuries at most-but he came of a melancholy folk; he had been born old.

Another form pursued the first. As they neared, Jorun recognized Taliuvenna's supple outline. Those two had been teamed up for one of the African districts, but-

They sensed him and came wildly out of the sky to perch on the balcony railing and swing their legs above the heights. "How're you?" asked Cluthe. His lean face laughed in the moonlight. "Whoo-00, what a flight!"
"I'm all right," said Jorun. "You through in your sector?"
"Uh-huh. So we thought we'd just duck over and look in here. Last chance anyone'll ever have to do some sight-seeing on Earth."

Taliuvenna's full lips drooped a bit as she looked over the ruins. She came from Yunith, one of the few planets where they still kept cities, and was as much a child of their soaring arrogance as Jorun of his hills and tundras and
great empty seas. "I thought it would be bigger," she said.
"Well, they were building this fifty or sixty thousand years ago," said Cluthe. "Can't expect too much."
"There is good art left here," said Jorun. "Pieces which for one reason or another weren't carried off. But you have to look around for it."
"I've seen a lot of it already, in museums," said Taliuvenna. "Not bad."
"C'mon, Tally," cried Cluthe. He touched her shoulder and sprang into the air. "Tag! You're it!"

She screamed with laughter and shot off after him. They rushed across the wilderness, weaving in and out of empty windows and broken colonnades, and their shouts woke a clamor of echoes.

Jorun sighed. I'd better go to bed, he thought. It's late.

THE SPACESHIP was a steely pillar against a low gray sly. Now and then a fine rain would drizzle down, blurring it from sight; then that would end, and the ship's flanks would glisten as if they were polished. Clouds scudded overhead like flying smoke, and the wind was loud in the trees.

The line of Terrans moving slowly into the vessel seemed to go on forever. A couple of the ship's crew flew above them, throwing out a shield against the rain. They shuffled without much talk or expression, pushing carts filled with their little possessions. Jorun stood to one side, watching them go by, one face after another-scored and darkened by the sun of Earth, the winds of Earth, hands still grimy with the soil of Earth.

Well, he thought, there they go. They aren't being as emotional about it as I thought they would. I wonder if they really do care.

Julith went past with her parents. She saw him and darted from the line and curtsied before him,
"Goodbye, good sir," she said. Looking up, she showed him a small and serious face. "Will I ever see you again?"
"Well," he lied, "I might look in on you sometime."
"Please dol In a few years, maybe, when you can."

It takes many generations to raise a people like this to our standard. In a few years-to me-she'll be in her grave.
"I'm sure you'll be very happy," he said.

She gulped. "Yes," she said, so low he could barely hear her. "Yes, I know I will." She turned and ran back to her mother. The raindrops -gistened in her hair.

Zarek came up behind Jorun. "I made a last-minute sweep of the wiole area," he said. "Detected no sign of human life. So it's all taken care of, except your old man."
"Geod," said Jorun tonelessly.
"I wish you could do something about him."
"So do I."
Zarek strolled off again.
A young man and woman, walking hand in hand, turned out of the line not far away and stood for a little while. A spaceman zoomed over to thiem. "Better get back," he warned. "You'll get rained on."
"That's what we wanted," said the young man.

The spaceman shrugged and resumed his hovering. Presently the couple re-entered the line.

The tail of the procession went by Jorun and the ship swallowed it fast. The rain fell harder, bouncing off his force-shield like silver spears. Lightning winked in the west, and he heard the distant exuberance of thunder.

Kormt came walking slowly toward him. Rain streamed off his clothes and matted his long gray hair and beard. His wooden shoes made a wet sound in the mud. Jorun extended the force-shield to cover him. "I hope
you've changed your mind," said the Fulkhisian.
"No, I haven't," said Kormt. "I just stayed away till everybody was aboard. Don't like goodbyes."
"You don't know what you're doing," said Jorun for the--thoussandth? -time. "It's plain madness to stay here alone."
"I told you I don't like goodbyes," said Kormt harshly.
"I have to go advise the captain of the ship," said Jorun. "You have maybe half an hour beíore she lifts. Nobody will laugh at you for changing your mind."
"I won't." Kormt smiled without warmth. "You people are the future, I guess. Why can't you leave the past alone? I'm the past." He looked toward the far hills, hidden by the noisy rain. "I like it here, Galactic. That should be enough for you."
"Well, then-" Jorun heid out his hand in the archaic gesture of Earth. "Goodbye."
"Goodbye." Kormt took the hand with a brief, indifferent clasp. Then he turned and walked off toward the village. Jorun watched him till he was out of sight.

The technician paused in the airlock door, looking over the gray landscape and the village from whose chimneys no smoke rose. Farewell, my mother, he thought. And then, surprising himself: Maybe Kormt is doing the right thing after ail.
He entered the ship and the door closed behind him.

TOWARD evening, the clouds lifted and the sky showed a clear pale blue-as if it had been washed clean-and the grass and leaves glistened. Kormt came out of the house to watch the sunset. It was a grod one, all flame and gold. A pity little Julith wasn't here to see it; she'd always liked sunsets. But Julith was so far away now that if she sent a call to him,
calling with the speed of light, it would not come before he was dead.

Nothing would come to him. Not ever again.

He tamped his pipe with a horny thumb and lit it and drew a deep cloud into his lungs. Hands in pockets, he strolled down the wet streets. The sound of his clogs was unexpectedly loud.

Well, son, he thought, now you've got a whole world all to yourself, to do with just as you like. You're the richest man who ever lived.

There was no problem in keeping alive. Enough food of all kinds was stored in the town's freeze-vault to support a hundred men for the ten or twenty years remaining to him. But he'd want to stay busy. He could maybe keep three farms from going to seed-watch over fields and orchards and livestock, repair the buildings, dust and wash and light up in the evening. A man ought to keep busy.

He came to the end of the street, where it turned into a graveled road winding up toward a high hill, and followed that. Dusk was creeping over the fields, the sea was a metal streak very far away and a few early stars blinked forth. A wind was springing up, a soft murmurous wind that talked in the trees. But how quiet things were!

On top of the hill stood the chapel, a small steepled building of ancient stone. He let himself in the gate and walked around to the graveyard behind. There were many of the demure white tombstones-thousands of years of Solis Township men and women who had lived and worked and begotten, laughed and wept and died. Someone had put a wreath on one grave only this morning; it brushed against his leg as he went by. Tomorrow it would be withered, and weeds would start to grow. He'd have to tend the chapel yard, too. Only fitting.

He found his family plot and stood with feet spread apart, fists on hips, smoking and looking down at the markers Gerlaug Kormt's son, Tarna Huwan's daughter, these hundred years had they lain in the earth. Hello, Dad, hello, Mother. His fingers reached out and stroked the headstone of his wife. And so many of his children were here, too; sometimes he found it hard to believe that tall Gerlaug and laughing Stamm and shy, gentle Huwan were gone. He'd outlived too many people.

I had to stay, he thought. This is my land, I am of it and I couldn't go. Someone had to stay and keep the land, if only for a little while. I can give it ten more years before the forest comes and takes it.

Darkness grew around him. The woods beyond the hill loomed like a wall. Once he started violently, he thought he heard a child crying. No, only a bird. He cursed himself for the senseless pounding of his heart.

Gloomy place here, he thought. Better get back to the house.

He groped slowly out of the yard, toward the road. The stars were out now. Kormt looked up, and thought he had never seen them so bright. Too bright; he didn't like it.

Go away, stars, he thought. You took my people, but I'm staying here. This is my land. He reached down to touch it, but the grass was cold and wet under his palm.

The gravel scrunched loudly as he walked, and the wind mumbled in the hedges, but there was no other sound. Not a voice called; not an engine turned; not a dog barked. No, he hadn't thought it would be so quiet.

And dark. No lights. Have to tend the street lamps himself-it was no fun, not being able to see the town from here, not being able to see anything except the stars. Should have remembered to bring a flashlight, but he was old and absentminded, and
there was no one to remind him. When he died, there would be no one to hold his hands; no one to close his eyes and lay him in the earth-and the forests would grow in over the land and wild beasts would nuzzle his bones.

But I knew that. What of it? I'm tough enough to take it.

The stars flashed and flashed above him. Looking up, against his own will, Kormt saw how bright they were, how bright and quiet. And how very far away! He was seeing light that had left its home before he was born.

He stopped, sucking in his breath between his teeth. "No," he whispered.

This was his land. This was Earth, the home of man; it was his and he was its. This was the land, and not a single dust-mote, crazily reeling and spinning through an endlessness of dark and silence, cold and immensity. Earth could not be so alone!

The last man alive. The last man in all the world!

He screamed, then, and began to run. His feet clattered loud on the road; the small sound was quickly swallowed by silence, and he covered his face against the relentless blaze of the stars. But there was no place to run to, no place at all.

## Readin'ow Unuthin'

THE SPACE MERCHANTS by Frederick Pohl and C. M. Kornbluth Eallantine, 175 pp paperbound 35 s 192 pp hardbound $\$ 1.50$

When this came out in Galaxy as "Gravy Planet", it seemed to be merely an entertaining hunt-and-chase thriller, with the background of advertising horrors for laughs, a satire on the way things are now. Since then I've taken a closer look at the gruesomeness of the advertising we have grown numb to and it begins to look more like a trend than a joke.

If advertising is used to sell cigarettes, chewing gum, labor unions, opinions of the NAM, candidates for election, and movies, why shouldn't it make the smart deadly move of selling itself? Self-preservation is the business law that works every time.

Could the American public be sold on the idea that advertising men are the aristocracy of the Earth? Could they believe that advertising is the foundation of American business? Could they be convinced that the first duty of a patiot and a man of principle is to buy things the advertisments tell him to buy, whether he wants them or not?

If people can be muddled by pictures of girls in bathing suits into buying something that they would not want if they were left alone-(And they can be) why shouldn't they be muddled into buying anything.
"GLORIA GLAMOURPUGS SMOKES BLANKS. "They're milder"" GLORIA GLAMOURPUSS DRINKS PUKO. "it's stronger ${ }^{\prime \prime}$ GLORIA GLAMOUSPUSS

READS NOTHING BUT ADVERTISEMENTS. "They're excitingl"
Or the sententious voice announcing. "Doctors Say-Drink nutracola!" "Economists say-Don't save money, Buy things/" "Investigating Senator" Blank says-Read Advertisements. They're American"'
Is there a dividing-line beyond which people will stop believing anything presented by advertising methods, or isn't there? And, if so, where is it?

Two businessmen I have spoken with since I read "Gravy Planet", in Galaxy have told me solemnly. "American Business Is Founded On Advertising." Strange ideas like that don't come by spontaneous generation-at least, I don't think they do.
The nuisance-value ad is a recognized device on the radio. Ad agencies don't seem to care what they do to you if they can only get you to buy something thereby. From ads which irritate by loud squawising voices, which rely on you not to be quick enough to turn off the radio before you hear the pitch, to 3 D ads which squirt a foul stench at you and bellow "Do You Smell Like This?" is a short step. And from a *here-and-now captive audience on a bus, unable to turn off the bus radio which pumps advertisements at them, to a law that it is a seditious unAmerican Restraint of Advertising to hold your nose when the deoderant ads squirt the sweatmell at you, or to turn off your radio at all, might not be such a funny exaggeration as it seems at first glance.
[Turn To Page 36]

He had but one ambition, one desire: to pilot the first manned rocket to the moon. And he was prepared as no man had ever prepared himself before...

(illustrated by Milton Luros)
"Desire no more than to thy lot may fall..."
-Chaucer

THE SMALL young man looked at his father, and shook his head.
"But you've got to learn a trade," his father said, exasperated. "I can't
afford to send you to college; you know that."
"I've got a trade," he answered.
His father smiled thinly. "What?" he asked patronizingly.
"I'm a rocket pilot," the boy said, his thin jaw stretching the skin of his cheeks.

His father laughed in the way the
boy had learned to anticipate and hate. "Yeah," he said. He leaned back in his chair and laughed so hard that the Sunday paper slipped off his wide lap and fell to the floor with an unnoticed stiff rustle.
"A rocket pilot!" His father's derision hooted through the quiet parlor. "A r-oh, no!-a rocket pilot!"
The boy stared silently at the convulsed figure in the chair. His lips fell into a set white bar, and the corners of his jaws bulged with the tension in their muscles. Suddenly, he turned on his heel and stalked out of the parlor, through the hall, out the front door, to the porch. He stopped there, hesitating a little.
"Marty!" His father's shout followed him out of the parlor. It seemed to act like a hand between the shoulder-blades, because the boy almost ran as he got down the porch stairs.
"What is it, Howard?" Marty's mother asked in a worried voice as she came in from the kitchen, her damp hands rubbing themselves dry against the sides of her housedress.
"Crazy kid," Howard Isherwood muttered. He stared at the figure of his son as the boy reached the end of the walk and turned off into the street. "Come back here!" he shouted. "A rocket pilot," he cursed under his breath. "What's the kid been reading? Claiming he's a rocket pilot!"

Margaret Isherwood's brow furrowed into a faint, bewildered frown. "But-isn't he a little young? I know they're teaching some very odd things in high schools these days, but it seems to me..."
"Oh, for Pete's sake, Marge, there aren't even any rockets yet! Come back here, you idiot!" Howard Isherwood was standing on his porch, his clenched fists trembling at the ends of his stiffly-held arms.
"Are you sure, Howard?" his wife asked faintly.
"Yes, I'm surel".
"But, where's he going?"
"Stop that! Get off that bus! YOU hear me? Marty?"
"Howard! Stop acting like a child and talk to me! Where is that boy going?"

Howard Isherwood, stocky, redfaced, forty-seven, and deieatea, turned away from the retreating bus and looked at his wife. "I don't know," he told her bitterly, between rushes of air into his jerkily neaving lungs. "viayide, the moon," he told her sarcastically.

Martin Isherwood, rocket pilot, weight 102 , height $4^{\prime}, 11^{\prime \prime}$, had come of age at seventeen.

THE SMALL man looked at his faculty advisor. "No," he said. "I am not interested in working for a degree."
"But-" The faculty advisor unconsciousiy tapped the point of a yellow pencil against the fresh green of his desk blotter, leaving a rough arc of black ilecks. "Look, Ish, you've got to either deliver or get off the basket. This program is just like the others you've followed for nine semesters; nothing but math and engineering. You've taken just about every undergrad course there is in those fields. How long are you going to keep this up?"
"I'm signed up for Astronomy 101," Isherwood pointed out.
The faculty advisor snorted. "A snap course. A breather, after you've studied the same stuff in Celestial Navigation. What's the matter, Ish? Scared of liberal arts?"

Isherwood shook his head. "Uh-unh. Not interested. No time. And that Astronomy course isn't a breather. Different slant from Cee Nav-they won't be talking about stars as check points, but as things in themselves." Something seemed to flicker across his face as he said it.
The advisor missed it; he was too engrossed in his argument. "Still a
snap. What's the difference, how you look at a star?"

Isherwood almost winced. "Call it a hobby," he said. He looked down at his watch. "Come on, Dave. You're not going to convince me. You haven't convinced me any of the other times, either, so you might as well give up, don't you think? I've got a half hour before I go on the job. Let's go get some beer."

The advisor, not much older than Isherwood, shrugged, defeated. "Crazy," he muttered. But it was a hot day, and he was as thirsty as the next man.

The bar was air conditioned. The advisor shivered, half grinned, and softly quoted:
"Though I go bare, take ye no care,
I am nothing a-cold;
I stuff my skin so full within
Of jolly good ale and old."
"Huh?" Ish was wearing the look with which he always reacted to the unfamiliar.

The advisor lifted two fingers to the bartender and shrugged. "It's a poem; about four hundred years old, as a matter of fact."
"Oh."
"Don't you give a damn?" the advisor asked, with some peevishness.

Ish laughed shortly, without embarrassment. "Sorry, Dave, but no. It's not my racket."

The advisor cramped his hand a little too tightly around his glass. "Strictly a specialist, huh?"

Ish nodded. "Call it that."
"Bu:t what, for Pete's sake? What is this crazy specialty that blinds you to all the fine things that man has done?"

Ish took a swallow of his beer. "Well, now, if I was a poet, I'd say it was the finest thing that man has ever done."

The advisor's lips twisted in deri-
sion. "That's pretty fanatical, isn't it?"
"Uh-huh." Ish waved to the bartender for refills.

THE NAVION took a boiling thermal under its right wing and bucked upward suddenly, tilting at the same time, so that the pretty brunette girl in the other half of the side-byside was thrown against him. Ish laughed, a sound that came out of his throat as turbulently as that sudden gust of heated air had shot up out of the Everglades, and corrected with a tilt of the wheel.
"Relax, Nan," he said, his words colored by the lingering laughter. "It's only air; nasty old air."

The girl patted her short hair back into place. "I wish you wouldn't fly this low," she said, half-frightened.
"Low? Call this low?" Ish teased. "Here. Let's drop it a little, and you'll really get an idea of how fast we're going." He nudged the wheel forward, and the Navion dipped its nose in a shallow dive, flattening out thirty feet above the mangrove. The swamp howled with the chug of the dancing pistons and the claw of the propeller at the protesting air, and, from the cockpit, the Everglades resolved into a dirty-green blur that rocketed backward into the slipstream.
"Marty!"
Ish chuckled again. He couldn't have held the ship down much longer, anyway. He tugged back on the wheal suddenly, targeting a cumulous bank with his spinner. His lips peeled back from his teeth, and his jaw set. The Navion went up at the clouds, her engine turning over as fast as it could, her wings cushioned on the rising thrust of another thermal.

And, suddenly, it was as if there were no girl beside him, to be teased, and no air to rock the wings-there were no wings. His face lost all expression. Faint beads of sweat brote out above his eyes and under his nose.
"Up," he grunted through his clenched teeth. His fists locked on the wheel. "Up!"

The Navion broke through the cloud, kept going. "Up." If he listened closely, in just the right way, he could almost hear...
"Marty!"
...the rumble of a louder, prouder engine than the Earth had ever known. He sighed, the breath whispering through his parting teeth, and the aircraft leveled off as he pushed at the wheel with suddenly lax hands. Still half-lost, he turned and looked at the white-faced girl. "Scare you?" he asked gently.
She nodded. Her fingertips were trembling on his forearm.
"Me too," he said. "Lost my head. Sorry."

6'T OOK," HE told the girl, "You got any idea of what it costs to maintain a racing-plane? Everything I own is tied up in the Foo, my ground crew, my trailer, and that scrummy old Ryan that should have been salvaged ten years ago. I can't get married. Suppose I crack the Foo next week? You're dead broke, a widow, and with a funeral to pay for. The only smart thing to do is wait a while."
Nan's eyes clouded, and her lips trembled. "That's what I've been trying to say. Why do you have to win the Vandenberg Cup next week? Why can't you sell the Foo and go into some kind of business? You're a trained pilot."

He had been standing in front of her with his body unconsciously tense from the strain of trying to make her understand. Now he relaxed-morehe slumped-and something began to die in his face, and the first faint lines crept in to show that after it had died, it would not return to life, but would fossilize, leaving his features in the almost unreadable mask that the newspapers would come to know.
"I'm a good bit more than a trained
pilot," he said quietly. "The Foo is a means to an end. After I win the Vandenberg Cup, I can walk into any plant in the States-Douglas, North American, Boeing-any of them-and pick up the Chief Test Pilot's job for the asking. A few of them have as good as said so. After that-" His voice had regained some of its former animation from this new source. Now he broke off, and shrugged. "I've told you all this before."

The girl reached up, as if the physical touch could bring him back to her, and put her fingers around his wrist. "Dariing!" she said. "If it's that rocket pilot business again..."

Somehow, his wrist was out of her encircling fingers. "It's always 'that rocket pilot business,'" he said, mimicking her voice. "Damn it, I'm the only trained rocket pilot in the world! I weigh a hundred and fifteen pounds, I'm five feet tall, and I know more navigation and math than anybody the Air Force or Navy have! I can use words like brennschlus and mass-ratio without running over to a copy of Colliers, and I-" He stopped himself, half-smiled, and shrugged again.
"I guess I was kidding myself. After the Cup, there'll be the test job, and after that, there'll be the rockets. You would have had to wait a long time."

All she could think of to say was, "But, Darling, there aren't any mancarrying rockets."
"That's not my fault," he said, and walked away from her.

A week later, he took his strippeddown F-110 across the last line with a scream like that of a hawk that brings its prey safely to its nest.

HE BROUGHT the Mark VII out of her orbit after two days of running rings around the spinning Earth, and the world loved him. He climbed out of the crackling, pinging ship, bearded and dirty, with oil on his face and in his hair, with food
stains all over his whipcord, red-eyed, and huskily quiet as he said his few words into the network microphones. And he was not satisfied. There was no peace in his eyes, and his hands moved even more sharply in their expressive gestures as he gave an impromptu report to the technicians who were walking back to the personnel bunker with him.

Nan could see that. Four years ago, he had been different. Four years ago, if she had only known the right words, he wouldn't be so intent now on throwing himself away to the sky.

She was a woman scorned. She had to lie to herself. She broke out of the press section and ran over to him. "Marty!" She brushed past a technician.

He looked at her with faint surprise on his face. "Well, Nan!" he mumbled. But he did not put his hand over her own where it touched his shoulder.
"I'm sorry, Marty," she said in a rush. "I didn't understand. I couldn't see how much it all meant." Her face was flushed, and she spoke as rapidly as she could, not noticing that Ish had already gestured away the guards she was afraid would interrupt her.
"But it's all right, now. You got your rockets. You've done it. You trained yourself for it, and now it's over. You've flown your rocket!"

He looked up at her face and shook his head in quiet pity. One of the shocked technicians was trying to pull her away, and Ish made no move to stop him.

Suddenly, he was tired, there was something in him that was trying to break out against his will, and his reaction was that of a child whose candy is being taken away from him after only one bite.
"Rocket!" he shouted into her terrified face. "Rocket! Call that pile of tin a rocket?" He pointed at the weary Mark VII with a trembling arm. "Who cares about the bloody machines! If I thought roller-skating would get me
there, I would have gone to work in a rink when I was seventeen! It's getting there that counts! Who gives a good goddam how it's done, or what with!"

And he stood there, shaking like a leaf, outraged, while the guards came and got her.

66 CIT DOWN, Ish," the Flight Surgeon said.
They always begin that way, Isherwood thought. The standard medical opening. Sit down. What for? Did somebody really believe that anything he might hear would make him faint? He smiled with as much expression as he ever did, and chose a comfortable chair, rolling the white cylinder of a cigarette between his fingers. He glanced at his watch. Fourteen hours, thirty-six minutes, and four days ic go.
"How's it?" the FS asked.
Ish grinned and shrugged. "All right." But he didn't usually grin. The realization disquieted him a little.
"Think you'll make it?"
Deliberately, rather than automatically, he fell back into his usual re-sponse-pattern. "Don't know. That's what I'm being paid to find out."
"Uh-huh." The FS tapped the eraser of his pencil against his teeth. "Lookyou want to talk to a man for a while?"
"What man?" It didn't really matter. He had a feeling that anything he said or did now would have a bearing, somehow, on the trip. If they wanted him to do something for them, he was bloody well going to do it.
"Fellow named MacKenzie. Big gun in the head-thumping racket." The Flight Surgeon was trying to be as casual as he could. "Air Force insisted on it, as a matter of fact," he said. "Can't really blame them. After all, it's their beast."
"Don't want any hole-heads denting it up on them, huh?" Ish lit the cigarette and flipped his lighter shut with
a snap of the lid. "Sure. Bring him on."

The FS smiled. "Good. He's-uhhe's in the next room. Okay to ask him in right now?"
"Sure." Something flickered in Isherwood's eyes. Amusement at the Flight Surgeon's discomfort was part of it. Worry was some of the rest.

MacKENZIE didn't seem to be taking any notes, or paying any special attention to the answers Ish was giving to his casual questions. But the questions fell into a pattern that was far from casual, and Ish could see the small button-mike of a portable tape-recorder nestling under the man's lapel.
"Been working your own way for the last seventeen years, haven't you?" MacKenzie seemed to mumble in a perfectly clear voice.
Ish nodded.
"How's that?"
The corners of Isherwood's mouth twitched, and he said "Yes" for the recorder's benefit.
"Odd jobs, first of all?"
"Something like that. Anything I could get, the first few months. After I was halfway set up, I stuck to garages and repair shops."
"Out at the airports around Miami, mostly, wasn't it?"
"Ahul."
"Took some of your pay in flying lessons."
"Right."
MacKenzie's face passed no judge-ments-he simply hunched in his chair, seemingly dwarfed by the shoulders of his perfectly tailored suit, his stubby fingers twiddling a Phi Beta Kappa key. He was a spare man-only a step or two away from emaciation. Occasionally, he pushed a tired strand of washed-out hair away from his forehead.
Ish answered him truthfully, without more than ordinary reservations. This was the man who could ground
him. He was dangerous-red-letter dangerous-because of it.
"No family."
Ish shrugged. "Not that I know of. Cut out at seventeen. My father vas making good money. He had a pension plan, insurance policies. No need to worry about them."

Ish knew the normal reaction a statement like that should have brought. MacKenzie's face did not go into a blank of repression-but it still passed no judgements.
"How's things between you and the opposite sex?"
"About normal."
"No wife-no steady girl."
"Not a very good idea, in my racket."

MacKenzie grunted. Suddenly, he sat bolt upright in his chair, and swung toward Ish. His lean arm shot out, and his index finger was aimed between Isherwood's eyes. "You can't go!"

Ish was on his feet, his fists clenched, the blood throbbing in his temple veins. "What!" he roared.

MacKenzie seemed to collapse in his chair. The brief commanding burst was over, and his face was apologetic. "Sorry," he said. He seemed genuinely abashed. "Shotgun therapy. Works best, sometimes. You can go, all right; I just wanted to get a fast check on your reactions and drives."
Ish could feel the anger that still ran through him-anger, and more fear than he wanted to admit. "I'm due at a briefing," he said tautly. "You through with me?"

MacKenzie nodded, still embarrassed. "Sorry."
Ish ignored the man's obvious feelings. He stopped at the door to send a parting stroke at the thing that had frightened him. "Big gun in the psychiatry racket, huh? Well, your professional lingo's slipping, Doc. They did put some learning in my head at college, you know. Therapy, hell! Testing maybe, but you sure didn't do anything to help me!"
"I don't know," MacKenzie said softly. "I wish I did."

Ish slammed the door behind him. He stood in the corridor, jamming a fresh cigarette in his mouth. He threw a glance at his watch. Twelve hours, twenty-two minutes, and four days to go.

Damn! He was late for the briefing. Odd-that fool psychiatrist hadn't seemed to take up that much of his time.

He shrugged. What difference did it make? As he strode down the hall, he lost his momentary puzzlement under the flood of realization that nothing could stop him now, that the last hurdle was beaten. He was going. He was going, and if there were faint echoes of "Marty!" ringing in the dark background of his mind, they only served to push him faster, as they always had. Nothing but death could stop him now.

## Is

 SH LOOKED up bitterly at the Receptionist. "No," he said."But everybody fills out an applica. tion," she protested.
"No. I've got a job," he said as he had been saying for the last half hour.

The Receptionist sighed. "If you'll only read the literature I've given you, you'll understand that all your previous commitments have been cancelled."
"Look, Honey, I've seen company poop sheets before. Now, let's cut this nonsense. I've got to get back."
"But nobody goes back."
"Goddam it, I don't know what kind of place this is, but-" He stopped at the Receptionist's wince, and looked around, his mouth open. The reception desk was solid enough. There were IN and OUT and HOLD baskets on the desk, and the Receptionist seemed to see nothing extraordinary about it. But the room-a big room, he realized-seemed to fade out at the edges, rather than stop at walls. The lighting, too...
"Let's see your back!" he rapped out, his voice high.

She sighed in exasperation. "It you'd read the literature..." She swiveled her chair slowly.
"No wings," he said.
"Of course not!" she snapped. She brushed her hair away from her forehead without his telling her to. "No horns, either."
"Streamlined, huh?" he said bitterly.
"It's a little different for everybody," she said with unexpected gentleness. "It would have to be, wouldn't it?"
"Yeah, I guess so," he admitted slowly. Then he lost his momentary awe, and his posture grew tense again. He glanced down at his wrist. Six hours, forty-seven minutes, and no days to go.
"Who do I see?"
She stared at him, bewildered at the sudden change in his voice. "See?"
"About getting out of here! Come on, come on," he barked, snapping his fingers impatiently. "I haven't got much time."

She smiled sweetly. "Oh, but you do."
"Can it! Who's your Section boss? Get him down here. On the double. Come on!" His face was streaming with perspiration, but his voice was firm with the purpose that drove him.

Her lips closed into an angry line, and she jabbed a finger at a desk button. "I'll call the Personnel Manager."
"Thanks," he said sarcastically, and waited impatiently. Odd, the way the Receptionist looked a little like Nan.

THHE PERSONNEL Manager wore J a perfectly-tailored suit. He strode across the lobby floor toward Ish, his hand outstretched.
"Martin Isherwood!" he exclaimed enthusiastically. "I'm very glad to meet you!"
"I'll bet," Ish said dryly, giving the

Personnel Manager's hand a short shake. "I've got other ideas. I want out."
"That's all he's been saying for the past forty-five minutes, Sir," the Receptionist said from behind her desk.

The Personnel Manager frowned. "Um. Yes. Well, that's not unprecedented.
"But hardly usual," he added.
Ish found himself liking the man. He had a job to do, and after the preliminary formality of the greeting had been passed, he was ready to buckle down to it. Oh, he-shucks?-the Receptionist wasn't such a bad girl, either. He smiled at her. "Sorry I lost my head," he said.

She smiled back. "It happens."
He took time to give her one more smile and a half-wink, and swung back to the Personnel Manager.
"Now. Let's get this thing straightened out. I've got-" He stopped to look at his watch. "Six hours and a few minutes. They're fueling the beast right now."
"Do yqu know how much red tape you'd have to cut?"
Ish shook his head. "I don't want to sound nasty, but that's your problem."
The Personnel Manager hesitated. "Look-you feel you've got a job unfinished. Or, anyway, that's the way you'd put it. But, let's face it-that's not really what's galling you. It's not really the job, is it? It's just that you think you've been cheated out of what you devoted your life to."

Ish could feel his jaw muscles bunching. "Don't put words in my mouth!" he snapped. "Just get me back, and we'll split hairs about it when I get around this way again." Suddenly, he found himself pleading. "All I need is a week," he said. "It'll be a rough week-no picnic, no pleasures of the flesh. No smoking, no liquor. I certainly won't be breaking any laws. One week. Get there, putter around for

- two days, and back again. Then. you
can do anything you want to-as long. as it doesn't look like the trip's respornsible, of course."
The Personnel Manager hesitated. "Suppose-" he began, but Ish interrupted him.
"Look, they need it, down there. They've got to have a target, someplace to go. We're built for it. People have to have-but what am I telling you for. If you don't know, who does?"

The Personnel Manager smiled. "I was about to say something."

Ish stopped, abashed. "Sorry."
He waved the apology away with a short movement of his hand. "You've got to understand that what you've been saying isn't a valid claim. If it were, human history would be very different, wouldn't it?
"Suppose I showed you something, first? Then, you could decide whether you want to stay, after all."
"How long's it going to take?" Ish flushed under the memory of having actually begged for something.
"Not long," the Personnel Manager said. He half-turned and pointed up at the Earth, hanging just beyond the wall of the crater in which they were suddenly standing.
"Earth," the Personnel Manager said.

Somehow, Ish was not astonished. He looked up at the Earth, touched by cloud and sunlight, marked with ocean and continent, crowned with ice. The unblinking stars filled the night.
He looked around him. The Moon was silent-quiet, patient, waiting. Somewhere, a metal glint against the planet above, if it were only large enough to be seen, was the Station, and the ship for which the Moon had waited.

Ish walked a short distance. He was leaving no tracks in the pumice the ages had sown. But it was the way he had thought of it, nevertheless. It was the way the image had slowly built up in his mind, through the years, through the training, through the
work. It was what he had aimed the Navion at, that day over the Everglades.
"It's not the same," he said.
The Personnel Manager sighed.
"Don't you see," Ish said, "It can't be the same. I didn't push the beast up here. There wasn't any feel to it. There wasn't any sound of rockets."

The Personnel Manager sighed again. "There wouldn't be, you know. Taking off from the Station, landing here-vacuum."

Ish shook his head. "There'd still be a sound. Maybe not for anybody else to hear-and, maybe, maybe there wouid be. There'd be people, back on Earth, who'd hear it."
"All right," the Personnel Manager said. His face was grave, but his eyes were shining a little.

66 ISH! HEY, Ish, wake up, will you!" There was a hand on his shoulder. "Will you get a load of this guy!" the voice said to someone else. "An hour to go, and he's sleeping like the dcad."

Ish willed his eyes to open. He felt his heart begin to move again, felt the blood sluggishly beginning to surge into his veins. His hands and feet were very cold.
"Come on, Ish," the Crew Chief said.
"All right," he mumbled. "Okay. I'm up." He sat on the edge of his bunk, looking down at his hands. They were blue under the fingernails. He sighed, feeling the air moving down into his lungs.

Stiffly, he got to his feet and began to climb into his G suit.

The Moon opened its face to him. From where he lay, strapped into the control seat in the forward bubble, he looked at it emotionlessly, and began to brake for a landing.

He looked for footprints in the cra-
ter, though he knew he hadn't left any. Earth was a familiar sight over his right shoulder.

He brought the twin-bubble beast back to the station. Thicy threw spotlights on it, for the TV pickups, and thrust microphones at him. He could see broad grins behind the faceplates of the suits the docking crew wore, and they were pounding his back. The interior of the Station was a babbling of voices, a tumult of congratulations. He looked at it all, dead-faced, his eyes empty.
"It was easy," he said over a worldwide network, and pushed the press representatives out of his way.

MacKENZIE was waiting for him in the crew section. Ish flicked his stolid eyes at him, shrugged, and stripped out of his clothes. He pulled a coverall out of a locker and climbed into it, then went over to his bunk and lay down on his side, facing the bulkhead.
"Ish."
It was MacKenzie, bending over him.

Ish grunted.
"It wasn't any good, was it? You'd done it all before; you'd been there."

He was past emotions. "Yeah?"
"We couldn't take the chance." MacKenzie was trying desperately to explain. "You were the best there wasbut you'd done something to yourself by becoming the best. You shut yourself off from your family. You had no close friends, no women. You had no other interests. You were a rocket pi-lot-nothing else. You've never read an adult book that wasn't a text; you've never listened to a symphony except by accident. You don't know Rembrandt from Norman Rockwell. Nothing. No ties, no props, nothing to sustain you if something went wrong. We couldn't take the chance, Ish!"
"So?"
"There was too much at stake. If we let you go, you might have for-
gotten to come back. You might have just kept going."
He remembered the time with the Navion, and nodded. "I might have."
"I hypnotized you," MacKenzie said. "You were never dead. I don't know what the details of your hullucination were, but the important part came through, all right. You thought you'd been to the Moon before. It took all the adventure out of the actual flight; it was just a workaday trip."
"I said it was easy," Ish said.
"There was no other way to do it! I had to cancel out the thrill that comes from challenging the unknown. You knew what death was like, and
you knew what the Moon was like. Can you understand why I had to do it?"
"Yeah. Now get out before I kill you."

He didn't live too long after that. He never entered a rocket again-he died on the Station, and was buried in space, while a grateful world mourned him. I wonder what it was like, in his mind, when he really died. But he spent the days he had, after the trip, just sitting at an observatory port, cursing the traitor stars with his dead and purposeless eyes.
$\star$

## READIN' and WRITHIN'

In its revised form, "The Space Merchants", this novel is even smoother and more entertaining in plot, but I have not been able to read more than a few pages at a time before the background gives me the whillies.

Will the Senator from Nutra-Cola please take the floor?

WORLD OUT OF MIND by J. T. M'Intosh 222 pp Doubleday $\$ 2.75$.
I like the poker-game plot, with life or death hanging on whether the hero makes the right sequence of logical moves, and this book has enough of that.

The background is a pleasant world set-up-utopia compared to what we have now-with everything mild and moderate and pleasant and normal, except the one gaudily-different element of an aristocracy of abilities. It's put right out in the open, with a fascinating universal I. Q. puzzletest, and badges of different color in the spectrum scale for those that test out on different IQ ranges. There is a democratic flavor to it, because the difference of jobtreatment and respect given people wearing each color is largely a result of the experience of the population as to how people with such badges behave, rather than fixed law.

An attractive-sounding system for s. f. fans, whom I would naturally expect to get a better break in that kind of system and strut happily in red circle badges, or better.
The plot is the good old chestnut of the guy who can't remember, but finds himself in some kind of a deadly game as an
important piece; he has to apply his highpowered brains to finding out what kind of game it is and what side he wants to play on.
For a good puzzle-story, this puts the reader on par with the hero and they are equally surprised by whatever happens, and can solve the problems with the same evidence. Fair play.
The hero is a likeable character, rather human and pleasant, as are the other characters, although they are only lightly presented. He gets a little superdooper toward the end, but this is a small complaint for a smooth and entertaining book.
The jacket design is a dull looking mishmash with no connection to the plot that I could figure out, but don't let the dullness of the outside deter you. In its reasonable English way, this is essentially a gaudy story, written to please.

HELLFLOWER, by George 0. Smith, Doubleday, $265 \mathrm{pp} \$ 2.75$
A busted and disgraced spaceman is used as a decoy-duck to catch interplanitary drug-smugglers, trying to pull himself up by his bootstraps back to self respect and the respect of the world. There's considerable romancing, and occasional shooting. It's not always plausible toward the end, but keeps the pace roing, and the suspense too tight for any leisure to pause and criticize. The solution seemed to me more of a rescue of the characters by George 0 . Smith than anything they
[Turn To Page 48]

The "Professor" had braved great perils to reach Earth, and believed he knew what he was up against. But he hadn't counted on the menace of Fatty Schultz and Irv Lece.


# THE UNWILLING PROFESSOR 

by Arthur Porges<br>(illustrated by Milton Luros)

ON THAT fateful afternoon Fatty Schultz and Irv Lece had cut their last classes, and were taking a gloomy walk together, scrambling through the scrubby brush well behind the athletic field.

There were good reasons for their unhappiness. Fatty was failing in Calculus II with a velocity that varied directly as the square of the number of lectures attended. Irv's math instructor had informed him, with a kind of loathing respect, that his only salvation lay in recommencing the study of arithmetic-taking five or ten years in the process-and then retiring to
a cave for perhaps another fifteen in the vain hope of digesting, through meditation and prayer, the multiplication table. After that, Irv might be ready for elementary algebra, but not, the professor hoped to a merciful God, in this unfortunate institution of higher learning.
As a matter of fact, the whole of their fraternity, Omega Pi Upsilon (usually referred to on campus as "Oh, P-Yu") was in the same boat regarding almost every subject offered at Bateman College. Bateman had courses that ranged from Aardvark Breeding to Zythum Brewing, but no
field of knowledge troubled them more than mathematics.

Hence the long face on Irv Lece. Fatty's visage also strove to elongate, but simply wasn't built for such an accomplishment. Instead, his piggy little eyes, ordinarily glowing with a kind of coarse good-humor, were now smouldering with resentment.

They had just seated themselves in a small clearing, where Fatty, after setting his calculus text on a grassy mound, began to heave rocks at it, when there was a whistling scream, a jarring whump, and before their bulging eyes a small disc lay crumpled, barely ten yards away.
A shrill creaking came from this odd craft, which looked like a man-hole-cover some eight feet in diameter and twenty inches thick. Then, as they stared in wonder, a badly-sprung port opened crazily, and a small rabbit flopped out. It may be stated here that the creature was not actually a rabbit, but that any difference between the disc's pilot and an ordinary cottontail was imperceptible to the naked eye.

For a moment the rabbit swayed drunkenly, its big eyes cloudy, then it hopped towards Fatty, preferring, perhaps, his larger gravitational field over Irv's. Extending one snowy paw, it squeaked: "Good afternoon, gentlemen. Permit me to introduce myself. I am a good-will ambassador from Venus, and by your conventions should be addressed as 'Professor.' My name," he added a trifle pompously, "is Iglowt P. Șlakmak, and I hold degrees comparable to your PhD, LLD, and M. D." All this in a very British accent.

Fatty gave a hoarse croak; Irv's knees knocked together.
"Come," the rabbit chirped, "chin up, fellows! There's nothing to be afraid of. I speak English because we've been monitoring your radio broadcasts for years. Television is a bit trickier, but we've seen a few. And
by listening to educational programs, I've learned a great deal about terrestrial culture, which I notice is based upon cigarettes, used cars-but never mind that, now. I must get to Washington and present myself. A rival of mine is about to contact Mars for the first time, and I hope to send in my report on Earth first." He peered at them anxiously. "You do understand me, chaps, don't you? I learned the best English from B. B. C., you know."

SEEING that the two boys were still dumb, the rabbit, with a mighty effort, picked up the threepound calculus text, which was bound in a revolting green. As he did so, a paper fluttered out, and the professor deftly scooped it up. He studied Fatty's messy scrawlings for a moment, then said warmly: "Ah, I observe that you chaps are beginning the study of elementary mathematics." He shook a paw waggishly. "The limits are wrong on this integration: they should go from pi-over-two to pi-over-three first, instead of to zero. There's a discontinuity at pi-over-three, and your result, that the center of gravity of this six-inch cubs is nine feet to the right, looks somewhat implausible."
At this, Fatty finally found his voice. "A discontinuity?" he gulped. "Whassat?"
"Aw, you know," Irv rebuked him. "Old Cusp's been gassing about 'em for days, now."
"Has he? Well, what is it, if you're so smart?"
"I don't remember," Irv said brazenly, "but at least I heard the name before."
"At pi-over-three," the rabbit broke in with authority, "the denominator of the integrand vanishes. To put it loosely, the function becomes infinIte."

Fatty looked at Irv; Irv gaped at Fatty. The piggy eyes lit up. "A rab-
snotty millionaires and brave little wronged chorus girls. Their lives were no more glamorous than their readers. They were the same mixture of greed and fear and smelly sweat and deceit and two-bit passion. My particular prostitution was to transform their peccadilloes into virtues, their stubbed toes into tragedies and their fornicatious into romance. And I'd been at it so long I couldn't stand the odor of my own typewriter.

Of course, I was so thunderstruck at being chosen as one of the 21 -man crew for the Albert E. that I never got to gloating over it much until we were out in deep space. Yes, it was quite an honor, to say nothing of the pure luck involved. Something like winning the Luna Sweepstakes, only twice as exclusive.

We were the pioneers on the first star-ship, the first to try out the Larson Drive in deep space. At last, man's travel would be measured in parsecs, for our destination was 26 trillion miles down near the celestial south pole. Not much more than a parsec-but a parsec, nonetheless.
As a journalist, such distances and the fabulous velocities involved were quite meaningless to me. My appointment as official scribe for the expedition was not based on my galactic know-how, but rather on my reputa tion as a Nobel-winning columnist, the lucky one out of fifty-six who entered the lottery.
Larson, himself, would keep me supplied with the science data, and I was to chronicle the events from the human interest side as well as recording the technical stuff fed to me.

Actually, I had no intentions of writing a single word. To hell with posterity and the immortality of a race that couldn't read without moving its lips. The square case I had carried aboard so tenderly contained not my portable typewriter, but six bottles of forbidden rye whiskey, and I intended to drink every drop of it myself.
$\mathrm{S}^{0}$, AT LAST we were in space, after weeks of partying, dedications and speech-making and farewell dinners, none of which aroused in me a damned regret for my decision to forsake my generation of fellow-scrabblers.

Yes, we were all warned that, fast as the Larson Drive was, it would take us over 42 years, earth-measured time, to reach our destination. Even if we found no planets to explore, turned around and came right back, the roundtrip would consume the lifetimes of even the new babies we left behind. To me this was a perversely comforting thought.

All I wanted to know was how they expected me to live long enough to complete the journey? I could think of pleasanter ways to spend my last days than cooped up in this sardine can with a passel of fish-faced, star-happy scientists.
İ was 48 when we departed, which would make me a lucky 90 if I was still wiggling when we hove into our celestial port. But the mathematicians said to relax. Their space-time theory provided, they claimed, a neat device for survival on our high-velocity journey.

The faster a body moves in reference to another, the slower time appears to act on the moving body. If, they said, man could travel at the speed of light, supposedly time would stand still for him. This, I reflected, would mean human immortality-much too good for people.
Anyway, since our average velocity for the trip was planned to come out around a tenth of the speed of light, to us on the Albert E., only about five months would seem to have elapsed for the journey that would consume $421 / 2$ years, earth-time.

It seemed to me they were laying a hell of a lot of faith in a theory that we were the first to test out. Our food, water and air-supplies gave us a very small safety margin. With strict ration-

## . ${ }^{50}$ <br> <br> they baked a cane

 <br> <br> they baked a cane}
## by Winston Marks

## (illustrated by Tom Beecham)

He was tired of people - a "human interest" columnist, who specializes in glamorizations of the commonplace and sordid is likely to get that way. So . . othis starship seemed to offer the ideal escape from it all.


URE, I was one of the tough guys who said it would be great, just great, to get away from the boiling mess of humanity that stank up every inhabitable rock on earth.
Not being the Daniel Boone type, this was my private qualification for the job-being fed up to here with people, with the smothering bureaucracy of world government, with restrictions and rationing and synthetic diet supplements and synthetic blondes and mass hypochondria and phony emotions and standing in line to get into a pay toilet.

I hated my profession, trying to wring glamorous interviews out of bewildered heroes and press-agents' darlings and pompous politicians and
his initial entry to the pages of Wonder with a future-war story, "The Heat Destroyers;" the tale didn't overwhelm the 1933 s-f clientele. There were other short stories of average interest by Arthur K. Barnes and John Beynon Harris (John Beynon or John Wyndham today), and Sidney Patzer brought "The Lunar Consul" to an end. Represented in "The Reader Speaks" were Festus Pragnell and a youthful Milton A Rothman. The first two issues of Wonder under Charles D. Hornig were quite mediocre--but the majority of the stories had undoubtedly been accepted by his predecessor, David Lasser.

AMAZING STORIES for November (small-size, 144 pages) boasted a good interplanetary-scene Leo Morey cover illustrating the second (and concluding) installment of J. Lewis Burtt's super-galactic novel, "When the Universe Shrank." Joe W. Skidmore employed the fourth dimension to project his intrepid time-travellers into the Paleolithic Age in "The Beetle in the Amber." Skidmore, although probably just a name to readers of today, was very popular in the early thirtiesprimarily because of his "Posi and Nega" series-perhaps the only stories written in which electrons were the "heroes." "The Price of Feace" marked the first appearance of fan Mort Weisinger professionally, and it was an idealistic tale concerning the end of war. There were mediocre tales by Harl Vincent and John W. Campbell, and Edgar Allan Poe's narrative of a 29th century balloon voyage, "Mellonta Tauta," was reprinted. Interiors were (as usual) by Morey, and Forrest J. Ackerman made his regular appearance in "Discussions" along with P. Schuyler Miller, Milton Kaletsky, John B. Michel, Donald A. Wollheim, and Olon F . Wiggins.

The cover story of the December Amazing was "Time's Mausoleum" by Neil R. Jones, and was painted by Morey. In this one, Professor Jameson and his immortal metal companions take to time-travelling and study the history of the earth for several millions of years. Professor Jameson was an extremely popular character twenty years ago, and there are many today who would appreciate reading an anthology of this series. Bob Olsen was represented with his clever "The Four Dimensional Escape." This depicted the escape of a condemned man from the gallows via the fourth dimension and how he proved his innocence. Other authors this time were Miles J. Breuer, Otis A. Kline, and Frank K. Kelley-all with run-of-the-mill material. Jules Verne was reprinted again ("The Watch's Soul") and Oswald Train had a lengthy defense of reprints in "Discussions."

In the fan-world the two printed monthlies continued to bring news and articles
to the embryonic fandom. Hornig' Fantasy Fan was becoming slanted almost completely to the reader of Weird Tales. and the last two issues of 1933 were of little interest to the science fiction fan. The November issue of Science Fiction Digest, however, was chock-full of interesting items. There was a biography of Harl Vincent; Ackerman had his "Scientifilm Snapshots"; Francis Flagg wrote about his "Ardathia" series; Nihil (P. Schuyler Miller) continued his devastating satire, "Alicia in Blunderland"; and chapter slx of "Cosmos" was by John W. Campbell.

SFD for December led off with a belowpar short story by L. A. Eshbach, "The Beast Men." Ackerman appeared with both his scientifilm column (in which he informed his 1933 readers that Paramount was about to produce "When Worlds Collide") and a biography of now-deceased Joe W. Skidmore. The usual news column by Raymond A. Palmer, Julius Schwartz, and Mort Weisinger were printed and Rae Winterm (Rap) wrote Chapter seven of "Cosmos," the colossal interstellar epic. Perhaps this novel by seventeen science fiction writers will someday appear in book form: it certainly can't be inferior to some of the mass-produced volumes being published today.
The issues discussed about brought 1933 to a conclusion. During this year, magazine science fiction reached an all-time low; but it was becoming increasingly evident that the bottom had been touched, and many improvements were in store for the future. 1934 was to be the great "thoughtvariant" year in Astounding, and Charles D. Hornig was soon to inaugurate his "New Plot" requisite for Wonder Stories. Oldtime readers remember 1934 nostalgically, for it was the year in which some of the most incredible concepts were created, and these stories will be discussed in forthcoming issues.


Good Lord! I never suspected them of bolng in the rece.
printed, this brochure of verse is obtain able from the author at 1052 Merrimac Read, Fairview, Camden 4, New Jersey. Price: 25.
Please note the following change in address: all fan publications for review should be sent to Robert A. Madle, 1825 Academy Street, Charlotte, North Carolina.

## TWENTY YEARS AĢO IN SCIENCE FICTION

LAST ISSUE we discussed the revival of Astounding Stories under the Street \& Smith banner. As indicated, the first of the new Astounding was a strange conglamoation of weird fiction, adventure stories, and a few straight stf yarns. The new editor, although not listed, was $F$. Orlin Tremaine. Many readers were quite dismayed at the appearance and assortment of stories contained in the October, 1933 issue; and, as science fiction fans are wont to do, they deluged Tremaine with letters of criticism and suggestion.
The November issue wasn't much of an improvement. It contained 144 pulp-size pages, with a cover by Howard V. Brown illustrating Murray Leinster's "Beyond the Sphinxes' Cave." The cover story was a so-so novelette concerning a Grecian cave which was replete with all of the creations of Greek mythology. This story could hardly be included in the genre of science fiction. There were other weird misfits with such titles as "The Lovely Ghost," "In the Shadow of the Tii," "The Man from Cincinnati," and "My Lady of the Tunnel." The first three were by authors never heard from again, but the latter was, an Arthur J. Burks' "dream fantasy." The remaining stories were science fiction by Robert H. Leitfried, Jack Williamson, Harl Vincent, and Wallace West. The only one we recall as being of merit is Wallace West's story of the second dimension, "Plane People."

Nat Schachner's "Ancestral Voices" copped Brown's cover on the December, 1933 issue. This story was the first to be termed a "thought-variant," and the idea behind it-although quite original in treat-ment-can now be considered commonplace when compared to the incredible conceptepics which were to appear in future issues of Astounding as "thought-variant" stories. This one told of the time traveler who went back to the year 452 A.D. (just as the Roman Empire was falling to the invading Huns). During the battle, he disposed of a Hun who was his great-grandfather, many times removed. He disappeared, therefore, along with hundreds of thousands of present-day people inasmuch as he (and they) never should have existed because their ancestor was killed before taking a mate.

This story was also a blast at the "ra-
cial purity" myth, because varied indeed are the nationalities of the disappearing contemporary people. Other worthwhile stories in this issue were "Terror Out of Time", by Jack Williamson; "Farewell to Earth" by Donald Wandrei (sequel to "A Race Through Time" which appeared in the October number); and "The Demon of the Flower" by Clark Ashton Smith. In addition to the Smith story, there was but one other non-science-fiction entry, and this issue showed decided improvement over the preceding two. Paul Orban penned several of the interior illustrations, and the remainder were the work of Street \& Smith staff artists.

Wonder Stories surprised many by readopting the small pulp-size with its November issue, and increasing its pages from 96 to 128. (It had been pulp-size for 12 issues, November 1930 to October 1931, then returned to the large format.) It featured a typical colorful Paul cover, illustrating "The Call of the Mech-Men" by Laurence Manning, the first of the "Stranger Club" series. This one dealt with a strange race of mechanical beings residing in Northern Canada at the location of the magnetic pole. Sidney Patzer's twopart Utopian serial began: "The Lunar Consul." Well remembered is "The End of Tyme" by A. Fedor and Henry Hasse. This was a satire in which a man of the future visits the offices of the editor of (believe it or not) Future Fiction. Another outstanding story was "The Man With X-Ray Eyes," by Edmond Hamilton, in which was shown the horror of the possession of senses beyond those of the ordinary mortal. The remaining stories were by Carl Jacobi, J. Harvey Haggard, and James D. Perry, none of which have been selected by present-day anthologists. Although not a word was stated concerning it, the masthead listed Charles D. Hornig as Managing Editor in place of David Lasser. Hornig was hired in this capacity (although only 17 years old) because of the impression the first issue of Hornig's Fantasy Fan had made on Hugo Gernsback. Interiors were by Paul, Burian, and Winter.

The December Wonder featured another "Earth Guard" story by J. Harvey Haggard, "Evolution Satellite," and this one (a two-part serial) copped Paul's welldone cover painting. (The first of the "Earth Guard" stories appeared in the preceding issue, titled "Through the Einstein Line.") Like the preceding one, this was just fairly good space-opera. "The In. quisition of 6061 " by Arthur Frederick Jones (who was never heard from again) told of the era in which the deity had been replaced by Electricity, and the wrath dealt by God himself. This ecclesiastical tale always struck us as being out of place in a magazine so materialistic as was the Gernshack Wonder. Clifton B. Kruse made

FROM THE World of Books: Chamberlain Press is the most recent entry into the book publishing field. Alan E. Nourse, top-flight writer and s-f fan, is associated with Chamberlain in an administrative capacity. Their first release will probably be an anthology of Richard Matheson stories. ...Speaking of Matheson, it is rumored that Dick (who has written short stories exclusively) is now at work on his first novel. ...Other novels in the creation stage are by Garen Drussai and collaborator, who are slanting one for that big $\$ 6500$ s-f contest; Mark Clifton and Alex Apostolides, who are writing one for Ballantine Books; and Chad Oliver, who has just commenced a 60,000 word epic, tentatively titled, "Community Study". ...F'inney's famous "Circus of Dr. Lao" will be included in Ray Bradbury's second collection of stories for Bantam Books. ... Raymond F. Jones' "This Island Earth" has been selected by Doubleday for their book club. ...Donald A. Wollheim is the latest to write a juvenile for Winston.

The next "Prize Science Fiction" will include Richard Matheson's "Mother by Protest". ...August Derleth is now editing a new annua!, "The Best of Fantasy." The initial one will include John Anthony' "The Hypnoglyph". . . Recent bargainbuys are Jack Vance's "The Space Pirate" (Toby Press) at 35 ; aleo 35 are two Ballantine Books: "The Secret Masters" by Gerald Kersh and an excellent Kuttner antholory, "Ahead of Time"; Pocketbook \# 043 is "Planet of the Dreamers" (formenly "Wine of the Dreamers") by John D. MacDonald; and, although not science fiction, we enthusiastically recommend Edith Hamilton's "Mythology," a beautiful 50 reprint from Mentor Books.
The Scisniifilms: Film producer Jack Seaman, whose "Project Moon Base" (based on a Heinlein original) is about to be released, is interested in E. Everett Evans' unpublished novel, "Stairway to Mars," for filming. ...Jim Nicholson, aciive member of the first fandom and VicePresident of the Eoys' Scientifiction Club in 1930, has co-authored "Target-Earth!", a science fiction film now in production. ... Another formerly active fan, Len Moffatt, is co-author of a television play, "Father's Vampire," which may star Bela


Lugosi. ..."Slan" may soon appear on the screen! Lae Garmes, who recently won an Oscar for his camera proficiency, is a member of a group more than casually interested in it.

## THE FAN PRESS

ALTHOUGH very little was stated concerning fan magazines in previous editions of this department, we are now in "I position to feature them regularly in "Inside S-F." This department, as many readers already have noticed, now also appears in Future Science Fiction. Consequently, we have more space than we were previously allotted-therefore, a section devoted exclusively to the fan press.

A very attractive multi-lithed publication is Torquasian Times ( 25 a copy from 1041 Cayuga Street, Santa Cruz, California). The current issue, unfortunately marks the demise of the Times, but it is recommended nonetheless. It contains 56 neatly made-up pages and a pleasing assortment of material. There is an intriguing symposium on "Science Fiction and Fascism" by Peter B. Klein and Harvey Gibbs; David H. Keller speaks of "The Philosophy of Age," and Russell Watkins says, "Let's Clean up Fandow." For those who like fiction in their fanzines, this issue contains no less than five short-short stories.

A recent addition to the already-overcrowded fanzine field is tran To See (10, from Larry Touzinsky, 2911 AIfinnesota Avenue, St. Louis 18, Mo.). This wellmimeographed publication is more of the "inner-circle" type as the majority of the articles concern the ian world itself. However, there is enough to interest the geneial reader here. In fact, Harlan Ellisons "Dear Mr. Editor" reviews the lead stories from the various professional mag-azines-and reviews of the "prozines" are not overly-abundant in fanzines.

A publication which can be termed a "semi-pro" (and which is heartily recommended) is k'antastic TVorlds ( 30 from Sam Sackett, 1449 Brockion Avenue, Los Angeles 45, California). Along with a short story by A. Bertram Chandler, the current (Summer) issue contains Robert Bloch's "Calling Dr. Caligari," a discussion of horror and fantasy films, replete with scenes from such classics as "The Phantom of the Opera" and "Dracula." Give this one a whirl!

An interesting little publication is Comet Fire which, although printed several years ago, has just been brought to our attention. This is a collection ot footry by Marvin Edwards, many of which are in the fantasy and science fiction category. The contents includes "An Ode: 3053 A.D.," "The City of Tomorrow," "Comet Fire," and many others. Profeasionally


## SCIENCE FICTION GPOTLIGHT

NEWS AND VIEWS: Higher education's recognition of contemporary science fiction appears to be unlimited. The University of Michigan, on July 30th, held a. public lecture on Science Fic-tion-with a panel consisting of a Professor of Physics, Chairman of the Department of Astronomy, Assistant Professor of English, and Dean McLaughlin, professional stf writer. ... The University of California recently had a month-long exhibition of science fiction books by such writers as Kuttner, C. L. Moore, Chad Oliver, Bradbury, Huxley, and others. ...And Drexel Institute of Technology (Philadelphia) offers an elective course ini "Imaginative Literature"!
Marvin J, Edwards (of Camden, N. J.) writes us of a title which was triplicat-ed-not simultaneously, however. "Full Circle" by Hugh Raymond (John B. Michel) appeared in the February, 1943 Future. H. B. Hickey's offering was in the initial issue of Howard Browne's Fantastic, and it appeared again in Fantastic Universe (Issue No. 2) with a Richard Matheson byline. ...Vernel Coriell, Edgar Rice Burroughs fan extraordinary, had a long letter in the $7 / 4$ issue of Colliers showing Thomas Wood how inaccurate was his information for the latter's 5/9 article, "He Tarzan-You Fan".

How many readers are aware that Boucher's "discovery," Idris Seabright, is really Margaret St. Clair? ....New York fandom, many years divided, is now in the process of unity. The actual mechanism of unity is now being discussed by New York fans chiefs. ...Julius Unger, s-f
magazine doaler, tells us he received so many requests for the magazine version of "Skylark of Space" that he was compelled to publish it himself in book form!

Science fiction was created at a recent Philadelphia Science. Fiction Society meeting. Harold Lynch (along with assistants Will Jenkins and Lyle Kessler) acted out introductory scenes. A panel consisting of L . Sprague de Camp, Milton A. Rothman, and Bea Cherist then completed the stories. Strange whe varied indeed were the extemporaneons scientifiction plots created by dis imaginative trio.
Wm. D. Knapheide, of San Francisco, queries: "I noticed in your column in $D y$ " namic Science Fiction, p. 128, you list Allen Glasser as editor of The Time Traveller. In "The Fantasy Fan," Science Fiotion, October, 1939, p. 116, Julius Schwartz is listed as editor. How come the discrepancy?" The answer is that Schwartz was Asseciate Editor; Allen Glasser was Editor. The author of the article in Sciencs Fiction may have been confused in that Julius Schwartz was Editor of Science Fiotion Digest, which appeared after The Time Traveller.

- Harold Lynch, who sold his first story to McComas and Boucher, ("Artists at Work"-F\&SF, April, 1952) has just completed another short story, "Age of Retirement". ...The following advertisement appeared in a recent issue of the New York Times: "EDITOR, science fiction media, fully comprehensive for complete magazine, Excellent oppty." We never thought the day would arrive when $s-f$ editors were sought through newspaper advertising.
"Let's get t'hell out of here," he grunted, "while your bunch is gone."
"B-but my ship," the professor stammered, staring in bewilderment. "It's broken down, and those two awful boys will find me before I can fix it."
"Never mind; I'll give you a lift in mine. I'm heading for Washington, then I'll have to report back on Mars. I can drop you either place. I just got word myself, only a few days ago, that our two planets had finally made contact. They asked me to find out where you'd disappeared to, but I never dreamed you were here. When I heard you talking English-! But we'd better scoot. I've spied out this place long enough- I don't think it's quite representative."

They had just reached the brush behind the library, where the profes-
sor's passionate story was completed, when Hotspur, looking back, saw lights flash in the fraternity house windows.
"Wait here," he said cryptically. "Be right back." He sprang into the brush, and vanished. A few moments later, the anxious professor heard some yells of agony coming from the campus, and before long Hotspur returned, panting.
"I know you'll get a sympathetic hearing in Washington," he gasped; "and we Martians abhor voilence, but there are times-" He rubbed one paw against his mouth. "I didn't like the taste of Irv, but Fatty's even worse! I hope," he added viciously, "they have to take Pasteur treatments!"
"Me too!" Professor Slakmak agreed cheerfully. "And best of all, they'll flunk math-but good! Where's your ship-Pal?"


by the athletic field. Go and-ah borrow him, will you?" Mac left.
"What's an abbitray oundhay?" the professor quavered.
"You'll find out!" Fatty told him grimly. "Don't they teach pig-latin on Venus?"

There was a strained silence, while some members of the group whispered protests. But there was no open resistance. Fatty and Irv ran Omega Ph Upsilon with an iron hand.

Then the door opened, and Mac, tugging hard at the collar of a large dog, lurched into the room. "Here's Hotspur," he grinned, as the brute strove to mangle the cowering professor.

Hotspur was a canine melting pot. The Spitz in his ancestry seemed to predominate, but there were plain traces of airdale, setter-and crowning evidence of some mis-alliance-dachshund. White teeth bared in a slavering siarl, the dog glared at the rabbit, lunging against his collar as Mac held hard.
But the professor had collapsed, all
his courage gone. "A dog!" he gasped in horror, and Hotspur seemed startled at the human voice emerging from a rabbit. A thin whimper came from the professor. "Take that monster away," he begged. "I'll do any-thing-anything!"
"That's better," Fatty chortled. "But we need this good ol' hound more than the Delts do. Put him down in the basement-just in case." He eyed the professor, who shrank into a furry, abject heap.
"My new prof, Dr. Totient, is tough," Fatty said. "Bugs Bunny here is gonna have plenty to do. We'll clear out now and let him prepare his assignments! See that you watch those signs," he jibed, handing out what he had so long received. He fastened the rabbit's chain to its stout staple in the wall. "Here." He fished an apple core from his jeans, and tossed it at the professor, giving him an oily smirk. "Just to show there's no hard feeling. Eat hearty!" He stumped out, followed by his companions.

$G^{R}$RADUALLY it grew dark, and the deserted fraternity-house was quiet. Ravenous, the professor finally nerved himself to nibble the apple core, which to his sensitive nostrils reeked of Fatty. He had just downed the last noisome fragment, when there was a loud, inquisitive sniff at the door. He grew rigid. Another sniff and the shoulder thrust of a heavy body.

Insecurely shut, the door swung open, and : huge, white form stalked in The professor cringed, moaning a little, the hot alien scent of dog in his nose, prepared to meet a terrible death.
"Ssst!" the big mongrel admonished him. "I'm a friend," he rumbled in slow, thick English. Trotting over, he took the slender chain in his great teeth, and threw his thirty pound body into the wrench. The staple pulled free.
although the average I. Q. of the fraternity was seventy-six, a certain amount of mathematics get through; and it was almost midnight before the unhappy ambassador found himself lying in a dirty, fetid cage, formerly the residence of the fraternity parrot, who had expired for lack of intellegent dialogue to copy. Rabbits, even Venusian ones, cannot weep, but the professor's soul was heavy within him.

And so it went, day after day, week after weel.
"I am quite amazed," Professor Cusp told a skeptical colleague towards the end of the term, "at the remarkable way Schultz and his Oh $\mathrm{P}-\mathrm{Yu}$ bunch have improved. Their homework these last six weeks has been excellent."
"Somebody's coaching them-or doing it outright," was the cynical reply. "I find no improvement in their zoology."
"No, that's what I suspected at first, but it can't be true. For example, on last week's extra credit problema real stinker-they turned in over a dozen correct solutions, all different. Nobody would go to that much trouble for the $\mathrm{P}-\mathrm{Yu}$ crowd; they're about as popular on campus as Malenkov is with the D. A. R."

Another colleague, who had been listening, demanded: "But you won't let Fatty Schultz by, will you?"
"I'll have to," Cusp admitted. "Even though his exams are still horrible, I give quite a bit of weight to good homework, so-"
"You swine!" the other said sourly. "Now I'll get him."

Cusp laughed. "Ah, but you're supposed to be tough; they're afraid of you."
"They'd better be. It's a pity the biology lab has to experiment on poor chimps while we give degrees to anthropoids like Fatty!"

T
HAT NIGHT Fatty to!d his unwilling mascot the bad news. "I'm
sorry, Prof," he said genially. "It's only one more term, then I'll be done with math, and you can go back to your disc. By my last course is with old Totient, and he's rough."
"You promised!" the professcr squealed angrily.
"This time I mean it, honest."
"Hey, Fatty," a fraternity brother objected, "ain't you gonna leave the prof to our gang? Just cause you're through-" He broke off in confusion as Irv kicked his ankle, hard.
"Ignore the jerk," Lece reassured the crestfallen rabbit. "When Fatty and I finish our math requirement, you're on your own again. Course, you'll have to promise not to tell the President!" Over the professor's head he winked broadly at his friends.
"I won't do it! It's a cad's trick!" The rabbit's brown eyes were bright with rage.

Fatty pawed his soft fur with one lardy hand. "C'mon, Prof, be a sport," he urged, greasily affectionate. "We like you a lot. You wouldn't let us down now."
"I-will-not-do-it! You prom-ised-"
"You will, too!" Irv grunted. "Don't give us any backtaik. If I have to twist your ears-"
"Use the cigarette lighter," somebody suggested, half ashamed. "He's only bluffing again."
"I'm not," the professor said sturdily. "You can burn me, kill me, but I won't tutor this bunch of cretins any more!"
"Where does he get those words?" a student wondered aloud. "What's a cretin?"
"Irv," Fatty said in a sly, buttery voice, "where's that nasty pooch who adopted the Delts last week? The one that chased the chaplain into Tom Paine Hall. I'll bet he's a first class abbitray oundhay."
"Mac," Irv addressed a slender, dark boy, "they keep him in that shed
bit that knows math!" Fatty breathed.
"Knows it! He wrote the damn book-a real brain!" Irv exulted.

Once again their eyes met meaningly. "You always said," Irv remarked in an abstracted manner, "that you could lick the guy who invented calc."
"I sure can," Fatty asserted, "but-" He paused; then with a speed surprising in one of his bulk, his thick hands shot out, and Professor Slakmak, the eminent Venusian savant, found himself dangling by the ears from stubby, freckled fingers. He kicked with a vigor shockingly undignified.
"Let me down!" he squeaked furiously. "This is outrageous. A friendly ambassador's person is sacred among all civilized peoples; your national President shall hear of this insult!"
Fatty looked at him, showing uneven teeth in a loose grin. "Bugs Bunny," he gloated, "you are now the official mascot of Omega Pi Upsilen!"
"I second the motion," Irv said, shuffling in excitement.
"We'd better hide his ship, though," Fatty cried, full of ingenious intelligence now that nobody was grading him for it.
"It's too big, ain't it?" If'v replied doubtfully. "Simmer down you!" he ordered the writhing professor. "We don't wanna choke you, but-" The captive subsided, contenting himself with little quivers of indignation.
"It's awful light," Fatty muttered, shoving the damaged saucer with one size eleven shoe. "We'll move it over here, pile a lot of brush on top, and-"
"-Start a fire!" Irv interrupted joyously.

The professor gave a piercing squeal of protest.
"No, stupid," Fatty told him, winking. "If the prof here helps us out this semester, we'll give him back his old disc, right?"
"Right," Irv agreed, crossing two fingers.

In fifteen minutes, even with Fatty working one-handed, the ship vanished under a pile of stiff brush. "That's that," Irv said, taking a deep breath. "Now-"
"We can't take him like this," Fatty remarked, swinging the professor by his ears and giving him a shake by way of emphasis.
"Why not? We just been rabbithunting, that's all."
"Too risky. Even if the professor keeps quiet, some joker from another frat might get nosy."
"He'll be quiet," Irv said grimly. "I know how to hit a rabbit on the neck with the edge of my hand-" Here the professor began to kick frantically, and Fatty snatched his hind legs, holding him rigid from ears to toes.
"There's an old cardboard box back there," Fatty said. "That'll do the trick."
A few seconds later the sullen captive was stuffed unceremoniously into a damp, mouldy container, and the two students returned to the campus, their hearts free from mathematical worries.
"The frat will owe us plenty for this," Fatty said darkly. "We've never had anybody to coach us in math."
"They'll be licking our boots," Irv agreed. "But they always have, the poor dopes!"

THAT NIGHT the professor, poorly refreshed by some wilted carrot tops and water, found himself in a circle of eager Omega Pi Upsilon's, delivering a detailed lecture-mostly problem-solving-on Section 45 of Broota's "Introduction to the Elementary Rudiments of the Differential and Integral Calculus."

He was a good teacher, and when either his enthusiasm or expository art faltered, Fatty revived it quickly with a sharp pinch or stinging slap. So,
ing we would be self-sufficient for just 12 months.
That left us just two months to fool arourd looking for a place to sit down. I mentioned this item to Larson on the second day out. I found him at coffee mess sitting alone, staring at his ugly big hairy hands. He was a tall Swede with a slight stoop and the withdrawn manner of a myopic scholar.

As commander of the ship he had the right to keep aloof, but as scribe, I had the privilege of chewing him for information. I said, "Skipper, if it took us generations to discover all the planets in our own little solar system, what do you figure the chances are of our spotting a planet near our goal, in the shorf time of two months?"

$\mathrm{H}^{\mathrm{E}}$WAS silent while I drew my ration of coffee and sugar, then he opened his hands and seemed to find words written on his palms. His eyes never did come up from beneath his shaggy eyebrows. "If they exist," he said slowly, "we might find one. We have better telescopes and our vantage point in space will be superior."
He was a sorry-looking specimen, and I remembered that the fifty-yearold scientist had left behind a youngish wife who adored the ground he walked on. The handsome, blonde woman had stood heroically beside the ramp and watched, dry-eyed, as her husband ascended.

There had been no visible exchange of farewells at the end, as he stood beside me in the air-lock. They just stared into each other's eyes oblivious to all but the maudlin sorrow of their separation.

Then the portal had closed and widowed her, and I had the feeling that Larson was going to tear at the great, threaded door with his bare hands and renounce the whole project. But he just stood there breathing a little heavy and clenching those tremendous hands until it was time to take off. In a way I envied him an emotion that was long
dead in me, dead of the slow corrosive poison of contempt for the whole human race. Dead and pickled in the formaldehyde of ten thousand columns for which the syndicates had paid me nothing but cold money.

Here was a man whose heart could still love, and I hated him for it. I said, "You look like you still have regrets. Maybe this isn't worth your personal sacrifices, after all. If we don't find an inhabitable planet we won't have accomplished much."
"You are wrong," he said quickly. "We have already served our purpose."
"Testing the Drive, you mean?"
He nodded. "This morning in our last radio contact with earth I dispatched the word. The Larson Drive is successful. We have passed from our solar system on schedule, and our measurements of ship-objective time check out with the theory-roughly, at least."

He spread his hands out on the table. "This was our primary goal. The expedition ahead is subsidiary. Colonization may result from our exploration, true; but now we have opened the universe."
It was nice to know that things were progressing as planned. I asked, "What do you mean about things checking 'roughly'? Is there some error?"
He nodded and swallowed the dregs from the magnesium cup. "A considerable error, but it's on the safe side. Our velocity checks perfectly, but our estimate of the time-shrinkage factor is so far off that Mr. Einstein's formulae will take some major revision to rec. oncile what has happened."
"We'll arrive sooner than planned?"
Larson nodded again. "According to shipboard elapsed time we will arrive in the vicinity of our destination in just ninety-two hours from now-a total of 122 hours since take-off. You were worrying earlier about our scanty supplies; this should put your mind at rest."
It didn't displease me. The lack of
privacy on this tin bathtub was even worse than I had anticipated. The news came as sort of a reprieve.

I looked at Larson, and suddenly I knew why the long face. His Tina!

For her, ten years would already have passed, and as we sat there talking, weeks of her existence were fading into oblivion-and Hans Larson was begrudging every second of it. Damned fool, should have stayed at home.

I left him brooding into his empty cup and went forward to the little control dome. One wonderful attribute of the Larson Drive was that there was no acceleration discomfort. Gravity was nullified at the outset, and ship's gravity was kept at an comfortable one-half " g ".

MAC HULBERT, chief navigator, was alone up there, one foot cocked up on the edge of the broad instrument-board that looked like a cluttered desk-top with handles. He was staring out into the void.

Yes, void! They had said it would be black in space, but not even a glimmer of light showed through the transparent dome. As you looked to the side and back, faint, violent specks seemed to catch at your peripheral vision, but it was impossible to focus on a single heavenly body.

Mac didn't turn or greet me. His face was no longer that of the carefree adventurer with whom I had tied on a fair binge less than a week ago.
"Getting you down, too, Mac?" I asked. He was about the only one aboard I could even tolerate. He wasn't as sour on humanity as I, but he granted me the right to my opinions, which was something.
"God, yes!" he said. "Skipper tell you about the time-error?"

I said, "Yes, but what's there to be sad about? You don't mind that part, do you?" To my knowledge, Mac hadn't left anything behind but his dirty laundry.
Hulbert was in his mid-thirties,
slender, balding and normally as cheerful and stupidly optimistic as they come. Now he looked worse off than Larson.
"Yeah, I mind that," he said kind of resentfully. "I thought we'd have more time to-sort of get used to the idea of -well, outgrowing our generation. But think, by now many of my older buddies will be dead. A dozen World Series will be over. Who knows, maybe there's a war going on back there?"
Of all the morbid nonsense. Yearning for the obituary column, the sports page and the headlines. But then people are rarely sensible when something disturbs their tidy little universe that they take for granted.
It was a little terrifying, though, staring out into that smothering lampblack. We were moving so fast and living so slowly that even the light-waves from the galaxies toward which we moved had disappeared. We were reversing the "redshift" effect of receding light sources. We approached the stars before us at such a velocity that their light impinged at a rate above the visible violet spectrum.

Mac blurted out, "It will never work out."
"What won't?"
"Colonization. Not at these unholy distances, even if we do find an earthtype planet or two. People won't leave everything behind them like this. I-I feel cut off. Something's gone, everything, everybody we knew back there. It's terrible to consider!"

ISAT DOWN beside him, stared out 1 into the India-ink and faced a few over-due realities myself. Our chances of finding a habitable planet were remote. Finding intelligent life on it was even more unlikely. That such life would resemble men, was so improbable that the odds in favor were virtually nonexistent.
So-what had I really to look forward to? A quick survey of the star-
system in the company of these nincompoop ideo-savants, then a return to a civilization of complete strangers-a culture in which we would all be anachronisms, almost a century behind the times.

A parade of faces began peering at me out of the darkness. There was Bess with the golden hair, and Carol and petite Annette-and Cliff, my redheaded old room-mate who knew how to charcoal-broil a steak-and our bachelor apartment with the battered old teevee set and my collection of books and pipes, and there was my outboard jet up on lovely Lake Vermillion where a man could still catch a fat pike.

What would it be like when we got back? More people, less food, tighter rationing, crowding beyond conception.

Hell!
When the rest of the crew learned of our sharply-revised estimated time of arrival they came down with the same emotional cramps afflicting Larson and Hulbert. It was sickening, a bunch of so-called mature technicians and scientists moping around like a barracks full of drafted rookies, matching miniature billfold photos of cuties that were now approaching crone-hood. The whole venture had become a tragic affair overnight, and for the next few days all thoughts turned backward.

So nobody was remotely prepared for what happened. They were even unprepared to think straight-with their heads instead of their hearts. And Larson was worst of all!

On the last day Larson eased off our 1800 -mile-per-second velocity, and as the stars started showing again, shifting from faint violet down into the more cheerful spectrum, spirits aboard began lifting a little.

I WAS IN the control-room with Larson and Mac when we got our first inkling. Mac was fooling with the electronic search gear, sweeping
for planets, when he gave a yip and pointed a jabbing finger at the scope.
"Audio," he stammered. "Look at that!" He lenghtened the sweep and the jumble of vertical lines spread out like a picket fence made of rubber.
"A carrier wave with audio modulation," he said with disbelief all over his face.

Larson remained calm. "I hear you, lad. Don't shout." He studied the signal and frowned deeply. "It's faint, but you can get a fix."

As they played with the instruments I looked forward through the green shield that protected us from Alpha C's heavy radiation. Our destination star was now a brilliant blob dominating our piece of heaven. It was a difficult thing to grasp that we had travelled almost 26 trillion miles-in five days, ship's time.

Mac said, "It's a planet, sure enough, but that audio-"

Larson snapped, "Forget the audio! Give me a bearing, and let's be getting on course. That may be the only planet in the system, and I don't want to lose it."

His arms pumped and his big hands pawed at the controls as he brought the inertialess drive into manual manipulations.
For the next few, tense hours we stalked the planet at a discreetly low velocity. When his navigation problem was complete and we were on a slow approach orbit, Mac began playing with the communication rig again.

The ship's intercom was cut in, and we had to chase people out as excitement mounted over our discovery. Finally, when his elbow had been jostled once too often, Larson ordered the control room cleared of all hands but Hulbert and me.
When we were alone Larson said, "This is fantastic."

Mac's face was tied into an amazed scowl, too, as he studied the feeble little patterns on his wave analyzer. "You said it," he breathed. "We've got our-
selves a sweet little earth-type planet, if we can believe the spectro, and unless I'm stark space-happy, there's something or somebody down there beaming a broadcast smack in our direction, following us around like the string on a yo-yo."
"How do you figure that?" Larson wanted to know.

Mac replied, "At this distance the field strength is too strong for anything but a beamed transmission. Mister, they have us bracketed."

Mac swung to the panel on his left and cut in the communication circuit. "It's strong enough to listen to, now. Let's see what kind of gibberish we can wring out of that carrier wave."

He threw a couple of switches and hunted for the exact frequency. A whisper and a rustle of the carrier brushed the speaker. Mac centered in and turned up the volume.

Then even I sucked air. A voice issued from the sound-cone. A man's voice: "-lcome to New Columbia. Welcome, Albert E. Come in, please. Welcome to New Columbia. Welcome, Albert E. Come in please."

IT REPEATED over and over. Larson let his breath go first with a nervous snort. Mac and Larson both looked at me as if maybe I had something to do with it. Hands trembling, Mac picked up the microphone and reached for the transmitter switch. Larson grabbed the mike from his hand. "Not so fast, dammit!"
"But they know we're up here," Mac protested. "They even know the name of our ship!"
"And our language," I added. I wasn't bored any more.

Larson nodded slowly. "What kind of devilish intelligence have we run into? I need time-to think."

The way he said it sent a cold draught down my spine, and then my imagination started catching up to his. At our rate of approach to the star system, how could any living being
have had time to sense our presence, pick our brains to learn our ship's name, our language, master our method of communication, contrive a transmitter and get on the air?
The magnitude of the accomplishment sent the importance of our little triumph of space travel tumbling into a cocked limbo of insignificance.

For a moment I considered the old curvature of space concept. Could we have somehow doubled back-completing a mystic circle? Was that old Sol up there burning through our green shield? What a laugh that would be! The mental giants of our times backtracking and circling like a tenderfoot lost in the woods on Lake Minnetonka.

Mac cut off the transmitter reluctantly, but he said, "Yeah, I guess I see what you mean, skipper." Larson got to his feet and paced the crowded wedge of space, punching a fist into his other hand with meaty slaps.

He stopped and listened to the soft muttering of the speaker and shook his head. "It makes no sense. It's impossible. Utterly impossible!"

The man's voice from the planet implacably continued rcpeating the mes-sage-no trace of an accent, nothing to suggest an alien crigin in its tone, pitch or enunciation.

Perhaps that's what threw Larson so hard. If there had been the faintest taint of other worldliness about it, I think he'd have hauled stakes and gotten us out of there. But the song of the siren was too powerful-the irresistable mental image of a fellow human out here in the bottom of space was salt in the bleeding wounds of Larson's loneliness.

He stared out where the planet must be, some million miles before us. Suddenly the tenseness relazed from his face and he got the damndest expression of mixed incredulity, hopefulness and sorrow. Tears began welling from his eyes and streaming down the rugged contours of his cheeks.
It didn't add. Nor could I reason a
motive for his laconic command: "Intersection orbit, Mr. Hulbert. We'll take her down," he said quietly. That was all. He hunched over the control board and moved things according to Mac's computations.

COON I COULD make out the planet. We came in from an obtuse angle with its sun, so it showed first as a crescent of pale, green silver. Then it filled the viewing dome, and Mac began working the homing equipment. "May I acknowledge their message now, skipper?"
Larson shook his head with compressed lips.
"But if we are going in anyway-" Mac argued.
"No!" Larson exploded. Then his voice softened. "I think I know the mystery of the voice," he said. "It must be, it must be! But if it isn'tif I'm wrong-God alone knows. We must chance it. I don't want to know differently-until it's too late."

This was just real great. Larson had some fantastic notion, and he wanted it to be true so damned badly that he was taking us into blind jeopardy when we had the means to probe it first. Real scientific, that.

Humans! Men, and their so-called sense of reason! Larson was a crowning example of the sloppy-hearted thing I was fleeing when I embarked on this joy-ride, and now it would probably be my undoing.

We were homing in on the transmission from "New Columbia", easing down into the atmosphere, and now clouds and land and water formations took shape. The beam led us to the sunlit rim of dawn, and suddenly we were hovering over a great forest, slit at intervals with streaks of glittering blue that looked like deep, wide rivers.

Now Mac touched a switch, and the CW whistle gave us a tight audio beam to follow to the source of the signal. Larson switched to the micro landing controls to ride in like a jet liner on
the Frisco-Shanghai run. We slanted gently down until the forest became trees, and the little blue-green splotches were lush, grassy meadows.

And there was the tower, and the low buildings-and the spaceship!

Something happened to me inside when I saw that. It was a kind of tremolo feeling, like a note in a new symphony, a note that springs free and alone, wavering uncertainly, and you don't know which way it will turn.
In seconds that seemed like hours, we were on the ground, the ramp was jammed out and Larson was blundering down it crying like a baby.

ISTOOD in the port breathing the warm air redolent with exotic new scents and yawped like an idiot, trying to make sense of the huge banner strung a hundred yards across one whole side of the little village. The banner read:

## WELCOME, HANS! WELCOME ALBERT E. <br> WE KNEW YOU WERE COMING, SO-

And near the center of the banner was the largest chocolate cake, or facsimile thereof, in all creation. It must have been ten feet high and twenty feet in diameter.

But Hans Larson wasn't amused by the cosmic gag. He galloped off that gang-plank like a love-sick. gorilla. And I'm a comet's uncle if Tina wasn't there, racing out to meet him. Larson had guessed the truth, and no wonder he hadn't had the guts to test it beforehand!
By the time I got down, out and over to where they were all wrapped up mingling tears, I had it pretty well doped out myself.
I don't know why we had figured that all progress and improvement in interstellar flight would cease just because we had left earth. The eternal,
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The General had an unpleasant vision as he watched this model in operation . . .

Was it a wild talent that MacReedy had, or was it just prophetic genius that led him to figure out new, improved ordnance weapons and make models of them - before the armed forces had them? Whichever it was, MacReedy was both valuable and dangerous - and when the general saw MacReedy's final figure, the weapons following the mobile rocket A-missile launcher . . .

## THE FINAL FIGURE

Novelet of the Day After Tomorrow

# by Sam Merwin, Jr. 

(illustrated by Paul Orban)


HE GENERAL was in mufti. He stood briefly within the entrance of Models and Miniatures, Inc., feeling a mild envy of the civilians who brushed past him, coming and going. They'looked so easy, so relaxed, so casual in posture and dress. He was wistfully aware of the West Point ramrod that was his spine, the razor-edged bandbox neatness of his banker's grey suit, the Herbert Hoover four-squareness of his homburg, the stiff symmetry of his dark-blue fore-in-hand.

He found compensation in visualizing some of these casual civilians in uniform-then shuddered, and moved on into the shop, poise and assurance restored.

Save for the display-counters and
wall-cases, the shop was softly lighted. And although it was well filled with customers and lookers of all ages there was about it the hushed quality of a library-or a chapel. Even the children talked softly as they pointed at and discussed this 100 -gauge English locomotive or that working jet-model of a Vought-Chance Cutlass. They were well-aware of being in sight of wish and dream-fulfillment.
He moved slowly toward the rear of the shop, past the glass counters that displayed gaily-painted models of carriages, coaches and early automobiles; past the fire-engines in red and gold; past the railroads; past the planes and past the tiny ships-from Phoenician galleys and Viking vessels with gaudily-decorative sails and shields to the latest bizarre-decked atomic aircraft carrier.

He stood in front of the miniature soldiers and, for a happy moment, re-
captured the glamor of parades and gay uniforms that had beckoned him into a career whose color and bandmusic had long since been worn off by the nerve-wracking tragedy of battle and the endless ulcerating paper-work of peace.

Busman's holiday, he thought. Sailors in a rowboat in Central Park. And he was glad he had not worn his uniform.
Each miniature-soldier manufacturer had a glass shelf to his own wares, labeled with a white-cardboard rectangle upon which his name had been neatly brushed with India ink. Here were the comparatively rude Britains, mass-produced, work-horses of toy armies throughout the Western World since before his own boyhood.

Here were the heavy and magnificent Courtleys, specializing in medieval knights and men-at-arms, beautifully caparisoned in all the colors of the rainbow. Here were the Barker Napoleonics, the one-inch Staddens, the incredible half-inch Emery Penn-insulars-each a costly little work of art that defied the enlarging of a magnifying glass. Here were Comets in khaki and grey, perfect models of the guns, tanks and trucks of America, England and Soviet Russia.

To his left along the counter a chunky blond citizen, with wide cheekbones and a faint Slavic accent, was discussing a sale with the clerk. The general was only subconsciously aware of him as he moved in that direction, marveling a little at the painstaking craftsmanship, the endless hours of eye-destroying labor that had produced such microscopic perfection-as well as at some of the follies with winch men had attired themselves in the name of martial glory.

He recalled having read of an order, issued at the time of the Mexican War, that the collars of all officers in the United States Army should rise to the tips of the ears. It was scarcely sur-
prising, he thought, that the Seminoles -clad virtually in nothing at allshould have been able to stalemate an army thus uniformed in the steaming swamps of Florida.
"They're great, aren't they?"
The voice came from a lower level, and the General looked down to meet the excited blue eyes of a curly-haired male moppet who could scarcely have been more than twelve. There was an aura of friendliness about the leather-jacketed-and-corduroyed youngster. a sharing of manifest interest, that pierced the hide of the old soldier.

He smiled back and said, "Quite wonderful," and was briefly afraid his words had been too condescending. But the quick answering smile on the youngster's face revealed that he had said the right thing.

He followed the lad's rapt gaze to a shelf he had not yet studied. The name on its cardboard label read MacReedy and as soon as he saw the tiny figures it supported, his interest became focused upon it to the exclusion of all other shelves and their fascinating displays.

MacReedy was very evidently a specialist. His subject was American soldiery, with its chief emphasis on artillery-from early Colonial times to the present. As one of the highestranking officers in the Ordnance Department of the United States Army, the General's critical interest was aroused.

Here were the demi-culverins of the Manhattan Dutch, the brass fieldpieces and mortars of the French wars and the Revolution, the light horse artillery cannon of the Mexican and Civil Wars, along with pear-shaped Dahlgren and Parrot siege-guns, each piece with its crew of aimers, loaders, rammers and ammunition bearers.

Here were the crowbar-like dynamite guns that protected New York and Boston and Baltimore against threatened British invasion during the

Newfoundland fisheries disputes, back in the 1830's; and the complex disappearing cannon that followed them. Here was the old standard three-inch fieldpiece on which the General had cut his own eyeteeth; here the French 75 and 155 , long and short, and the mammoth rallway guns of World War One. Here was even a model of the postwar American 75-the ill-fated cannon that had proved so accurate on the firing-range, and so utterly useless a'ter a half-mile over a bumpy road.
Here were the weapons of World War two, from M-7 105 self-propelled howitzer to the 240 -millimetre tractorborne cannon. And here were more recent weapons, the 120 -millimetre radar-aimed anti-aircraft cannon; its newer automatic 75 -millimetre cousin; the new 90 -millimetre turret-mount for the Walker Bulldog, the 105 -gpf in the turret of its new heavy tank.

THE GENERAL felt a stir of alarm.
There had been a leak somewhere; release on this model was not scheduled for another month. He would have to report it, of course. Then he shrugged, inwardly. Leak or not there was small cause for alarm; They must long-since have managed to scrounge test-run photographs, if not copies of the blueprints themselves.

Still, a leak was bad business with the country so precariously balanced in a combustible world-situation. He looked at the next weapon, the last in the line.

And froze...
Here was the XT-101, with its rearmounted turret and twin dual-purpose automatic 75 -milimetre cannon. Here was a weapon, complete, that had not been completed in actuality-there was trouble with the turret, of course, there always was...

It couldn't be-but it was. The General discovered that his mouth had slackened in surprise; he closed it firmly. He eyed the turret of the miniature, noted how the automatic rangefinding devices, that were causing
trouble at Aberdeen, were incorporated into the turret itself, in a neat armored sheath.

He thought, Lord I I wonder if thai's the answer... Then he thought that, if it were, the whole worid would sown know it.
"A honey, isn't it?" said the curlyheaded lad. He added, wistfully, "It costs twelve dollars and eighty-six cents, with tax."
"It's a honey, all right," said the General automatically. Actually, he was appalled-a possibly decisive weapon on sale to all and sundry for twelve dollars and eighty-six cents! Of course the intricate inner workings weren't there. But They knew enough about radar and automatic cannon to be able to figure it out from the model.

The General took direct action. He went to the clerk and said, "How many have you?" pointing to the subject of his question.
"Neat-perfect workmanship," said the clerk, donning his selling clothes.
"How many?" the General repeated.
"Only the one in the case left," the clerk replied. "I just sold the last one in stock a moment ago. We've only had four delivered so far."
"I'll take it," said the General in a fever of impatience. He liad to get t out of public view at once--although he had a sick sensation of already being too late. He recalled the Slavic appcarance, the accent of the man who had made the last purchase.
When the clerk had wrapped it up, and he had paid for it, the General asked to see the manager, who proved to be a pleasantly tweedy individual. He produced his card and said, "I'm afraid this man MacReedy has violated security-regulations. Where eise is his stuff marketed?"

The manager's expression was not friendly. He said, "Mr. MacReedy's miniatures are marketed nowhere else; he has an exclusive contract with us." He evidently resented the General's gruff approach as much as the General
resented not being addressed by title.
Civilians! the General thought. The damned fools don't understand-they haven't the slightest idea...

Aloud he said, "Where can I find Mr. MacReedy? I'm afraid I'm going to have to talk to him."
"Uncle Angus? He lives next door. I'm going home now- I can show you."

The General had forgotten the male moppet. He looked down in surprise, then up at the manager, who said, "It's quite true. This is Toby. He helps Mr. MacReedy; he's a collector himself in a small way."

The General took Toby back with him to the hotel. He knew he should be burning up the wires to Washington with news of his horrendous discovery, but somehow he wanted to see it through himself-as far as he was able. Besides, there were certain puzzling facets that would scarcely look plausible in the dehydrated prose of an official report to Security.

It smacked almost of the supernatural. Eyeing his small guest, who was happpily and rather messily devouring a piece of French pastry, accompanied by a bottle of ginger-ale -sent up by room service-the General suppressed a chill that rose from his coccyx to his cervical vertebrae.

Like most veteran men of action, the General did not decry the super-natural-such decrying was the property of armchair logicians. In the course of his long career he had seen too many things that defied logic or logical explanation. He said, "Ready to take off, Toby?"
"Yes, sir," said the lad. He was properly impressed with the General's rank-revealed to him by the assistant manager in the lobby. Then, with a sudden shadow of anxiety, "You aren't going to arrest Uncle Angus, are you, sir?"

The General managed a chuckle. No sense in getting the lad scared. "No, I just want to talk to him."
"I'll go with you," the lad offered. "Most grownups have a hard time talking to Uncle Angus. Even dad..." Whatever was his father's problem with the prophetic model-maker remained unstated, as Toby managed to wrap lips and teeth around a large final piece of pastry. He then went to the bathroom to wash his hands before they went downstairs, to where the General's car was wait:ng.


HE SIGHT of the huge olive-drab Cadillac limousine with its two-starred flag and white trimmed and be-fourragered sergeant - chauffeur seemed to awe Toby, who lapsed into mere occasional monosyllables during the drive through the late afternoon to his Long Island home. It was as if, since the General was in mufti, the lad had not quite been able to believe in his realityuntil official car and chauffeur offered proof.

This was quite all right with the General, who was desperately trying to rearrange the chaos of his thoughts into some sort of order. He knew he was being dangeroulsy imaginative for a man in his position. But what if this MacReedy actually could foresee the future, at least in its military manifestations?

Granting this impossibility, how could the man be used? The General shuddered at the thought of "selling" anyone with such a gift to the Combined Chiefs of Staff-those quieteyed, low-voiced, strictly pragmatic men on whom, perhaps, the future of country and world depended. Even if they by some wild chance accepted the impossibility, he knew full well what would be the tenor of their thoughts-and therefore of their questions.

One of them would be sure to say, "Very well, General, but if we put our planning in the hands of this man-seeking a short route to decisive superiority of armament-how do we know he won't make a mistake, or lead us up the garden path? How do we know he hasn't been planted for this very purpose?"

How did he know? The General decided he didn't. Yet how could any man with such a private power be permitted to exercise his rights of free citizenship? He damned MacReedy, the enemy, the world and himself, and got resettled in his corner of the soft rear seat.
They had left the sun behind them, setting in a dust-pink mist behind the soft-edged towers of Manhattan. By the time they reached Flushing it had begun to snow-big soft flakes whose crystalline dissimilarities were almost visible to the naked eye as they settled against the car windows into wet evanescence. Up ahead the twin wind-shield-wipers ground them silently and methodically into wet-rimmed circle segments.
"I hope it lasts," said Toby from his window. "I got a sled for Christmas. I haven't been able to use it."
"You'll get your chance," said the General. Damn it, he wondered, what kind of man was Angus MacReedyif he was a man. Somehow the silent snow, the waning traffic, the oncoming twilight, combined into a sense of ominous portent. It was as if the car were standing still, while a perilous future rushed toward it.
"We turn left at the next traffic light, sir," said Toby.
They turned. They skirted a thinlysettled swampy area on a narrow road, against a background of scrubby pines. The sprawling metropolis might have been on some other continent, some other planet. They met only one car -a long black sedan, that slithered past them on the skiddy road-surface, missing them by inches.

The house where they pulled to a halt at Toby's direction was not large. It had been put up early in the century, and its motif was that of the high-gabled Swiss chalet. Mercifully the snow gave it a touch of quaintness, almost of rightness, despite the absence of lowering alps. Toby pointed to a similar structure about a hundred yards further down the road. "That's where I live," he said.

I/acREEDY answered the door. He was a tall, angular man with a long, angular face-from which small blue eyes peered alertly. He wore a grey glen-plaid reefer that was buttoned wrong, a dark blue-flannel shirt and covert slacks that needed a press. He said, "Hello, Toby-you've brought company, I see."
"This is General Wales," said the lad very politely. "General-Uncle Angus."
The General had a ridiculous fugitive memory-"Alice, mutton-mutton, Alice." He shook hands with the model-maker.
"Honored, General," said MacReedy. He ushered them into a living room, whose desk and tables and mantel were literally covered with miniature American soldiery. He said, "Sorry the place is such a mess"picking up the morning paper from the carpet beside a worn but comfort-able-looking easy-chair-"but I wasn't expecting callers. I just had to boot out some sort of a mad Russian."
"What!" The general didn't mean to bark but couldn't help it.
MacReedy grinned quietly and said, "This fellow said he was assistant military attache, or something. Offered me all kinds of money to do sume work for him."
"What did he look like?" the General asked.

MacReedy, filling a corn-cob pipe that appeared to be near the close of its short life, paused to say, "Like nothing special-not nearly as distin-
guished as you, General. Blond, chunky fellow with a bit of accent. Not a lot, but enough."

The General exchanged glances with Toby. He knew, without asking, that the boy was thinking the same as himself; it was the man who had bought the XT-101 model in the shop earlier that afternoon.

MacReedy got his pipe going and said through a small blue cloud of smoke, "How does the exhibit look, Toby? Have they got it right?"
"Pretty good, Uncle Angus," said the lad seriously. "They got the Mexican and Black Hawk War units mixed up, but I guess we can't blame them for that."
"I guess we can't," said MacReedy. He turned to the General, added, "Now, sir, what can I do for you? Or need I ask?"
"I have a hunch you know pretty well what I'm after," said the General. "My predecessor must have given you some idea."
"I've been afraid of this," said MacReedy with a sigh. "It's what I deserve for trying to show off to Toby."
"I don't understand," said the General.
"I was trying to show Toby how good I was," he said, ruffing the boy's curly hair. "Then, when I got that seventy-five AA-gun doped out ahead of time-and it proved correct-I had to go one step further. I should never have let the model out of the house."
"I'd like to see your workshop," said the General.

Angus MacReedy removed his pipe and said, "Come along."

THE BASEMENT ran the length and width of the house. Although furnace and fuel-storage were walled off in a separate room at one end it still provided a sizable workroom, enough for three long wooden tables. On one of them MacReedy carved his tiny figures and cannon and vehicle parts from solid chunks of lead. An-
other was used for painting, a third for drying.

On this third table were a half-dozen more of the XT-101's-along with a group of Confederate cannoneers and their field-pieces, some Indians, a small group of knights in armor, and what appeared to be Roman Legionaries.
The General pointed to these and said, "I didn't know you went in for them. I thought you were strictly an American specialist."

MacReedy puffed at his pipe, then said, "I'm doing these for Toby-in return for his services as delivery boy and all-around helper. I'm trying to teach him history in reverse."
"Odd concept," said the General.
"It works-doesn't it, Toby?" MacReedy said to the lad.
"Uncle Angus says it will help me when I take history in college," Toby said stoutly. "This is King Henry the Fifth at Agincourt-just like Sir Lawrence Olivier in the movie. And this is Genghis Khan. And here is Tamerlaine, and Charles Martel, and Caesar..."
"I see," said the General. He was a little overwhelmed at so much evidence of one man's individual craftsmanship and industry. He eyed the XT-101's with malevolent interest, then studied a nearly-finished weapon on the carving table. It looked like...
It was! One of the just-conceived, self-reloading rocket-launchers on armored mobile carriage with amphibious tractor-treads. He said, his voice dry and tight, "Where'd you get this, MacReedy?"
MacReedy wandered over to stand beside him. He said, "I didn't get it anywhere; it just seems like the logical next step in ordnance, General. I've had pretty good luck in the past, figuring things out this way. I had the Sherman tank plotted back in nine-teen-forty-just before I was drafted. I hadn't dared trust my hunches till

I saw my first one two years later at Pine Camp."
"You were in the Army?"
"Six years," said MacReedy. "Two years here in camp and Officer's Candidate School, then two abroadSicily, Anzio and the Rhone Valley. I stopped a piece of shell near Lyon, and put in the rest of my time in hospital."
"Rough," said the General though he had neither the time nor the interest for sympathy. "Tell me how you 'figure' these things out. The Sherman tank, if you wish."

MacReedy wagged his head modestly. "It wasn't too difficult, once I'd seen the General Grant. That one obviously wouldn't do; it was too high, needed a full-pivot turret. Yet the basic design was there-anyone who'd thought about it could have done the same. But it was a pleasant shock to learn I'd been right."
"I see," said the General. "And you did the others by the same processand you're always right?"
"Not always," replied MacReedy. "I fluffed badly on the atomic cannon. I expected a longer barrel for greater muzzle-velocity and range; here, I'll show you." He led the way to a dusty wall shelf where imperfect and broken models crowded together. There was the A-cannon-not as it had appeared, but as the General knew it was going to look in two years, when certain needed changes were made.

He said, "An understandable error. Unfortunately, mobility had to be considered." He paused, looked MacReedy straight in the eye. "I hope you didn't show any of this to your-previous visitor."

MacReedy laughed. "Hardly," he replied. "I'm American, never fear. I'm just one of the lucky few who has been able to make a good living out of my hobby; I have no axes to grind."
"We may have an axe to grind with
you," said the General with a hint of grimness. The rocket-launcher and the improved A-gun were like the one-two punch of a good heavyweight-hitter. He went back to the XT-101, said, "About this twin-mount tank-how'd you figure we'd mount the automatic machinery outside the turret?"
"That wasn't too difficult-if I'm right; and I gather I am," said MacReedy. "There's simply too much stuff to put inside a tank-turret; you've got to mount it outside. And that means plenty of protection, which means an extra armored sleeve. So..."


HE GENERAL said, "MacReedy, why are you showing me this? I could be an imposter, a spy."
"With that official limousine?" the mod-el-maker countered. "I doubt it. Besides, Toby vouches for you."
"Risky," said the General.
"Besides," said MacReedy with the suggestion of a smile, "I've seen your picture in Life magazine." He paused, added, "After all, in my humble way I'm a bit of an ordnance nut myself."
"I don't believe you," said the General flatly - "I mean about working these things out through logic and guesses. But however you do it, surely you can appreciate that you're much too dangerous to be walking around loose. Especially since They know about you. I'm afraid I'm going to have to take you back with me."
"Nothing doing," said MacReedy. "I can take care of myself. Besides, this is my home. I like it here."
"You're being close to treasonable," said the General.
"Not I-you are," came the incredible reply. "You, not I, are attempting
to deny a citizen his rights under the Constitution."
"Damn it, man!" the General backpedaled quickly. "Can't you understand? Suppose They got hold of you- They'd have you dishing up our innermost secrets to them ahead of time. I don't need to tell you what that could mean in the present world situation."
"You don't, General," said MacReedy. "But I don't think They'd get much out of me-much that was useful, I mean. I can't think clearly under drugs or torture; I'd be more of a menace than a help. I explained that to my visitor before you came. He seemed to believe me."
"Maybe he did," said the baffled General, "but don't bet on his superiors. You've been an Army officer, MacReedy; I can have you called back into service."
"With a permanent medical discharge?" MacReedy countered.
The General sighed. He knew when he was beaten. He said, "You'll have to stand for a guard then-twenty-four hours. We'll keep them out of sight as nuch as possible." He wished the whole business were rationally explicable to his own superiors. As it was he knew his hands were tied when it came to drastic action.
"I suppose it's necessary," said MacReedy sadly, but not defiantly; "I should never have tried to show off."
"It's too late for that sort of thing," said the General. "I'm going to have to take some of your models with me-it's too late to do much about the new tank, but I'll have to have the rocket-launcher and the Agun. And I'll want your promise not to indulge in any more such experiments except as I request."
"That I am glad to give you," said MacReedy and there was no doubting the sincerity of his words.
"I'll pay you for them," offered the General.
"Of course," replied the modelmaker; "my name isn't MacReedy for nothing."
As he handed over a couple of hundred dollars the General found himself almost liking the man. Damn these screwballs, he thought. He wondered when he was going to wake up and find it hadn't happened. It couldn't be happening, any of it. But the perilous-ly-perfect models, of weapons that were yet to be, felt terribly real to his touch.

He said, "Toby, run upstairs and tell Sergeant Riley to come down here and take some stuff out to the car." And, when the boy was gone, "MacReedy, will you do some work for us?"
"Of course," said the other. "A man gets feeling a bit useless making toy soldiers in times like these."
"The pay won't be much..." the General began.
"I can afford it," said MacReedy with the unexpected generosity of the true Scotsman. "What do you want me to do?"
"They have a new weapon building," said the General. "All we've got are a few spy-photographs-not very good, I'm afraid."
"What sort of weapon?" the modelmaker asked.
"That's just it-we don't know," replied the General. "I'm going to send you what we have on it tomorrow; I'm hoping you can give us a line on its purpose." He paused, added grimly, "As it is we don't know how to meet it. We haven't an inkling. It's given the Chief a whole new patch of grey hairs."
"I'll do what I can," said MacReedy. "But don't expect the moon."
"All I want is the nature and purpose of that weapon-if it is a weapon," was the General's reply. Then Toby and Sergeant Riley came clumping down the stairs and the conference was at an end.

Before he left the General gave Toby five dollars. "That's for bring-

Ing me here," he told the lad. "You'll be seeing me again."
"Yes, sir," said Toby. He didn't sound at all surprised.

WJHEN HE got back in the car alone, the general counted the models on the seat beside him-one rocket-launcher, one A-gun. He said, "Riley, how are we fixed for gas?"
"Pretty good, sir," came the reply. "We can make the city okay, sir."
"Fill up before you get there," the General told him. "We're going right on through to Washington tonight."
"But, sir, I haven't notified the motor pool at Governor's Island," the Sergeant protested.
"Damn the motor pool!" the General exploded. "I'll take care of them. Now get going; we've got a long drive ahead."

The big car gathered speed through the thickening night snow.

The General slept most of the way, after he and the Sergeant stopped for dinner at a Howard Johnson restaurant on Route One, just north of New Brunswick. After a shower, a change into uniform and breakfast, he was in sound operating-shape when he reached his office at the Pentagon the next morning.

He arranged for a round-the-clock guard of Angus MacReedy's house, ordered investigation of the modelmaker's record, had a copy of the complete file on the possible enemy weapon forwarded to Long Island by special messenger. Then he summoned a special meeting of top-echelon Ordnance brass and produced the models of the XT-101, the self-reloading rocket launcher and the improved A-gun.

If such a Broadway-Hollywood term as sensational could be used in any connection with a Pentagon conference, the General's meeting with his colleagues might have qualified for it. Experts were quick to understand the practicability of the models, quick to recast their plans accordingly.

Within the week, he was summoned before the Combined Chiefs and commended by that body for his clearsightedness in cutting Gordian knots of the most baffling order. There was talk of a third star and appointment as Chief of Ordnance once the some-what-doddering incumbent was retired, come June. He was a sort of brownhaired white-haired boy. He was interviewed by representatives of three national newsweeklies.

Though he wore his new honors gracefully, actually the General was thoroughly uncomfortable. He was far more concerned with the safety of the country than with his own advancement; and his ego was much too solid-ly-based to permit him enjoyment of honors that were not rightfully his.

The worst of it was that he couldn't explain. If he told his superiors that his "inspirations" came from the intuitive head of a toy-soldier maker on Long Island who even denied his intuition in the name of logic-not only would his own career be permanently damaged, but the value of MacReedy's models would be suspected. So much so that they might be disregarded entire-ly-thus retying the Gordian knots that were stymying the armament program.

MacReedy's file was laid on his desk one morning by a plump WAC secretary. It was exactly as the modelmaker had stated: he was Americanborn, only child of a Scottish engineer and a German-American woman from Wisconsin. He held an engineering degree from a small polytechnical institute in upstate New York.
His war-record was exemplary. At the time of his wound in Central France, MacReedy had been a captain in the Combat Engineers, wearer of a silver star won at Anzio. There was a complete medical-report on the wound and treatment, whose technical jargon was too much for the General. All he could gather was that it was a headwound and brain injury, which had
rendered the model-maker unfit for Army duty.

He took the report to his opposite number in the Medical Corps, a man whose abilities in brain-surgery were mentioned in hushed voices at Johns Hopkins. Over a highball he told the whole story for the first time, hoping it wouldn't be received with hoots.

It wasn't. The white-haired surgeon looked long and meditatively at his drink. Then he said, "Kermit, I can't begin to account for it; I have muddled around in the human brain enough to know that what we like to call our scientific knowledge is at best empirical. You say this man had his ability before he was wounded?"
"He built a Sherman tank two years before we did," said the General. "Yet he claims the whole process is purely logical."
"Logic!" exclaimed the brain-man with a scorn that matched the General's own on the subject. "Logic is hindsight, Kermit. When our brains, by some intuitive process of progressive thought, reach a desired point, our egos reach backward to give the process a sort of order we call logic. Actually we seldom know how we get where we do; but we're too damned conceited to admit it.
"What in hell do we know about the brain?" he went on. "I knew a perfectly healthy young girl once, who was killed when she was standing beside her horse-the horse sneezed, jerked his head up, and jolted the side of her jaw. Yet back in seventeen eighty-one, when Arnold ordered the massacre at Fort Griswold, one old rebel was bayonetted, had his skull smashed open so that his brains were oozing out on the ground. He recovered and lived for forty years afterward, sane as you please. And they didn't have fellows like me, not then. If they had, he'd probably have died on the operating table."
"In other words you don't know," said the General.
"I don't know, Kermit," replied the other. "Another drink?"

THE NEXT day the international
situation showed signs of serious deterioration, and the General took a plane to New York. All the way up he thought of something else the SurgeonGeneral had said to him- "One thing I have learned. it isn't exactly in my province, but I've run into it enough to make an observation.
"Whenever I've met anyone with what might be called a special giftpsychic or what have you-I've found them scared to death of it. Damned if I know why..."
He ruminated a little before continuing. "You'd think they'd be de-lighted-but they aren't. They either run to religion, and try to drown it in ritual-or they try to explain it away by some rationalization. Like your friend."
"Then you're willing to accept the fact he has a supernatural gift?" the General asked.

The brain-man shrugged and said, "Supernatural-supernormal-he's got something, if what you tell me is true. Can you think of a better 'ole?"


HEN HE was driven up to the Long Island chalet early that afternoon, the General was pleased to see a command car parked unobtrusively off the road, a sentry sitting in an impromptu sentry-box made of pine bows, that commanded a good view of the approaches. At least, he thought, They wouldn't find MacReedy easy to get at. According to the reports he had seen there had been no further attempts.

Toby opened the door. He said, "Hello, General, this is fine. We were going to send you a message tonight."
The General shook hands and said, "Progress?" and, when the boy nodded excitedly, "Why aren't you in school?"
"It's after three o'clock," was the devastating reply, as Toby led him toward the cellar stairs. The General wondered briefly how much he had managed to forget in his fifty-two years.
Angus MacReedy was working at his carving table with a blow-up of the spy-pictures tacked to the cellar wall in front of him, a pile of roughsketched plans on the table. He rose and said, "I was just doing a little polishing, General. But you hit it about r: ${ }^{\text {ht." }}$
"Good," said the General. "Got it solved?"
"I think so," said the model-maker. "Take a look."
It was an eerie-looking item-a sort of stove-pipe mounted on a disc, surrounded by a flock of flying buttresses. Frowning the General peered at it, then looked at the blow-ups on the walls. From the correct angle, the similarity was ominously unmistakable. He said, "What in hell is it, Captain?"

MacReedy grinned. "Looks weird, doesn't it? It had me stumped for the better part of a week. There's only one thing it could be and that's what it is. Look..."

He picked up a sort of miniature torpedo from the work-table, dropped it down the stove-pipe. The thing worked like a trench-mortar. Some spring in the base of the tube sent the rocket flying in a high arc to smack the opposite wall and drop to the floor.
"It's a mobile rócket-launcher," he said needlessly. "I'd lay odds it can be used for atomic warheads."
"Good Lord!" cried the General. His mind was in a racing tumoil. The proble:a with the Nazi V-1 and V-2
weapons during World War Two had been the immobility of their launching platforms. If They had managed to get around it...

He thought of an insuperable obstacle, said, "But what about backblast? Don't tell me they've found a metal able to stand up under the heat of launching."
"I doubt it," replied MacReedy seriously. "They use this barrel to give her a boost like a trench-mortal shell. My hunch is the rocket doesn't fire until she's well off the ground."
"Is it accurate?" the General asked, thunderstruck.
"Is a trench-mortar accurate?" the model-maker countered. "Ask anybody who's been in Korea."
It was a wallop for the General. Atomic rocket-launchers, mobile rock-et-launchers that could function as artillery, could outrange the A-gun perhaps by hundreds of miles. And if the missiles thus fired could be guides: he could see no reason winy not-the A-gun was already obsolete.
He sat down on a packing box and mopped his brow although the ceilar was far from hot. He caid and his vice was unsteady, "Thanks, MacReedy, I think maybe you have done it."
"I think so," said the model-maker. He wasn't boasting, but he was sure of himself. "You want to tale it along with you? It should be quite simple to make. I've got a few improvements over Their supports, I think."
"If it's the last thing I do," said the General, rising, "I'm going to see you get credit for what you've done."
Mackeedy mace a gesture of dismissal. "Don't let it bether you, General," he said. "I hiee my work. Maybe you could arrange ior me to make some models for the War College."
"Hell, why not the Smithsonian?" said the General. "Why not both? We ought to have a historical ordnanceexhibit somewherc. And you're the man, no doubt about it."

As he left with the precious model

MacReedy asked, "By the way, Oeneral, what do you want me to work on next?"
The General hesitated, then said, "Follow your hunches-logic if you will. Let's see what the next weapon after this one is going to be. You've been ahead of us the rest of the way."
"I'll see what I can do," said MacReedy with his quiet smile. "Let me know how things come out."
"That I will," said the General. Toby walked with him to the car and the General gave him another five dollars. He wished he could do something more for both of them; but at the moment it was out of the question.

I T WAS ALMOST six months before the General got back to the Long Island chalet. Thanks to his now fullyestablished reputation as an inventive genius, he was able to get a full speed ahead order on the new-type mobile rocket-launcher. MacReedy's improvements were valid, and the Department experts came up with further simplifications. By the time they were ready to go into production they actually had the weapon self-propelled, were well ahead of Them on mobility, range and accuracy. It promised to be a military revolution.

Then the General had to make a flying trip around the world-to visit American military installations in Western Europe, in Italy and Spain, in Africa, Formosa, Japan and Korea. He got back to Washington, a thoroughly tired man, and walked into both his promised third star and the Chiefship of the Department. Also into an international situation worse than any since September, 1939when the Nazis invaded Poland.

They were pushing aggressively in both Europe and Asia, pushing with an arrogance that suggested they felt they could win in a walk if the free nations of the world offered largescale military defiance. Rumors of a terrible secret weapon were being
bruited about-not only in hush-hush military circles but in the public prints as well. One picture magazine of national circulation had actually published an article stating that They had mastered pushbutton warfare.

The General, and the Combined Chiefs made a hurried and secret trip, to Aberdeen the day after his return. There, on the proving ground, they watched a big transport-plane land on a makeshift airstrip. They saw a small group of soldiers unload from the plane an odd-looking tractor-mounted weapon that resembled an immense stovepipe with certain refinements.
They saw a lean sausage of a rocket rolled into a door near the base of the tube, watched a trifle nervously while it was elevated almost vertically. An order was barked, a button was pushed-and the rocket rose rapidly from the tube with a dullish report, rose to a height of perhaps a hundred yards.

Then, suddenly, its tail blossomed smoke and flame; it rose with a new lease on life, to disappear into the heavens, leaving a trail of smoke behind it. Pointing to a prefabricated building that stood alone, a mile away, the General said, "Watch that target, gentlemen," and lifted his field glasses to his eyes.
A minute later-fifty-eight seconds was the exact time-the structure was suddenly obliterated by a tremendous explosion. The General sighed and said quietly, "That was TNT. We have a stockpile of atomic weapons ready."
"But the accuracy!" exclaimed a weathered full admiral. "With the wind and the earth's rotation to consid..." He hesitated, then said, "Oh, a guided missile."

The General nodded, and said, "We can put batteries of these new missilelaunchers, completly-mobile and with atomic heads, anywhere in the world within twenty-four hours by plane. They have a reasonably effective range of small targets of just over
two hundred miles-with air-guidance, of course, over target. Gentlemen, I think They are in for a surprise."

They got it two days later-in another special test of the new weapon. The General didn't even bother to watch it. His attention was focussed upon a stocky blond man who wore the gaudy shoulder-boards of a lieutenant colonel, and was present as assistant military-attache and qualified observer. His face remained impassive, save for a slight twitch of the lips, when the target was obliterated.

Which was enough to satisfy the General.

DENIED a sure-thing victory They were forced to call off Their war -with violent internal results. It became quickly evident that They were going to be busy for a long time keeping order within their own boundaries. The international situation became easier and happier than at any time since Locarno.

The General, who was due shortly to receive his fourth star, played an active role in the military portion of the peace-making. He had little time even to think of Angus MacReedy and little Toby and the miracle-workroom on Long Island. When he did think of them it was with an inner warmth that was almost devout, with a resolve to see that the model-maker received a satisfactory reward.
Then one morning, while skimming through a stack of reports, a phrase caught his eye. It read-
...and in accord with current fiscal retrenchment-policies, all personnel on special duty were called in for terminal assignments. These included...
The report was from Second District HQ at Governor's Island. With a sinking sensation he scanned the list. There it was-special sentry-detail to guard house of Captain Angus MacReedy (ret). He picked up a tele-
phone and called Governor's Island direct.

Yes, the detail had been withdrawn more than a week earlier. . . No, there had been no report of trouble... Hold on, there was something in the morning paper...

The General made it in less than two hours. Angus MacReedy had been shot in the back of his head the previous evening, while building model soldiers in his cellar workroom. A boy who lived next door and heard the shot while on his way to pay MacReedy a visit, had seen the murderer drive away in a black sedan. He had given the alarm and local constabulary had picked up the trail and given chase. Ignoring a red light, their quarry had been killed when his sedan was hit by a truck. He had no identification on him but appeared to be a stocky blond man of about forty. An alien pistol, recently discharged, had been found in the wreckage.

The General and Toby stood alone in the strangely empty workroom. Only an ugly, dark stain on the floor remained to mark the recent violence that had occurred there. The General looked at the table, then at the boy. He said, "Toby, do you know, what your Uncle Angus was working on recently?" He felt a little ashamed thus to try to pick the brains of a murdered man through a child.
"He'd been pretty busy with orders from the shop," said Toby thoughtfully. "And he'd just finished that." He nodded toward an unpainted lead miniature on the work-table.
The General looked at it closely, and felt the blood drain from his face. He had told MacReedy to try to worl out the next weapon after the guidedmissile launcher...
"Are you sick, General?" Toby asked, breaking in on his abstraction. "You mustn't take it so hard, sir."
"I'm-all right, Toby," he said. "It's been a bit of a shock, that's all."
"It's been horrible." said Toby, his
voice quite steady. "Uncle Angus was a great man. I'll never be able to be as great."
"You'll never know till you try," said the General. He thought that They had not forgotten- They had killed him for losing Them Their war. It was up to him, the General, to see that Angus MacReedy's final prophecy proved false.

Well, he had the power now to carry a little weight-thanks to the murdered man. Standing there in the cellar, the General made a vow to see that during his lifetime the peace was kept, to help set up some sort of organization that would keep the peace when he was gone.
"Will it be okay for me to take this?" Toby had picked up the final figure, and was regarding it reverently.
"What? Oh, I don't see why not."
He said goodby to the boy outside
and got into his car for the drive backto the airfield. Hence, he didn't see Toby place it carefully at the end of hundred yards to his house, didn't see Toby carry the unpainted figure the a row of gay little figures that included Napoleon, Marlborough, Suleiman the Great, Charles XII of Sweden, Henry V, Tamerlaine, Genghis Khan, Charles Martel, Julius Caesar-and newer or perhaps older, figurines of Alexander the Great, Xerxes, Cyrus the Great, Nebuchadnezzar and a trio 0 " even more primitive conquerors.
"Gee," said Toby to himself, "I'm sorry Uncle Angus had to be killed. But if he had to be killed, I'm glad he got my historical set just about finished. I can paint this cave-man myself."

A few minutes later his mother called him to supper.
$\star$


Look for the November issue of

## She chose perversity and man-hating as her syndrome!

Don't miss this compelling novelet of a world where everyone was a neurotic - by law - and everyone changed his neurosis four times a yearl

## THE IRRATIONALS

by Milton Lesser
Plus Stories By
JOHN DANELAW
CHARLES DYE BRYCE WALTON SCIENCE FICTION QUARTERLY


# The Lobby 

(continued from page 8)
story of the American who was set upon by hoodlums in Paris; he backed against a wall, raised his fist, and sent his attackers into panic by shouting, "Je suis Nick Carter!"

Can you tell a viable character, or caricature, whenever you see one? No, not always. A story may impress you despite, rather than because of, the characters; even if thousands hail a story this year, these same might change their mind a few years hence upon re-examination. It takes time and re-reading to tell whether a character will survive, and an unfavorable or mised reaction at first report might not be final. Take the novel we ran a couple of issues back; I've had just about every possible kind of comment on that story and on the characters. Some readers think the story a classic and the -characters immortal; others think the story very good, but weak in characterization; others think the characters all right, but the story not too interesting; still others say "PU".

I don't know. I read "The Duplicated Man" several more times than many of you, and I still like it. Ten years from now-who knows?

We see a great deal of sham "depth" in characters these days, and this kind of phony is almost as irritating as the pure good Hero and sheer black Villyun. This represents, I think, the author's desire and intent to make vivid characters, and demonstrates his inability to achieve them-in a particular story, at least. But how does a writer deliver the goods?

Sorry, I can't answer that. If I could, I wouldn't tell you now; I'd
make a fortune doing It, first, then reveal the secret in my memoirs.

T'HE AUTHORS, who have striven to write stories you'll remember, this time, are:

POUL ANDERSON, who, for my money, made the grade with outstanding novelets such as "The DoubleDyed Villains", and "Sentiment, Inc."; he's been making hits since 1947.

SAM MERWIN, JR., whose first science-fiction appearance was "The Scourge Below" in the October 1939 issue of Thrilling Wonder Stories; who's remembered for his fine editing of this magazine, and other in the same company's chain, for a number of years; and whose novel, "The House of Many Worlds" has seen both kard-cover and pocket-magazine reprint.
WINSTON MARKS, who first appeared in the May 1940 issue of Unknown, with "Mad Hatter", then in the October 1941 Astounding with "Manic Perverse". He's made a reappearance this year.

ALGIS BUDRYS, whose two cover stories for Future and Dynamic, "Stand Watch in The Sky", and "Snail's Pace", made definite impressions upon our readers.
ARTHUR PORGES, who, as nearly as I can make out, was first introduced to science fiction readers in the December 1951 issue of Magazine of Fantasy, with a story entitled, "The Rats". I bope you find the predicament of the unwilling professor as amusing as I did.


## CHALLENGE

by Conrad Pavellas
Dear Mr. Lowndes:
It is more in sorrow than in anger that I comment upon L. Sprague de Camp's "Modern Merlin" in the June issue of $D \boldsymbol{y}$ namic Science Fiction. Have we not enough mudslingers in this sorry world without intruding that unlovely art into a science fiction publication? de Camp must have culled his little pile of dirt from all the yellow journal stories printed about Theosophy, Madame H. P. Blavatsky and C. W. Leadbeater.
While the rest of the issue was of surprisingly high caliber-and one of the tories, "Never Trust an intellectual," I consider one of the all-time gems of SF-satire-de Camp's article was a piece of lurid and incongruous journalism. This is the type of thing that went into the oldtime Sunday supplements and was not expected to be accurate.
There seems to be a trend today toward wholesale character assassination; but in de Camp's article it is even more despicable than usual, because the author is safe from lawsuits-his victims are dead. But there are other implications.
To be the type of man who can carelessly dispose of reputations and life works as he sees fit (to make a saleable article), to hold them up to scorn; to use semantically leading words to suggest even worse unsaid things-such a man must have a God-complex. He must be a ruthless, nonempathic type who could say, for example, "this fat Russian hoyden..." He must be so sure of his own perfection, physically and morally, that the adage about living in glass houses ${ }^{\text {does not apply to him. }}$
I am not a Theosophist myself, but am acquainted with the movement. I base my opinion of de Camp's article on a studied and carefully-documented answer by a Theosophical group published in answar to
a de Camp diatribe in another science fiction magazine.

The Theosophical mōvement may have had its trials and errors, but on the constructive side it broke ground for a vast upsurge of public interest in the mental, the metaphysical and-yes, for everyday themes of science fiction stories, sucn as extra-sensory perception, telekinesis, parallel worlds, wild talents, and all the others. This is building for the future when man will enter into his great mental heritage.

Contrast this with the destructive thinking in de Camp's article, which tears down the work and reputation of others. Evidently his creative faculty has run dry and his groveling for money has led him into this strange morass.

To get on to pleasanter subjects, I am glad to see DSF take its place as a worthwhile SF magazine. I read all in the field and can't get enough. The trimmed edges are nice, except when the cutter comes too close to the type in some places. Tell the pressmen to keep their ink-fountains filled, or else it's the makeready. The cover was more symbelic than crude, the inside illos fair to good except for the stock cuts which are laughable. Keep up the improvements, and congratulations on the stories and articles (but one).

> 3028A Hillegass Ave. Berketey, Calıfornia

Before calling on Sir Sprague to buckle on his armor, and sally forth to meet this challenger, let's look at another contestant.

## SECOND CHALLENGE

## by Editors, Theosophical Notes

## Dear Mr. Lowndes:

We wish to put in a few words regarding Mr. de Camp's article on "A Modern Merlin," in your June issue. The material on C. W. Leadbeater is quite accurate. Having been engaged for many years, along with others, in trying to straighten out the mess he made of the reputation of Theosophy, we are in a position to know. In fact, we could add quite a few items, though it would do no particular good. We add a hearty "Amen" to de Camp's closing wish.
However, de Camp's introduction to the theme by using the old set of exploded elanders against the moral character of H. P. Blavatsky, founder of the Theosophical Movement, is quite another matter. Leadbeater's psychic, scientific and philosophical lunacies are a matter of record in voluminous books. His moral delinquencies stand over his own signature in confension.

De Camp's statements about him are documented to the hilt. But, as we pointed out in Other Worlds for April, 1953, when one of the most powerful newspapers of America was called into court for making charges of immorality against H. P. Blavatsky, it was unable to meet the issue with a shred of evidence. There is in existence not one statement by an eyo-witness, not one lonesome affidavit, not one piece of evidence other than pure gossip, regarding the alleged sexual immoralities of Madame Blavatsky. But there is in existence an affidavit by two responsible physicians to the effect that she suffered from a physical defect making such deeds impossible, and there exists a long record, in letters by herself and others, and articles by contemporaries, showing a character totally uninterested in sex except when some acquaintance got himself or her work into trouble with it.

The ethics of the modern literary world, we suppose, can include almost anything. The ethics of Theosophy insist, first, that one should not credit any damaging statement against anyone whatsoever without thorougn proof; second, that no such state-ment-true or untrue-should be passed on unless for good reasons; reasons in the interest of the public good, such as warning the innocent of danger from malefactors. de Camp apparently thinks that, in his "exposures" of Madame Blavatsky and others, he is following the second half of the above ethic. But when he uses material factually unsupported, damaging to the reputation of a woman acknowledged as great by many men of standing who did not agree with her teachings, damaging to the reputations and the feelings of those who ally themselves with those teachings, he is merely cashing in on glorified backyard gossip.

His use of facts is curious. He is quite meticulous and accurate in collecting and setting forth such of them as may damage a cause that he dislikes; if they run in the other direction, he sets them aside, and any irresponsible statement that goes his way is regarded as fact. That is accepted practice in politics and religion; but since when is it supposed to be science? The facts about Leadbeater are damaging to Theosophy; de Camp uses them ably. The facts about Blavatsky are not. He uses something else instead, and because of the number of facts that he does assemble in various other lines, unwary readers take it for granted that anything he puts out is equally well based.

We have had occasion over a good many years to give some thought to what makes people tick in the de Camp manner. Why does a fellow like this keep on stubbornly distributing these unfounded stories, even when he has been shown the evidence, and been unable to answer it? It seems to us to derive from a common kind of reaction, though one might have expected de Camp
to be above common reactions. The one in question is that of judging everyming about somebody by some one point on which one agrees or disagrees vioientiy.

Sacco and Vanzetti were executed, not for the murder they didn't commit, but for political views which those who held their lives in hand considered worse than murder. H. Y. B. has been hanged again and again, not for the moral infirmities she didn't have, but for having committed Theosophy, which the hideoound among the churches thought slapped God in the face, and which the hideiound in science regarded as striking at every sacred materialistic law recognized by them. Lots of people commit similar offenses in a puny way, and are laughed off; H. P. Blavatsky was really dangerous, and still is; in fact, seems to be getting more so. Hence the repeated attempts to "get' her on any sort of charge that misht seem able to hold water. "What if she is innocent? What she is really guiky of is worse anyway." "hat seems to be the rationalization, whether it ever reaches the level of consciousness or not.
In other words, we think that such a philosophy as Theosophy is such a selfevident horror to de Camp, that in his book anybody who could believe, it is a fool, and anybody who started it necessarily a crook of whom any delinquency is probably. true whether there is any objective evidence for it or not. We can see no other plausible reason for an otherwise admirable citizen to act in this manner.

Sir Sprague now rides forth.

## RESPONSE

by L. Sprague de Camp

,
Dear Bob:
As the editors of Theosophical Notes have been so kind as to answer Mr. Pavellas on the subject of my article on Leadbeater, I need not do so.

As for their complaints about my hostility, well, bless their credulous little hearts- I'm not hostile at all, except in the sease that I regard them as legitimate prey. I have devoted some time to the study of magic and occultism. I have, in the last fifteen years, read about ten million words on these subjects. These include over thir-ty-five books on Theosophy: the works of Madame Blavatsky, many biographies of her, and other works by her successors. I have known occultists of various persuasions, have attended their meetings, and have sat at the feet of assorted swamis, yogis, and other shamans.

Having done this, I have been compelled to conclude that the doctrines of my anonymous friends of Theosophical Notes are mistaken, being founded upon a body of
erior, misinterpretation, falsification, hoax, and swindie. I do not regard it as a "selfevident horror" (for the errors are of a comparatively harmless sort), nor do I dislike H. P. B., or even begrudge her her lovers. Why shouldn't she have had fun? I should describe her as a vivid and picturesque personality, with many entertaining and even endearing quanties. but I dont thims her virtues included honesty, truthfuness, or scholariy responsibility. I don't berieve in the transcendental wisdom sue claimed, or in the past history she narrated, wherein she was a persecuted virgin wanderng the world in search of occult wisdom, or in the Mahatmas with whom sne ciamed to be oil familiar terms. And so believing, it seems to me periectly proper to set the record, as I see 14 , straight in my writings.

For do I doubt that many present-day Theosophists are good people, wnatever the errors and frauds of the founder of their faith. But the same might be said of almost any cult, sect, or other body of believers in supernatural doctrine.

As for the famous certificate of sterility, the facts, as nearly as I can ascertain, are these: when, late in H. P. B.'s life, her foilower, Alfred Percy Sinnett, undertook to write her biography, he asked about the crippled and short-lived child Yuri who at one time had been taken around Europe by H. P. B., and who Madame's "detractors" said was her child either by Baron Nicholas Meyendorf $\vec{i}$, or by the singer Metrovich with whom she was long intimate. H. P. B. said she had adopted the child, and produced a "certificate," signed by a "Dr. Leon Oppenheim" of Wuerzburg, stating that she could not bear a child because of a tipped womb.

Now, in the first place this is nonsense, medically speaking; a tipped womb does not prevent conception and giving birth. In the second, H.F. B.'s biographer, BechoferFoberts, checked tiee records of Wuerzburg for the period in question and found no Dr. Leon Oppenheim listed as having practiced there. He did find a Dr. Leon Oppenheimer, however, (practiced 1867-1912) so the "certificate" takes on the aspect of a clumsy forgery, in which H. P. B. misspelled the name of a physician whom she had known or heard of during a sojourn in Wuerzburg.

Being in the middle of this kind of situation doesn't make Pierre very lucky. However, I'd inquire, were I on the outside: granted for the sake of argument that the "certificate" in question is a forgery, does this prove that H. P. B. forged it herself, or was aware that the "certificate" was spurious?

## NO ACID TODAY

by Sheldon J. Deretchin

## Dear Mr. Lowndes:

As many of my friends know, my letters are usually tinged with acid when I write to a magazine. This is not the rase today, however.
Today I finished Dynamic No. 4, and I consider it to be the finest issue that you have ever turned out. Blish's and Sherman's "The Duplicated Man" is the finest story that I have read in quite a long time. I predict that it will become a classic in the annals of science-fiction.
in second place, I put White's "No Greater Glory". In its own way, it is as much a masterpiece as the lead novel.
And, in last place is "The Winning Losers".
Let's look at the Blish-Sherman story, though. As a work of plottins, it is a masterpiece. I doubt whether Van Vogt himself could do such a job of plot and counterplot.
The dustbowl theory was necessary for the soory, of course, but I wonder if it wouldn't be possible to change Venus' atmosphere through the use of plants. It should be comparatively simple.

According to theory, Venus has a formaldehyde atmosphere. Now, all plants stove sugar in the form of formaldehyde. Theiefore, it should be a simple matter to develop a plant that can utilize the formaldehyde in the atmosphere, instead of having to transform it from $\mathrm{CO}^{2}$ and water. It could probably be done right now.
After such a plant had been developed, it would be dropped, in suitable contain$e: s$, on the surface of the planet; a suitable tine would be let elapse, and then an exploratory ship would be dropped to the surface to see if the plants had taken hold.

Alas-even into a letter of commendation a little acid must fall. While the cover was superb, you spoiled it by your overlylarge banner. The inside artwork was also quite a bit insipid and unimaginative.
One final addition: I fo"got to put "The Last Man in the Mcon" in lest place, along with "The Winnince Lesers".

$$
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$$

Well...hardly any acid, eh? Ore nice thing about science fiction, as others have noted, is that experiments can always be sucessful, and theories correct. So, in another story Venus' atmosphere can very likely be altered just as you suggest. So far as the actual facts go, we won't know until we get there; after all, the formaldehyde theory is just the latest explanation
for the evidence, such as we have; it ain't necessarily so, but it will have to do, as the best theory, until other evidence is found-either from improved observation or first-hand reports from someone who goes there.

## WATCH THAT BASKET

by R. R. Anger

Dear Mr. Lowndes:
Well, there's no doubt that the August issue depended completely on the success of "The Duplicated Man," by James Blish and Michael Sherman. Dynumic's famous non-fiction features were ruthlessly cut, or omitted, and only three short stories rounded out the mag. It just goes to show that putting all your eggs in one basket is all right-as long as you don't drop the basket. For my money the issue was a resounding success. The novel was great, combining Blish's scientific know-how with Sherman's sociological theorizing. There were many things one could criticize in it, such as characterization and motivation. Blish usually creates much better peopleviz. the astronomer Brant Kittering in "Solar Plexus". However, the overall effect was brilliant, and above all interesting. I read it at one sitting and it kept a stranglehold on my attention from beginning to end. We thank you, Mr. Lowndes, for not cutting it or rejecting it on the grounds of length. Of course it takes first place in the issue.
"The Winning Losers", by Gene L. Henderson, was a good second. A truly funny "situation type". story. Add this to the small row of stf stories which have urbane humour.
W. Malcolm White's refugee from the comic books, "No Greater Glory", was neatly done-something which could not be said for Charles Dye's last-placer, "The Last Man in the Moon". The Alex Schomburg cover was really a beauty, so it's unfortunate that you felt obliged to print a poor story just because it "illustrated" the cover. The surprise ending has been used a great deal in stf; Henry Kuttner is a master at it. However, it takes a master to do it acceptably and Dye just ain't it. This reader cannot accept such arbitrary shiftings of plot-direction and mood as are used at the frantic end of this story. Charles Dye ruined a good story by playing around with the title (given to him by you?) which was itself a play on H. G. Wells' famous yarn "The First Men in the Moon." By the time he had rung such changes as "the first Last Man in the moon". the mood was gone and the whole
thing became farcical. I think you would have rejected it if it hadn't fitted the cover.

Paul Orban did a magnificent job illustrating the novel. I'm glad you let him do so many. Luros had two fine pieces, tooalthough the one for "The Last Man in the Moon" was really only a copy of the cover. I thought his pic for "The Winning Losers" was very amusing. I wonder if the military will ever really use chairs like that? Your artwork really is something of a peak for stf magazines.

Hoping for the return of trimmed edges, I go.

- 23 Doncliffe Di.,

Toronto, Ontario, 'Canada
Ye Ed confesses to rocks in the head in reference to "The Last Man in the Moon"; it should have been sent back for working-over on the ending. Sometimes readers second-guess me, somețimes I second-guess myself, where no reader complains. This time I re-read the story in proof and thought: Oh-oh; I'm going to hear about this, and Charley will take it for my boner.

Of course, second-guessers are never wrong-and isn't it a wonderful feeling? Sometime I must tell you how I won the World Series for the Dodgers in 1951.

## UNCUT NOVELS PREFERRED

## by Jack Marsh

Dear Sirs:
Trimmed edges help a magazine's appearance, of course, but I cannot see why so many fans place so much importance on the matter. After all, it's the quality of your stories that really counts. To me, anyway.

Congratulations on "The Duplicated Man". Too many so-called "novels" these days are being cut down until they seem to leave out far too much.

> Halton Street,
> Jonesboro, Arkansas

The response to "The Duplicated Man" was 3 to 2 in favor; the following two letters are as representative of the opposition as these three above have been representative of readers pleased with it.

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# bYNAMIC Science Fiction COLD WAR STORIES UNWANTED 

by Val Walker

Mr. Lowndes:
I had great hopes for the Aug. Dynamio. A terrific cover by Alex Schomburg-a full length novel by James Blish etc.
Then the letdown-and what a letdown. I believe, in your eagerness to publish a full-length novel, you must have grabbed the first one that came along. As a rule I do not like to gripe about a magazine, but the June issue of Dynamic showed such promise, and the August issue was such a flop that I feel that I must say something.
"The Duplicated Man": if I want to. read stories about the cold war beiween Russia and the United States, I will read the headline stories in the newspapers. For that was all the novel was. The iron curtain was in the dust clouds around Venus; the pro-earth party only duplicated the Communist Party.
There has been a trend in science-fiction of late to stories of this type, just as, during the war, many science fiction stories were glorified war stories.

The only readable story was the short by Gene L. Henderson. Charles Dye it seems to me is working too fast. His story, lacked that certain readable spark.
There were three good things about $D y$ namic: the cover, "Inside Science Fiction", which is a wonderful feature, and "The Lobby", which is one of the best editorials being written in $\mathrm{s}-\mathrm{f}$.
With the June issue I had hoped that Dynamio was going the way of Future up!
Nevertheless I await the next issue, if for no other reason that to read Robert A. Madle's column.

By all means get the trimmed edges back; and while were on the subject of mag makeup-only one staple-really are they that expensive? This last issue came apart before I could finish reading it.
I will probably be the only person that kicks about the Blish and Sherman novelbut there it is.
Here's hoping the Oct. issue is bettermuch better; even Madle's column will not draw my 25c forever.
-6438 E. 4th Place,
Tulsa, Oklahoma.
Among the many things that science fiction writers can do is to project more-or-less current situations into the future where they can be manipulated and solved by methods unavailable today. Stories of this type, as long as I can remember, have usually been con-
[Turn To Page 88]


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## DYNAMIC Seience Fietion

troversial, and some readers have objected in principle, as you do.

You weren't alone in not caring for "The Duplicated Man", although you were the only reader to specify dislike on the grounds you did; others just said "phooey", without stating why.

Frankly, I'll stand by my guns on this one, without prejudice against anyone's right to lambast me for doing so. That doesn't mean that you'll see frequent stories of this "current event projection" type; while I like one, now and then, I feel it can only be done rarely.
Reminds me of the gent at a concert who murmured to his companion, while the violinist was sawing through a cadenza, "This is very hard to dofiendishly difficult."
"Huh!" responded the other, "I wish it were impossible!"

## YOU DON'T KNOW?

## by Carol McKinney

## Dear Bob:

You know, I really counted on reading and enjoying "The Duplicated Man" in the Aug. Dunamic after it was rlayed up so much and everything. It was disappointing, actually to get into the story. I suppose there will still be lots of raves though-you can't please everyone all the time, nor even most of the time!

So, the ratings come out like this:

1. "The Winning Losers" (an unthought-of-before theme that really turned out good!)
2. "The Last Man In The Moon" (This started out better than it ended).
3. "No Greater Glory" (Egad!) No comment).
4. "The Duplicated Hían" (disappointing, to say the least).
"Inside Science-Fiction" (vigorous display of enthusiasm) is the best feature you've had in any of your mags! Hope you keep it up, and even add to it from time to time!

You mean that you don't know that we prefer trimmed edges? By all means-let's get rid of these "mechanical difficulties" and dress up the old girl! Fire the print-ers-do something! All they have to do in print the rag-you have to tear your hair over itl

## THE LOBBY

And how about a cover, minus the words oa the pic?

$$
\overline{\text { Provo, Utah }} \mathbf{}
$$

I know well enough that many, if not most, readers prefer and desire trimmed edges, just as I do myself. However, the editor's testimony and opinion is not enough; the inside office wanted corraboration from the vocal readers, which is why we ran that squib asking for statements from you-all.

Incidentally, just to keep the records straight, let it be known to all and sundry-even J. Athelstane Sundry of Kobold Korners-that Michael Sherman is not Lester del Rey.

PS: Sherman isn't Henry Kuttner, either.

## THE BATTLE'S ON

by Al Lewis

Dear Mr. Lowndes:
If there is such a thing as damning with faint praise, then Mr. Van Riper's appreciation of Doc Smith has succeeded admilrably. Riper, like the bulk of Smith aritics, has missed the point completely.

I realize my line of argument is going to sound a bit like the weird position taken by the defense in the recent Los Angeles controversy who insisted that "UNESCO is not subversive because, it does not advocate world government." My position is going to be that Smith's stories are not bad because they are not space opera.
"Space opera," by connotation if not by definition is a limited term, much more analogous in usage to "soap opera" than to "horse opera," which is a fairly respectable generic synonym for "western." "Space opera," originally, meant the sort of story that was laid against a cosmic background and one or more extraterrestrial planets. Latterly it has come to be synonymous with "thud and blunder."

If Smith's stories are space opera in the former sense, which is undeniable, they certainly are not so in the latter sense. They are far too competently handled and meticulously thought out for that.

In all of science fiction there are only three or four types of faster-than-light maceship drive. The first type is the "'fodge" type, used in something like $99.99 \%$ of all storles laid against an inter-

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stellar background. It comes in two forms: the subspace type, best exempllifed by Murray Leinster's overdrive; and the "fourth dimensional shortcut" most adequately worked out by Asimov. The second type is the "mathematical drive" of Campbell's "Mightiest Machine" and its sequel. The third type is the spacedrive of Smith's Lensmen stories, which strikes at the heart of the problem by noutralizing inertia.

For Campbell, the drive is an end in itself; he is interested in the mechanism. For Leinster, and the bulk of writers, the drive is a means to an end: a way to get from planet to planet in a short enough length of time to tell a compact story without running afoul of one of the consequences of Einstein's relativity.
Only Asimov and Smith have developed their theories and portrayed them in operation in their societies; and of the two, Smith's development is the fuller. Inertia can be cut off, but when it is restored the original velocity of the ship is also restored; this has all sorts of consequences. If there is no resistance to motion, explosives are miserably useless as weapons; therefore the importance of a tractor field. At high velocities the density of matter in space builds up considerable friction and streamlining is once again important. And the law of conservation of energy is maintained because it takes power to run the Bergenholms.

The problem of space warfare is developed; its chief difficulty is seen to be one of coordination and a solution is proposed.

Subspace is exploited for weapon pussibilities, and the key to their successful employment is found in the psychology of the defenders.

Unattached status is a perfect excuse for Smith's hero to be both high brass and a personal operative.

Smith's universe is a relentlessly developed mechanistic materialism, but optimistic nevertheless.

His ethical system is strictly relativesomething is good because it approximates the Arisian ideal, rather than vice-versabut it does make room for absolute values in the only possible place they can exist.

Smith's characterization is not nearly so bad as everyone insists. After all, if it "out-Homers Homer" this can be taken as something of a compliment, since Homer has been around, for almost three millenia now.

Van Riper can not credit Clarissa Kinnison because she is not promiscunus. There are two good reasons for this. One of these is that a superwoman cannot possibly become interested in less than a superman. The second is that, in any person who hopes to justify his or her claims to excellence, there cannot exist a wide gap be[Turn To Page 22]

## THE RECKONING

## A Report on Your Votes and Comments

The vote on whether we should continue to have our covers illustrate a story In the issue seems to be split down the middle, so we'll continue the practice - but not for each and every issue.
"The Duplicated Man" proved to be unique in that it received more first-place votes and enthusiasm, as well as more "dislike" votes, than any other story we've presented in this magazine. Obviously, it takes first place, even though the pointrating was below that of "The Winning Losers". The rest of the issue came out thus: (2) "The Winning Losers" (Henderson) - 2.04, (3) "No Greater Glory" (White) - 2.81, and (4) "The Last Man in the Moon" (Dye) - 3.00 .

Increased production-costs made an unhappy choice necessary - either to raise the price of the magazine, or to cut the number of pages. The latter decision rules out book-length novelsi let's hope that conditions improve in the future, so that we can offer as large a book as before, without a price-boost.
M.C. Pease's novelet was the sole offering in our October issue to please everyone: no voter put it in last place, either. All the rest received both firstplace and last-place votes, as well as a bit of raspberry-noises.

Here's the record:

| 1. Tempie of Despair (Pease) | 2.11 |
| :--- | :--- |
| 2. Fishers of Men (Annas) | 3.18 |
| 3. Snail's Pace (Budrys) | 3.35 |
| 4. Machine Complex (Wampler) | 4.00 |
| 5. Poetess \& 21 Cadavers (White) | 4.52 |
| 6. Night-Pear (Long) | 4.60 |

And, to remind you again, whether or not we continue to award originals to the letter-writers depends upon the balloting this time.

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..SO THEY BAKED A CAKE
colossal conceit of men, I guess.
When our last signal back to earth had given the okay sign, sure, they started building bigger ships and recruiting another crew. But by the time that the Albert E. II, was ready to take off for a more extended expedition, the Larson-Drive was now the Larson-McKendrick Drive, with a velocity of a full half the speed of light, some five times our velocity.

Somehow, Tina had managed to get herself in the party; as Hans had sensed she would. And the time-differential, as it worked out, wasn't serious at all. Tina had been only 32 when we left her on earth. Including the year and a half she had already been with the colony on New Columbia, she was still quite a bit younger than Hans, and just twice as pretty as the day of their separation.

The tremolo note was rising now, the soft, mystic pitch of excitement inherent in the new world.

I turned to Mac, who was grinning like to split his face. I said, "Looks like you were wrong, old boy-about the impossibility of colonizing."

He nodded his head readily, but he wouldn't tear his eyes away from that monsterous, preposterous chocolate cake. The attraction, I discovered, was a little bevy of on-lookers who stood at its base. They were a dozen or more most attractive colonists in the younger age-bracket and unmistakably of the opposite sex.

Mac said, "Yeah, I was wrong about colonizing prospects. Dead wrong. Aren't you glad?"

And now the tremolo feeling spli into a crescendo of sub-harmonics anc overtones, a magnificent chord of at tunement with life and humanity everywhere in the universe. And all s once I knew I was glad, happy as hel to see these people from the old home town of earth.

THE LOBBY
science-and which tries to subjugate fact to moral fiction.

History shows that usually the highest morals have been verbal screens for eras of great hypocrisy; there's an old Arab proverb to the fact that the holier the city, the more depraved its inhabitants.

Now there's no reason why E.E. Smith, or anyone else, can't inject his own beliefs into the future, and have whatever standards he wants. However, there's no reason, also, why the audience shouldn't laugh if the picture is slightly ridiculous. And some have found a ridiculous quality about projecting post-Victorian morality into an intergalactic setting.

However, let's give credit where credit is due: Smith indicates that very few achieve anything like the ideals in practice--which is quite believable.

## REMEMEERED WORDS

We're willing to keep the letter-contest going as long as you want it, but the way most of you winners have delayed asking for the originals you won makes me suspect that the gilt has sort of worn off. Originals piled up, and when the convention representative asked for a lot, we turned over more than we meant to.

Soo, sorry, but this issue's winners will have to take selections from. what I have on hand. I'll try to keep things in order, now; but I would like your vote on the matter.

Winners this time are: James Fenimore Cooper Jr., Joe Keogh and R. R. Anger.


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## DYNAMIC Science Fiction

Fred Christoff: Once upon a time there was an industry who decided people didn't have any intelligence at all. None of them had ever been to high school and their average I, Q. was that of a twelve year old. It was called the movie industry. One day they found they wore making less money than usual, and they wondered why. They looked around and they found that another industry called Television had decided that people only had the intelligence of ten year olds and was running them out of business. So they thought, and they thought, and pretty soon they found something that would appeal to the eight year olds. It was called thres-D. So now the industry is happy again and comic books are booming, and if that's the sort of science fiction you want go look up that Avon pulp of a couple of years back.

The point of this whole thing is that it's the science in science fiction that make the genre what it is. Otherwise it's a love story or a western or something else with a few props. Granted it has to be well written. But it is the ingenuity and the thoroughness of the author's treatment of some interesting aspect of physics or sociology or pyschology that gives the story an interest over and above the mere plot interest.

Science fiction is idea fiction. Without the idea it is emasculate.

> -705 San Lorenzo St., Santa Moniea, Calif.

I believe it was Will Durant who observed of the Roman prince Augustus that he had two objectives once he had attained the highest power; one, to make the people happy; two, to make them good.

He succeeded in the first aim; when Augustus died, Rome had become prosperous. But the second ambition was a miserable failure; his people just wouldn't live up to Augustus' noble ideals, and the prince died a bitter old man.

There are all sorts of ideals, and certainly most of what we consider progress-not only technological progress, but improvements in human relationships which are covered in the idea of social progress-has sprung from individual and group ideals. However, there's a kind of idealism which is deadly, and that is the kind which tries to force people to live according to the dictates of someone else's con-



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## DYNAMIC Science Fielion

tween professed and practiced morals as characterizes much of our society today And which is better-oto lower the stand ards to meet the norm, or to tiy to lift the reality toward the ideal? This idea is basia to all of Smith's stories.
Smith's aliens are his forte. To develop a true alien is one of the hardest of all possible tasks. Hal Clement's, no matter how wonderful in physiology are still homo saps in psychology-by interition. Weinbaum has solved the problem of making his extraterrestrials alien by making them quite frankly incomprehensible-and then playing for humor. Smith's aliens are quite serious-and both alien and comprehensible. Nadreck of Palain VII is probably the most perfectly developed alien in science fiction.
Smith's universe is worked out with a detail and a logic and a errenency that is approached only by Asimov. In sconcbreadth of view-he is excceded only by Stapledon. But then Stapledon was a professional philoscpher and was writing argument, whereas Smith's is speculation of the "what would happen if" sort.
His plot-form is quite admitiedly the $: \lambda$ venture plot. But he handles it better than anyone else. He writes it with a verve and an optismism and an irrepiesible enjoument that other would be practitioners of tlie type-Simak, for instance-can't approach. Smith enjoys writing, and is therefore tremendously fun to read. Probably this is why "Children of the Lens" succeeds at precisely the same point where "Ring Around the Sun" falls flat on its face.
E. E. Smith is his own justification.

Now for the stories in your Octoter issue:

1. "Temple of Despair"-Pease. This was the only story in the issre really worth reading. Coincidentally or othervise it was the only long story in the issue.
2. "Snail's Pace"-Budrys.
3. "Fishers of Men"-Annas.
4. "The Poetess, etc."-White.
5. "Machine Complex"-Wampler.
6. "Nizht Fear"-Long.

Something has got to be done about covers. With the exception of the August one they have appeared uniformly chaotic. Too much stuff-whether titles. as on the first couple, or just assorted junk as in this one. Thov lack unity.

The same lack of ormization amears on the contents page. Everything thrown in together and hashed up. Serregate the stories and articles and denartments, maybe subordinating the latier. More aesthetic.

Run fewer stories of lor,per length: hold the articles as they are, for they are excellent, and put back some of those pages you took out this time.
Letters: 1. Donald Kinc: 2. R R Anger; 3. Koe Keough, though I disarree about the book reviews.
[Turn To Page 94]

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