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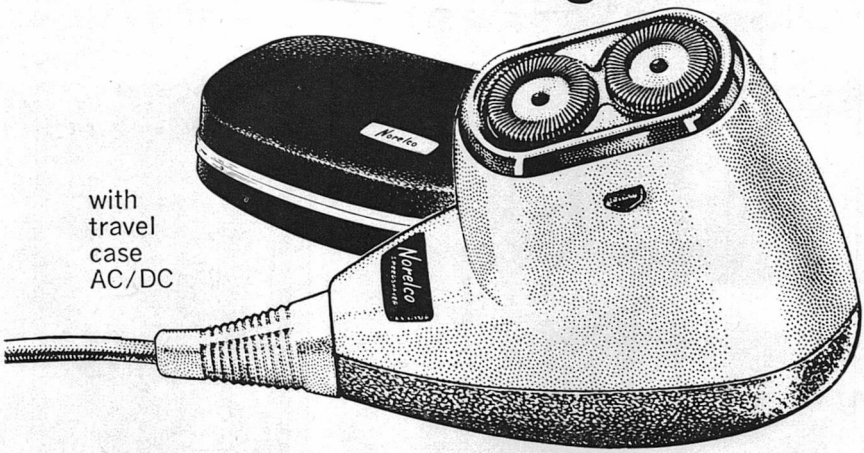

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AN EDITORIAL BY JOHN W. CAMPBELL

That Fourth Law of Motion

■ In the June, 1960 issue of Analog, one month less than two years ago, we published the article on the Dean drive mechanism—and the problem Dean had in trying to get government research scientists to look at it.

It is with considerable satisfaction (let's face it; I'm human! The more accurate term is "smugness"!) that we publish Dr. Davis' "Fourth Law of Motion".

Dr. Davis was one of the few professional physicists who, when he investigated the Dean drive device did *not* devote his mental efforts to figuring out how it *didn't* work—what mistake was involved in the appearance that it did—but started trying to find out why it *did* work. As Dr. Davis' article explains, he did have a head-start—he'd been investigating anomalous phenomena in Mechanics for some time before, and was, therefore more ready to accept that the Dean Drive *could* be another anomaly in the field of basic Mechanics.

The great difficulty with modern American Science—and I'm speaking of the group-social-entity American Science, which establishes the acceptable doctrines of "science" in this country—is its powerful tendency to study only *that which is known to work.* In doing so, those instances where things are known *not* to work "as they should"—the anomalies and disturbing irregularities—are ignored, suppressed, or brushed aside as of no importance.

Now time out for a discussion of what "American Science" is, and what set of phenomena I'm referring to. If you asked a hydrogen atom what it was—assuming it could talk

—it would not reply, "I'm a hydrogen atom." "Hydrogen" is a human sound-symbol referring to an entity that has a certain constellation of behavior-characteristics. "Hydrogen," properly and literally speaking, is a word, and nothing whatever else—except that the word is an agreed-on sound-symbol for a set of characteristics that actually exist in the real universe. The set of characteristics is all we can know; it is that set of characteristics that we mean by saying "Hydrogen *is*. . . . ."

Now in that sense—as a set-of-characteristics—"American Science" exists. And American Science is in bad trouble—very serious trouble indeed.

As the Bar Association establishes a Code of Ethics which is imposed on its members, and the American Medical Association imposes standards on its members, so American Science imposes standards on its members. It's not necessary to have formal, legal powers of licensing to make the standards-imposition effective in a high degree. If the senior executive scientists in all major research institutions, universities and technical schools are members of the American Science organization, their executive powers will be used on behalf of their beliefs in What Is Right—whether it *is* right or not.

American Science is in bad trouble today; it is faced with an aggressive (but not belligerent!) competitor, Soviet Science, which has been doing a Grade A #1 bang-up job of pulling an extremely backward nation up to the top rank among technical nations in some forty years. Soviet Science has made enormously more percentage advancement in the last twenty years than American Science has. Soviet Science has gathered an army of young, active, eager recruits, and is constantly gathering more; their youngsters are getting an excellent technical education—and hundreds of thousands of them are turning into the field.

Meanwhile, American Science has been getting fewer recruits every year. Since the great hullabaloo that went up after Sputnik One started orbiting, and American Science was suddenly forced to acknowledge—against its deep and stubborn resistance—that Soviet Science was genuine, and highly effective, the number of students entering science fields has been declining steadily.

Briefly, American Science is in this position:

1. Up to 1947 there was no Science group on Earth that could match American Science in positive, real-world achievements. European Science had done magnificent theoretical work, great creative conceptual breakthroughs had originated in Europe—but American Science was supreme in applying Science and Technology. We had no really effective competitors.

2. In 1957 it was evident that we definitely did have an extremely effective competitor—Soviet Science. They'd gotten the atomic

bomb worked out some five years sooner than American Science thought they could—and had beaten American Science to the H-bomb. The old excuse "their spies are stealing our work" suddenly didn't look so good—because they'd "stolen" a secret we hadn't achieved as yet! Then when Sputnik One went into orbit, it was clear that the Soviets had done a better job of technical science than American Science had—but by a wide, solid, and effective margin.

3. At the same time, young Americans have been more and more turning away from Science, so that the fresh recruits needed to brace a sagging position are not only not forthcoming—we aren't even replacing our losses to senility and death.

When we published the Dean Drive article, there were floods of letters explaining it away. Some I published; some, of course, I couldn't by reason of lack of space. And some because they were written as personal letters urging me, personally, to cease and desist from presenting such crackpotism in the magazine.

One of the latter came from a director of research in one of America's greatest industrial research laboratories. Correspondence with him led to his repeated statement that anyone who knew the laws of fundamental mechanics would know positively that Dean's device could not possibly be anything but a hoax, a mistake, a misunderstanding, or poor observation—*that it could not possibly work.* That the Laws of Mechanics could not allow such a thing.

Dr. Davis points out in his article that it is precisely in that area that American Science made its mistake; the Laws of Mechanics were *not* complete.

My research-director friend insisted that Science always acknowledges when there are anomalies and unexplained phenomena in a field, and that Science always hastens to study and understand them. I pointed out to him that there were quite a few anomalies around that nobody was either acknowledging or explaining. That ball-lightning had been an anomaly around for centuries, and it had been neatly explained away as "poor observation". That electron emission from vacuum tube cathodes has never been adequately reduced to ordered understanding. That, for that matter, there is the anomalous fact that dowsing rods are used for locating buried pipes, as an engineering fact, and Science has ignored it with an absolute and urgent insistence.

The major breakthroughs in Science have always come from the study and exploitation of anomalies —the places where the Known *doesn't* work. Good, sound, solid, defensible research expenditures—the kind government bureaucrats can authorize —are always directed into areas of the already-known and fully calculable.

Anomalies are most apt to arise when an instrumental device of a

« *Continued on page 175* »

ANY-THING YOU CAN DO!

First of two parts. The Alien was really alien—and Earth was faced with a strange problem indeed. They had to have a superman. And there weren't any. So . . .

by Darrell T. Langart

ILLUSTRATED BY LEONE

I

■ Like some great silver-pink fish, the ship sang on through the eternal night. There was no impression of swimming; the fish shape had neither fins nor a tail. It was as though it were hovering in wait for a member of some smaller species to swoop suddenly down from nowhere, so that it, in turn, could pounce and kill.

But still it moved.

Only a being who was thoroughly familiar with the type could have told that this fish was dying.

In shape, the ship was rather like a narrow flounder—long, tapered, and oval in cross-section—but it showed none of the exterior markings one might expect of either a living thing or of a spaceship. With one exception, the smooth, silver-pink exterior was featureless.

That one exception

was a long, purplish-black, roughened discoloration that ran along one side for almost half of the ship's seventeen meters of length. It was the only external sign that the ship was dying.

Inside the ship, the Nipe neither knew nor cared about the discoloration. Had he thought about it, he would have deduced the presence of the burn, but it was the least of his worries. The internal damage that had been done to the ship was by far the more serious. It could, quite possibly, kill him.

The Nipe, of course, had no intention of dying. Not out here. Not so far, so very far, from his own people. Not out here, where his death would be so very improper.

He looked at the ball of the yellow-white sun ahead and wondered that such a relatively stable, inactive star could have produced such a tremendously energetic plasmoid that it could still do the damage it had done so far out. It had been a freak, of course. Such suns as this did not normally produce such energetic swirls of magnetic force.

But the thing had been there, nonetheless, and the ship had hit it at high velocity. Fortunately, the ship had only touched the edge of the swirling cloud, otherwise the entire ship would have vanished in a puff of incandescence. But it had done enough. The power plants that drove the ship at ultralight velocities through the depths of interstellar space had been so badly damaged that they could only be used in short bursts, and each burst brought them nearer to the fusion point. Most of the instruments were powerless; the Nipe was not even sure he could land the vessel. Any attempt to use the communicator to call home would have blown the ship to atoms.

The Nipe did not want to die, but, if die he must, he did not want to die foolishly.

It had taken a long time to drift in from the outer reaches of this sun's planetary system, but using the power plants any more than absolutely necessary would have been foolhardy.

The Nipe missed the companionship his brother had given him for so long; his help would be invaluable now. But there had been no choice. There had not been enough supplies for two to survive the long fall inward toward the distant sun. The Nipe, having discovered the fact first, had, out of his mercy and compassion, killed his brother while the other was not looking. Then, having eaten his brother with all due ceremony, he had settled down to the long, lonely wait.

Beings of another race might have cursed the accident that had disabled the ship, or regretted the necessity that one of them should die, but the Nipe did neither, for, to him, the first notion would have been foolish, and the second incomprehensible.

But now, as the ship fell ever closer toward the yellow-white sun, he began to worry about his own fate. For a while, it had seemed almost certain that he would survive long enough to build a communicator

—for the instruments had already told him and his brother that the system ahead was inhabited by creatures of reasoning power, if not true intelligence, and it would almost certainly be possible to get the equipment he needed for them. Now, though, it looked as if the ship would not survive a landing. He had had to steer it away from a great gas giant, which had seriously endangered the power plants.

He did not want to die in space—wasted, forever undevoured. At least, he must die on a planet, where there might be creatures with the compassion and wisdom to give his body the proper ingestion. The thought of feeding inferior creatures was repugnant, but it was better than rotting to feed monocells or ectogenes, and far superior to wasting away in space.

Even thoughts such as these did not occupy his mind often or for very long. Far, far better than any of them was the desire and planning for survival.

The outer orbits of the gas giants had been passed at last, and the Nipe fell on through the asteroid belt without approaching any of the larger pieces of rock-and-metal. That he and his brother had originally elected to come into this system along its orbital plane had been a mixed blessing; to have come in at a different angle would have avoided all the debris—from planetary size on down—that is thickest in a star's equatorial plane, but it would also have meant a greater chance of missing a suitable planet unless too much reliance were placed on the already weakened power generators. As it was, the Nipe had been able to use the gravitational field of the gas giant to swing his ship toward the precise spot where the third planet would be when the ship arrived in the third orbit. Moreover, the third planet would be retreating from the Nipe's line of flight, which would make the velocity difference that much the less.

For a while, the Nipe had toyed with the idea of using the mining bases that the local life form had set up in the asteroid belt as bases for his own operations, but he had decided against it. Movement would be much freer and much more productive on a planet than it would be in the Belt.

He would have preferred using the fourth planet for his base. Although much smaller, it had the same reddish, arid look as his own home planet, while the third world was three-quarters drowned in water. But there were two factors that weighed so heavily against that choice that they rendered it impossible. In the first place, by far the greater proportion of the local inhabitants' commerce was between the asteroids and the third planet. Second, and much more important, the fourth world was at such a point in her orbit that the energy required to land would destroy the ship beyond any doubt.

It would have to be the third world.

As the ship fell inward, the Nipe watched his pitifully inadequate instruments, doing his best to keep tabs on every one of the feebly-powered ships that the local life form used to move through space. He did not want to be spotted now, and even though the odds were against these beings having any instrument highly developed enough to spot his craft, there was always the possibility that he might be observed optically.

So he squatted there in the ship, a centipede-like thing about five feet in length and a little less than eighteen inches in diameter, with eight articulated limbs spaced in pairs along his body, any one of which could be used as hand or foot. His head, which was long and snouted, displayed two pairs of violet eyes which kept a constant watch on the indicators and screens of the few instruments that were still functioning aboard the ship.

And he waited as the ship fell towards its rendezvous with the third planet.

II

Wang Kulichenko pulled the collar of his uniform coat up closer around his ears and pulled the helmet and face-mask down a bit. It was only early October, but here in the tundra country the wind had a tendency to be chill and biting in the morning, even at this time of year. Within a week or so, he'd have to start using the power pack on his horse to electrically warm his protective clothing and the horse's wrappings, but there was no necessity of that yet. He smiled a little as he always did when he thought of his grandfather's remarks about such "new-fangled nonsense".

"Your ancestors, son of my son," he would say, "conquered the tundra and lived upon it for thousands of years without the need of such womanish things. Are there no men anymore? Are there none who can face nature alone and unafraid without the aid of artifices that bring softness?"

But Wang Kulichenko noticed—though, out of politeness, he never pointed it out—that the old man never failed to take advantage of the electric warmth of the house when the short days came and the snow blew across the country like fine white sand. And he never complained about the lights or the television or the hot water, except to grumble occasionally that they were a little old and out of date and that the mail-order catalog showed that better models were available in Vladivostok.

And Wang would remind the old man, very gently, that a paper-forest ranger made only so much money, and that there would have to be more saving before such things could be bought. He did not—*ever*—remind the old man that he, Wang, was stretching a point to keep his grandfather on the payroll as an assistant.

Wang Kulichenko patted his

horse's rump and urged her softly to step up her pace just a bit. He had a certain amount of territory to cover, and, although he wanted to be careful in his checking, he also wanted to get home early.

Around him, the neatly-planted forest of paper-trees spread knotty, alien branches, trying to catch the rays of the winter-waning sun. Whenever Wang thought of his grandfather's remarks about his ancestors, he always wondered, as a corollary, what those same ancestors would have thought about a forest growing up here, where no forest like this one had ever grown before.

They were called paper-trees because the bulk of their pulp was used to make paper (they were of no use whatever as lumber), but they weren't trees, really, and the organic chemicals that were leached from them during the pulping process were of far more value that the paper pulp.

They were mutations of a smaller plant that had been found in the temperate regions of Mars and purposely changed genetically to grow on the Siberian tundra, where the conditions were similar to, but superior to, their natural habitat. They looked as though someone had managed to cross breed the Joshua tree with the cypress and then persuaded the result to grow grass instead of leaves.

In the distance, Wang heard the whining of the wind and he automatically pulled his coat a little tighter, even though he noticed no increase in the wind velocity around him.

Then, as the whine became louder, he realized that it was not the wind.

He turned his head toward the noise and looked up. For a long minute, he watched the sky as the sound gained volume, but he could see nothing at first. Then he caught a glimpse of motion. A dot that was hard to distinguish against the cloud-mottled gray sky.

What was it? An air transport in trouble? There were two trans-polar routes that passed within a few hundred miles of here, but no air transport he had ever seen had made a noise like that. Normally, they were so high as to be both invisible and inaudible. Must be trouble of some sort.

He reached down to the saddle pack without taking his eyes off the moving speck and took out the radiophone. He held it to his ear and thumbed the call button insistently.

Grandfather, he thought with growing irritation as the seconds passed, *wake up! Come on, old dozer, rouse yourself from your dreams!*

At the same time, he checked his wrist compass and estimated the direction of flight of the dot and its direction from him. He'd at least be able to give the airline authorities some information if the ship fell. He wished there were some way to triangulate its height and so on, but he had no need for that kind of thing, so he hadn't the equipment.

"Yes? Yes?" came a testy, dry voice through the earphone.

Quickly, Wang gave his grandfather all the information he had on the flying thing. By now, the whine had become a shrill roar, and the thing in the air had become a silver-pink fish shape.

"I think it's coming down very close to here," Wang concluded. "You call the authorities and let them know that one of the aircraft is in trouble. I'll see if I can be of any help here. I'll call you back later."

"As you say," the old man said hurriedly. He cut off.

Wang was beginning to realize that the thing was a spaceship, not an airship. By this time, he could see the thing more clearly. He had never actually seen a spacecraft, but he'd seen enough of them on television to know what they looked like. This one didn't look like a standard type at all, and it didn't behave like one, but it looked even less like an airship, and he knew enough to know that he didn't necessarily know every type of spaceship ever built.

In shape, it resembled the old rocket-propelled jobs that had been first used for space exploration a century before, rather than looking like the fat ovoids that he was used to. But there were no signs of rocket exhausts, and yet the ship was very obviously slowing, so it must have an inertia drive.

It was coming in much lower now, on a line north of him, headed almost due east. He urged the mare forward, in order to try to keep up with the craft, although it was obviously going several hundred miles per hour—hardly a horse's pace.

Still, it was slowing rapidly—very rapidly. Maybe—

He kept the mare moving.

The strange ship skimmed along the treetops in the distance and disappeared from sight. Then there was a thunderous crash, a tearing of wood and foliage, and a grinding, plowing sound.

For a few seconds afterward, there was silence. Then there came a soft rumble, as of water beginning to boil in some huge, but distant samovar. It seemed to go on and on and on.

And there was a bluish, fluctuating glow on the horizon.

Radioactivity? Wang wondered. Surely not an atomic-powered ship without safety cutoffs in this day and age.

He pulled out his radiophone and thumbed the call button again.

This time, there was no delay. "Yes?"

"How are the radiation detectors behaving there, Grandfather?"

"One moment. I shall see." There was a silence, Then: "No unusual activity, young Wang. Why?"

Wang told him, then asked: "Did you get hold of the air authorities?"

"Yes. They have no missing aircraft, but they're checking with the space fields. The way you describe it, the thing must be a spaceship of some kind."

"I think so, too. I wish I had a radiation detector here, though. I'd

like to know whether that thing is hot or not. It's only a couple of miles or so away. I think I'd better stay away. Meanwhile, you'd better put in a call to Central Headquarters Fire Control. There's going to be a holocaust if I'm any judge unless they get here fast with plenty of equipment."

"I'll see to it," said his grandfather, cutting off.

The bluish glow in the sky had quite died away by now, and the distant rumbling was gone, too. And, oddly enough, there was not much smoke in the distance. There was a small cloud of gray that rose, streamerlike, from where the glow had been, but even that faded away fairly rapidly in the chill breeze. Quite obviously, there would be no fire. After several more minutes of watching, he was sure of it. There couldn't have been much heat produced in that explosion—if it could really be called an explosion.

Then he saw something moving in the trees between himself and the spot where the ship had come down. He couldn't quite see what it was, but it looked like someone crawling.

"Halloo, there!" he called out. "Are you hurt?"

There was no answer. Perhaps whoever it was didn't understand Russian. Wang's command of English wasn't too good, but he called out in that language.

Still there was no answer. Whoever it was had crawled out of sight.

Then he realized that it couldn't be anyone crawling. No one could even have run the distance between here and the ship in the time since it had hit, much less crawled.

He frowned. A wolf, then? Possibly. They weren't too common, but there were still plenty of them around.

He unholstered the heavy pistol at his side.

And, as he slid the barrel free, he became the first human being ever to see the Nipe.

For an instant, as the Nipe came out from behind a tree fifteen feet away, Wang Kulichenko froze as he saw those four baleful violet eyes glaring at him from the snouted head. He jerked up the pistol to fire.

He was much too late. His reflexes were too slow by far. The Nipe launched itself across the intervening space in a blur of speed that would have made a leopard seem slow. The alien's hands slapped aside the gun with a violence that broke the man's wrist, while other hands slammed at his skull.

Wang Kulichenko hardly had time to be surprised before he died.

* * *

The Nipe stood quietly for a moment, looking down at the thing he had killed. His stomach churned with disgust. He ignored the fading hoofbeats of the slave-animal from which he had knocked the thing that lay on the ground with a crushed skull. The slave-animal was unintelligent and unimportant.

This was the intelligent one.

But so slow! So incredibly slow! And so weak and soft!

It seemed impossible that such poorly-equipped beasts could have survived long enough on any world to evolve to become the dominant life form.

Perhaps it was not the dominant form. Perhaps it was merely a higher slave-animal. He would have to do more investigating.

He picked up the weapon the thing had drawn and examined it carefully. The mechanism was unfamiliar, but a glance at the muzzle told him that it was a projectile weapon of some sort. The twisted grooves in the barrel were obviously designed to impart a spin to the projectile, to give it gyroscopic stability while in flight.

The dead thing must have thought he was a wild animal, the Nipe decided. Surely no being would carry a weapon for use against members of its own or another intelligent species.

He examined the rest of the equipment on the thing. Not much information there. Too bad the slave-animal was gone; there had apparently been more equipment strapped to it.

The next question was, what should he do with the body?

Devour it properly, as one should with a validly slain foe?

It didn't seem that he could do anything else, and yet his stomachs wanted to rebel at the thought. After all, it wasn't as if the thing were really a proper being. It was astonishing to find another intelligent race; none had ever been found before. But he was determined to show them that he was civilized and intelligent, too.

On the other hand, they were obviously of a lower order than the Nipe, and that made the question even more puzzling.

In the end, he decided to leave the thing here, for others of its kind to find. They would doubtless consume it properly.

And—he glanced at the sky and listened—they would be here in time. There were aircraft coming.

He would have to leave quickly. He had to find one of their production or supply centers, and he would have to do it alone, with only the equipment he had on him. The utter destruction of his ship had left him seriously hampered.

He began moving, staying in the protection of the trees. His ethical sense still bothered him. It was not at all civilized to leave a body to the mercy of lesser animals or monocells like that. What kind of monster would they think he was?

Still, there was no help for it. If they had caught him while feeding, they might have thought him a lower animal and shot him. He couldn't put an onus like that upon them.

He moved on.

III

Two-fifths of a second. That was all the time Bart Stanton had from the first moment his supersensitive

ears heard the faint whisper of metal against leather.

He made good use of it.

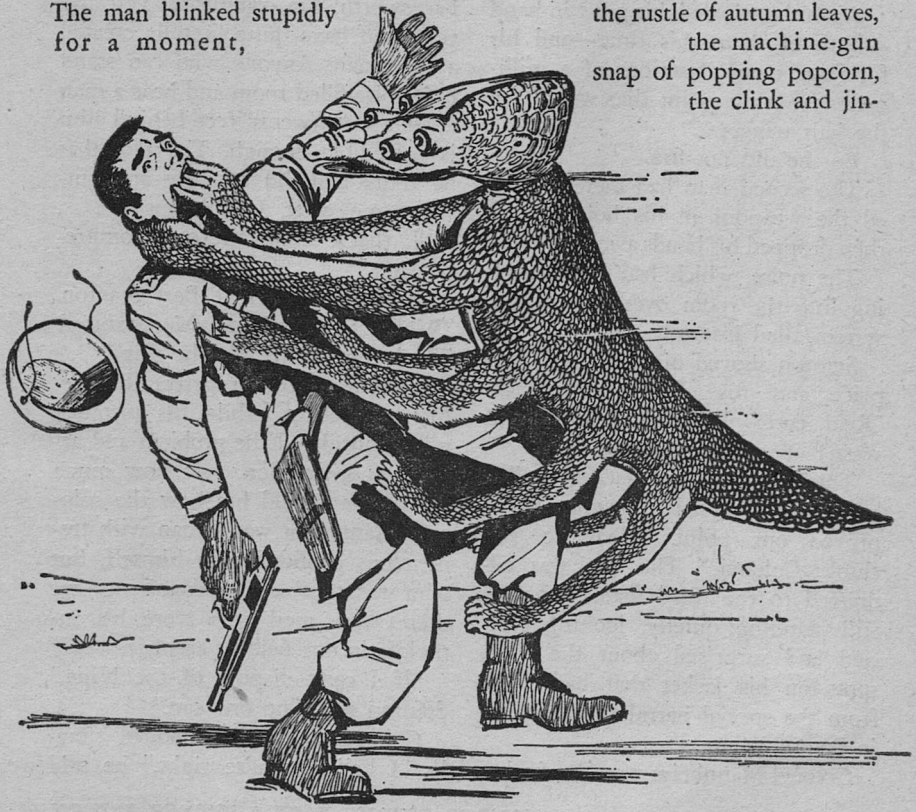
The noise had come from behind and slightly to the left of him, so he drew his own gun with his left hand and spun to his left as he dropped to a crouch. He had turned almost completely around, drawn his gun, and fired three shots before the other man had even leveled his own weapon.

The bullets from Stanton's gun made three round spots on the man's jacket, almost touching each other and directly over the heart. The man blinked stupidly for a moment, looking down at the round spots.

"My God," he said softly.

Then the man returned his weapon slowly to his holster.

The big room was noisy. The three shots had merely added to the noise of the gunfire that rattled intermittently around the two men. And even that gunfire was only a part of the cacophony. The tortured molecules of the air in the room were so besieged by the beat of drums, the blare of trumpets, the crackle of lightning, the rumble of heavy machinery, the squawks and shrieks of horns and whistles, the rustle of autumn leaves, the machine-gun snap of popping popcorn, the clink and jin-



gle of falling coins, and the yelps, bellows, howls, roars, snarls, grunts, bleats, moos, purrs, cackles, quacks, chirps, buzzes, and hisses of a myriad of animals, that each molecule would have thought that it was being shoved in a hundred thousand different directions at once if it had had a mind to think with.

The noise wasn't deafening, but it was certainly all-pervasive.

Bart Stanton had reholstered his own weapon and half opened his lips to speak when he heard another sound behind him.

Again he whirled, his guns in hand —both of them this time—and his forefingers only fractions of a millimeter from the point that would fire the hair triggers.

But he did not fire.

The second man had merely shifted the weapons in his holsters and then dropped his hands away.

The noise, which had been flooding into the room over the speaker system, died instantly.

Stanton shoved his guns back into place and rose from his crouch. "Real cute," he said, grinning. "I wasn't expecting that one."

The man he was facing smiled back. "Well, Bart, maybe we've proved our point. What do you think, Colonel?" The last was addressed to the third man, who was still standing quietly, looking worried and surprised about the three spots on his jacket that had come from the special harmless projectiles in Stanton's gun.

Colonel Mannheim was four inches shorter than Stanton's five-ten, and was fifteen years older. But, in spite of the differences, he would have laughed at anyone who had told him, five minutes before, that he couldn't outdraw a man who was standing with his back turned.

His bright blue eyes, set deep beneath craggy brows in a tanned face, looked speculatively at the younger man. "Incredible," he said gently. "Absolutely incredible." Then he looked at the other man, a lean civilian with mild blue eyes a shade lighter than his own. "All right, Dr. Farnsworth; I'm convinced. You and your staff have quite literally created a superman. Anyone who can stand in a noise-filled room and hear a man draw a gun twenty feet behind him is incredible enough. The fact that he could and did outdraw and outshoot me after I had started . . . well, that's almost beyond comprehension."

He looked back at Bart Stanton. "What's your opinion, Mr. Stanton? Think you can handle the Nipe?"

Stanton paused imperceptibly before answering, while his ultrafast mind considered the problem and arrived at a decision. Just how much confidence should he show the colonel? Mannheim was a man with tremendous confidence in himself, but who was capable of recognizing that there were men who were his superiors in one field or another.

"If I can't dispose of the Nipe," Stanton said, "no one can."

Colonel Mannheim nodded slowly. "I believe you're right," he said

at last. His voice was firm with inner conviction. He shot a glance at Farnsworth. "How about the second man?"

Farnsworth shook his head. "He'll never make it. In another two years, we can put him into reasonable shape again, but his nervous system just couldn't stand the gaff."

"Can we get another man ready in time?"

"Hardly. We can't just pick a man up off the street and turn him into a superman. Even if we could find another subject with Bart's genetic possibilities, it would take more time than we have to spare.

"This isn't magic, Colonel. You don't change a nobody into a physical and mental giant by saying *abracadabra* or by teaching him how to pronounce *shazam* properly."

"I'm aware of that," said Colonel Mannheim without rancor. "Five years of work on Mr. Stanton must have taught you something, though. I should think you could repeat the process in less time."

Farnsworth repeated the head-shaking. "Human beings aren't machines, Colonel. They require time to heal, time to learn, time to integrate themselves. Remember that, in spite of all our increased knowledge of anesthesia, antibiotics, viricides, and obstetrics, it still takes nine months to produce a baby. We're in the same position, only more so."

"I see," said Mannheim.

"Besides," Dr. Farnsworth continued, "Stanton's body and nervous system are now close to the theoretical limit for human tissue. I'm afraid you don't realize what kind of mental stability and organization are required to handle the equipment he now has."

"I'm sure I don't," the colonel agreed. "I doubt if anyone besides Stanton himself knows."

Dr. Farnsworth's manner softened a little. "You're probably quite right. Suffice it to say that Bartholomew Stanton is the only answer we've found so far, and the only answer visible in the foreseeable future to the problem posed by the Nipe."

The colonel's face darkened. "I keep hoping that our policy of handling the Nipe hasn't been a mistake. If it has, it's going to prove a fatal one—for the whole race."

"Let's go into the lounge," Farnsworth said. "Standing around in an empty chamber like this isn't the most comfortable way to discuss the fate of mankind." His voice brought hollow echoes from the walls.

Colonel Mannheim grinned at the touch of lightness the biophysicist had injected into the conversation. "Very well. I could do with some coffee, if you have some."

All you want," said Dr. Farnsworth, leading the way toward the door of the chamber and opening it. "Or, if you'd prefer something with a little more power to it—?"

"Thanks, no. Coffee will do fine," said Mannheim. "How about you, Mr. Stanton?"

Bart Stanton shook his head. "I'd love to have some coffee, but I'll leave the alcohol alone. I'd just have

the luck to be finishing a drink when our friend, the Nipe, popped in on us. And when I do meet him, I'm going to need every microsecond of reflex speed I can scrape up."

They walked down a soft-floored, warmly-lit corridor to an elevator which whisked them up to the main level of the Neurophysical Institute Building.

Another corridor led them to a room that might have been the common room of one of the more exclusive men's clubs. There were soft chairs and shelves of books and reading tables and smoking stands, all quietly luxurious. There was no one in the room when the three men entered.

"We can have some privacy here," Dr. Farnsworth said. "None of the rest of the staff will come in until we're through."

Colonel Mannheim looked at the biophysicist speculatively. "You seem to think secrecy's important all of a sudden."

Bart Stanton grinned and kept silent.

Dr. Farnsworth went over to a table, where an urn of coffee radiated soft warmth. "Cream and sugar over there on the tray," he said as he began to fill cups.

"Frankly," Colonel Mannheim said, "I was going to ask you to find us a place where we could talk privately. You seem to have anticipated me."

"I thought you might have something like that in mind," said Dr. Farnsworth without looking up.

The cups were filled and the three men sat down in a triangle of chairs before any of them spoke again. Colonel Mannheim took a sip from his cup and then looked up.

"All right, we'll begin this way. Mr. Stanton, granted that you've been through five years of hell—but how closely have you stayed in touch with the Nipe situation?"

"As best I could through news bulletins and information that your office has sent here."

"Could you give me an oral summary?"

Bart Stanton thought for a moment. It was true that he'd been out of touch with what had been going on outside the walls of the Neurophysical Institute for the past five years. In spite of the reading he'd done and the newscasts he'd watched and the TV tapes he'd seen, he still had no real feeling for the situation.

There were hazy periods during that five years. He had undergone extensive glandular and neural operations of great delicacy, many of which had resulted in what could have been agonizing pain without the use of suppressors. As a result, he possessed a biological engine that, for sheer driving power and nicety of control, surpassed any other known to exist or to have ever existed on Earth—with the possible exception of the Nipe. But those five years of rebuilding and retraining had left a gap in his life.

Several of the steps required to

make the conversion from man to superman had resulted in temporary insanity; the wild, swinging imbalances of glandular secretions seeking a new balance, the erratic misfirings of neurones as they attempted to adjust to higher nerve-impulse velocities, and the sheer fatigue engendered by cells which were acting too rapidly for a lagging excretory system, all had contributed to periods of greater or lesser mental abnormality.

That he was sane now, there was no question. But there were holes in his memory that still had to be filled.

He began to talk, rapidly but carefully, telling the colonel all he knew about the situation up to the present.

It wasn't much. It was late October, 2091, and the Nipe, blithely evading capture for ten long years, was still going about his unknown and possibly incomprehensible business.

The Nipe had become a legend. He had replaced Satan, the Bogeyman, Frankenstein's monster, and Mumbo Jumbo, Lord of the Congo, in the public mind. He had taken on, in popular thought, the attributes of the djinn, the vampire, the ghoul, the werewolf, and every other horror and hobgoblin that the mind of Man had conjured up in the previous half million years.

That he had been connected with the mysterious crash in Siberia ten years before was almost a certainty. How he had managed to get from there to Leningrad without being seen once was more of a mystery, but certainly not impossible in the light of what had been done since.

Eight months later, a non-vision phone call had been received by the Regent's Board of the Khrushchev Memorial Psychiatric Hospital in Leningrad. An odd, breathy voice offered (in very bad Russian!) a meeting. The Nipe had managed to explain, in spite of the language handicap, that he did not want to be mistaken for a wild animal, as had happened with the forest ranger.

The psychiatrists were divided in their opinions. Some thought that the call had been from a deranged person. When the Nipe actually showed up at the appointed place, those minds changed rapidly.

The Nipe's ability to use any human language was limited. He picked up vocabulary and grammatical rules very rapidly, but he seemed completely unable to use a language beyond discussion of concrete actions and objects. His mind was simply too alien to enable him to do more than touch the edges of human communication.

In the discussion of mathematics, in particular, the Nipe seemed to be completely at a loss. He apparently thought of mathematics as a *spoken* language instead of a *written* one, and could not progress beyond simple diagrams.

He wasn't captured in any real sense of the word. He refused to allow any physical tests on his body, and, short of threatening him at gunpoint, there didn't seem to be any

practicable way to force him to accede to the human's wishes. And they couldn't do that.

The Nipe had to be treated as an emissary from his home world, wherever that was. He'd killed a man, yes. But that had to be allowed as justifiable homicide in self-defense, since the forester had drawn a gun and was ready to fire. Nobody could blame the late Wang Kulichenko for that, but nobody could blame the Nipe, either.

For six weeks, the humans and the Nipe had tried to arrive at a meeting of minds, and just when it would seem within grasp, it would fade away into mist. It was nearly a month before the Russian psychologists and psychiatrists realized that the reason the Nipe had come to them was because he had thought that they were the ruling body of that territory!

The UN observers stayed out of it at first. Before there was any kind of talk on a Government level, there must be some kind of understanding on a personal level. And that, of course, was never achieved.

Just what had set off the Nipe's anger hadn't been established yet, as far as Stanton knew. At a meeting one day, he had simply become more and more incomprehensible, and then, without any warning, he had leaped out, killed three of the men with his bare hands, and gone out the window.

And that had been the end of any diplomatic relations between humanity and the Nipe.

Since that time, he'd been on a rampage of robbery and murder. He was as callously indifferent to human life and property as a human being might be with the life and property of a cockroach.

There have been human criminals whose actions could be described in the same way, but the Nipe had a few touches that few human criminals would have thought of and almost none would have had the capacity to execute.

If, for instance, the Nipe had time to spare, his victims would be an annoying problem in identification when found, for there would be nothing left but well-gnawed bones. And "time to spare," in this case meant twenty or thirty minutes. The Nipe had, if nothing else, a very efficient digestive tract. He ate like a shrew.

And the Nipe never, under any circumstances, used any weapon but the weapons Nature had given him—hands-or-feet, or claws or teeth. Never did he use a knife or gun or even a club.

Almost as an afterthought, one realized that the loot which the Nipe stole was seemingly unpredictable. Money, as such, he apparently had no use for. He had taken gold, silver, and platinum, but one raid for each of these elements had evidently been enough, except for silver, which had required three raids over a period of four years. Since then, he hadn't touched silver again.

He hadn't tried yet for any of the radioactives except radium. He'd

taken a full ounce of that in five raids, but hadn't attempted to get his hands on uranium, thorium, plutonium, or any of the other elements normally associated with atomic energy. Nor had he tried to steal any of the fusion materials; the heavy isotopes of hydrogen or any of the lithium isotopes. Beryllium had been taken, but whether there was any significance in the thefts or not, no one knew.

There was a pattern in the thefts, nonetheless. They had begun small and increased. Scientific and technical instruments—oscilloscopes, X-ray generators, radar equipment, maser sets, dynostatic crystals, thermolight resonators, and so on—were stolen complete or gutted for various parts. After awhile, he went on to bigger things—whole aircraft, with their crews, had vanished.

That he had not committed anywhere near all the crimes that had been attributed to him was certain; that he *had* committed a great many of them was equally certain.

There was no doubt at all that his loot was being used to make instruments and devices of unknown kinds. He had used several of them on his raids. The one that could apparently phase out almost any electromagnetic frequency up to about a hundred thousand megacycles—including sixty-cycle power frequencies—was considered to be a particularly cute item. So was the gadget that reduced the tensile strength of concrete to about that of a good grade of marshmallow.

After he had been operating for a few years, there was no installation on the face of the earth that could be considered Nipe-proof for more than a few minutes. He struck when and where he wanted and took whatever he needed.

It was manifestly impossible to guard against the Nipe, since no one knew what sort of loot might strike his fancy next, and there was therefore no way of knowing where or how he would hit next.

Nor could he ever be found after one of his raids. They were plotted and followed out with diabolical accuracy and thoroughness. He struck, looted, and vanished. And wasn't seen again until his next strike.

Colonel Mannheim, who had carefully puffed a cigar alight and smoked it thoughtfully during Stanton's recitation, dropped the remains of the cigar into an ash receptacle. "Accurate but incomplete," he said quietly. "You must have made some guesses." He looked from Bart Stanton to Dr. Farnsworth. "I'd like to hear them."

Farnsworth finished off the last of his coffee. "We've talked about it," he admitted. "Although I must say the hypothesis Bart has come up with would never have occurred to me. I'm still not sure I credit it, but" . . . he shrugged . . . "I can't say that I disbelieve it, either."

Mannheim turned his eyes back to Stanton. His silence was a question.

"Logically, my theory mightn't hold much water," Stanton admitted. "But the evidence seems to be conclusive enough to me." He got up, went over to the coffee urn, and refilled his cup. "It seems incredible to me that the combined intelligence and organizational ability of the UN Government is incapable of finding anything out about one single alien, no matter how competent he may be," he said as he returned to his seat.

"Somehow, somewhere, someone must have gotten a line on the Nipe. He must have a base for his operations, and someone should have found it by this time.

"If there is such a base, then it must be possible to blast him out of it without resorting to the kind of work it took to produce—me.

"I may be faster and more sensitive and stronger than the average man, but that doesn't mean that I have superhuman abilities to the extent that I can do in two or three years what the combined forces of the Government couldn't do in ten.

Certainly you wouldn't rely too heavily on it.

"And yet, apparently, you are.

"To me that can only mean that you've got another ace up your sleeve. You *know* we're going to get the Nipe before I die. You either have a sure way of tracing him or else you already know where he is.

"Which is it?"

Colonel Mannheim sighed. "We know where he is. We've known for six years."

IV

INTERLUDE

The woman's eyes were filled with tears, for which the doctor was privately thankful. At least the original shock had worn off.

"And there's nothing we can do? Nothing?" There was a slight catch in her voice.

"I'm afraid not. Not yet. There are research teams working on the problem, and one day . . . perhaps . . ." Then he shook his head. "But not yet." He paused. "I'm sorry, Mrs. Stanton."

The woman sat there on the comfortable chair and looked at the specialist's diploma that hung on the doctor's wall—and yet, she didn't really see the diploma at all. She was seeing something else—a kind of dream that had been shattered.

After a moment, she began to speak, her voice low and gentle, as though the dream were still going on and she were half afraid she might waken herself if she spoke too loudly.

"Jim and I were so glad they were twins. Identical twin boys. He said—I remember, he said, 'We ought to call 'em Ike and Mike.' And he laughed a little when he said it, to show he didn't mean it.

"I remember, I was propped up in the bed, the afternoon they were born, and Jim had brought me a new bed jacket, and I said I didn't need a new one because I would be going home the next day, and he said: 'Hell, kid, you don't think I'd just buy a bed jacket just for hospital use, do you? This is for breakfasts in bed, too.'

"And that's when he said he'd seen the boys and said we ought to name them Ike and Mike."

The tears were coming down Mrs. Stanton's cheeks heavily now, and grief made her look older than her twenty-four years, but the doctor said nothing, letting her spill out her emotions in words.

"We'd talked about it before, you know—as soon as the obstetrician found out that I was going to have twins. And Jim . . . Jim said that we shouldn't name them alike unless they were identical twins or mirror twins. If they were fraternal twins, we'd just name them as if they'd been ordinary brothers or sisters or whatever. You know?" She looked at the doctor, pleading for understanding.

"I know," he said.

"And Jim was always kidding. If they were girls, he said we ought to call them Flora and Dora, or Annie

and Fanny, or maybe Susie and Floozie. He was always kidding about it. You know?"

"I know," said the doctor.

"And then, when they *were* identical boys, he was very sensible about it. 'We'll call them Martin and Bartholomew,' he said. "Then if they want to call themselves Mart and Bart, they can, but they won't be stuck with rhyming names if they don't want them.' Jim was very thoughtful that way, Doctor. Very thoughtful."

She suddenly seemed to realize that she was crying, and took a handkerchief out of her sleeve to dab at her eyes and face.

"I'll have to quit crying," she said, trying to sound brave and strong. "After all, it could have been worse, couldn't it? I mean, the radiation could have killed my boys, too. Jim's dead, yes, and I've got to get used to that. But I still have two boys to take care of, and they'll need me."

"Yes, Mrs. Stanton, they will," said the doctor. "They'll both need you. And you'll have to be very gentle and very careful with both of them."

"How . . . how do you mean that?" she asked.

The doctor settled back in his chair and chose his words carefully. "Identical twins tend to identify with each other, Mrs. Stanton. There is a great deal of empathy between people who are not only of the same age, but genetically identical. If they were both healthy, there would be very little trouble in their education at home or at school. Any of the standard texts on psychodynamics in education will show you the pitfalls to avoid when dealing with identical siblings.

"But these boys are no longer identical. One is normal, healthy, and lively. The other is . . . well, as you have seen, he is slow, sluggish, and badly co-ordinated. That condition may improve with time, but, until we know more about such damage than we do now, he will be an invalid.

"That's the trouble with radiation damage, Mrs. Stanton. Even when we can save the victim's life, we cannot always save his health.

"You can see, I think, what sort of psychic distrubances this can bring about in such a pair. The ill boy tends to identify with the well one and, unfortunately, the reverse is true. If they are not properly handled during their formative years, Mrs. Stanton, both can be badly damaged emotionally."

"I . . . I think I understand," the woman said. "But what sort of thing should I look out for?"

"I suggest that you get a good man in psychic development," the doctor said. "I'd hesitate to prescribe. It's out of my field. But, in general, most of your trouble will be caused by a tendency for the pair to swing into one of two extremes.

"Mutual antagonism can arise if one becomes jealous of the other's health, while the healthy one becomes jealous of the extra consideration shown his crippled brother.

"Or, on the other hand, the healthy

boy may identify so closely with his brother that he feels every hurt or slight, real or imagined. He becomes over-solicitous, over-protective. At the same time, the other brother may come to depend completely on the healthy twin.

"In both these situations, there is a positive feedback which constantly worsens the situation. It requires a great deal of careful observation and careful application of the proper educational stimuli to keep the situation from developing toward either extreme. You'll need expert help, if you want both boys to display the full abilities of which they are potentially capable."

"I see. Could you give me the name of a good man, Doctor?"

The doctor nodded and picked up a book on his desk. "I'll give you several names. You can pick the one you like. They're all good men. There are many good women in the field, too, but in this case, I think a man would be best. Of course, if one of them thinks a woman is indicated, that's up to him. As I said, that isn't my field."

He opened the small book and riffled through it to find the names he wanted.

V

The image of the Nipe on the glowing screen was clear and finely detailed. It was, Bart thought, as though one were looking through a window into the Nipe's nest itself. Only the tremendous depth of focus of the lens which caught the picture gave the illusion a sense of unreality. Everything—background and foreground alike—was sharply in focus.

The Nipe moved in slow motion, giving the watchers the eerie feeling that he was moving through a thicker, heavier medium than air, in a place where the gravity was much less than that of Earth.

"Speed the tape up to normal," said Colonel Mannheim to the man who was operating the machine. "If there's anything Mr. Stanton wants to look at more closely, we can run it through again."

As if in obedience to the colonel's command, the Nipe seemed to shake himself a little and go about his business more briskly, and the air and gravity seemed to revert to those of Earth.

"What's he doing?" Stanton asked. The Nipe was doing something with an odd-looking box that sat on the floor in front of him.

"He's got a screwdriver that he's modified to give it a head with an L-shaped cross-section, and he's wiggling it around inside that hole in the box. But what he's doing is a secret between God and the Nipe at this point," the colonel said glumly.

Stanton glanced away from the screen for a moment to look at the other men who were there. Some of them were watching the screen, but most of them seemed to be watching Stanton, although they looked away as soon as they saw his eyes on them.

Trying to see what kind of a bloke this touted superman is, Stanton

thought. *Well, I can't say I blame 'em.*

He brought his attention back to the screen.

So this was the Nipe's hideaway. He wondered if it were furnished in the fashion that a Nipe's living quarters would be furnished on whatever planet the multilegged horror called home. Probably it had the same similarity as Robinson Crusoe's island home had to a middle-class Nineteenth Century English home.

There was no furniture at all, as such. Low-slung as he was, the Nipe needed no tables for his work, and sleeping was a form of metabolic rest that he evidently found unnecessary, although he would sometimes just remain quiet for periods of time ranging from a few minutes to a couple of hours.

"We had a hard time getting the first cameras in there," the colonel was saying. "That's why we missed some of the early stages of his work. There! Look at that!"

"That attachment he's making?"

"That's right. Now, it looks as though it's a meter of some kind, but we don't know whether it's a test instrument or an integral part of the machine he's making. The whole thing might be a test instrument. After all, he had to start out from the very beginning—making the tools to make the tools to make the tools, you know."

"It's not quite as bad as all that," said one of the other men, who had been briefly introduced to Stanton as Fred Meyer. "After all, he had our technology to draw upon. If he'd been wrecked on Earth two or three centuries ago, he wouldn't have been able to do a thing."

"Granted," the colonel said agreeably, "but it's quite obvious that there are parts of our technology that are just as alien to him as parts of his are to us. Remember how he went to all the trouble of building a pentode vacuum tube for a job that could have been done by transistors. His knowledge of solid-state physics seems to be about a century and a half behind ours."

"Not completely, Colonel" Meyer said. "That gimmick he built last year —the one that blinded those people in Bagdad—had five perfect emeralds in it, connected in series with silver wire."

"That's true. Our technologies seem to overlap in some areas, but in others there's total alienness."

"Which one would you say was ahead of the other?" Stanton asked.

"Hard to say," said Colonel Mannheim. "but I'd put my money on his technology as encompassing more than ours—at least insofar as the physical sciences are concerned."

"I agree," said Meyer, "he's got things in that little nest of his that—" He stopped and shook his head slowly, as though he couldn't find words.

"I'll say this," Bart Stanton said musingly, "our friend, the Nipe, has plenty of guts. And patience." He smiled a little and then amended his statement. "From our own point of view, that is."

Colonel Mannheim's face took on a quizzical expression. "How do you mean? I was about to agree with you until you tacked that last phrase on. What does point of view have to do with it?"

"Everything, I should say," Stanton said. "It all depends on the equipment an individual has. A man who rushes into a burning building to save a life, wearing nothing but street clothes, has courage. A man who does the same thing when he's wearing a nullotherm suit is an unknown quantity. There is no way of knowing, from that action alone, whether he has courage or not."

Meyer looked a little dazed. "Pardon me if I seem thick, Mr. Stanton, but . . . Are you saying that the Nipe's technological equipment is better than ours?"

"Not at all. I'm talking about his personal equipment." He turned again to the colonel. "Colonel Mannheim, do you think it would require any personal courage on my part to stand up against you in a face-to-face gunfight?"

The colonel grinned tightly. "I see what you mean. No, it wouldn't."

"On the other hand, if *you* were to challenge *me,*" Bart Stanton continued, "would *that* show courage?"

"Not really. Foolhardiness, stupidity, or insanity—not courage."

"Then neither of us can prove we have guts enough to fight the other. Can we?"

Colonel Mannheim smiled grimly and said nothing, but Meyer, who evidently had a great deal of respect for the colonel, said: "Now, wait a second! That depends on the circumstances! If Colonel Mannheim, say, knew that forcing you to shoot him would save someone else's life—someone more important, say, or maybe a *lot* of people, then—"

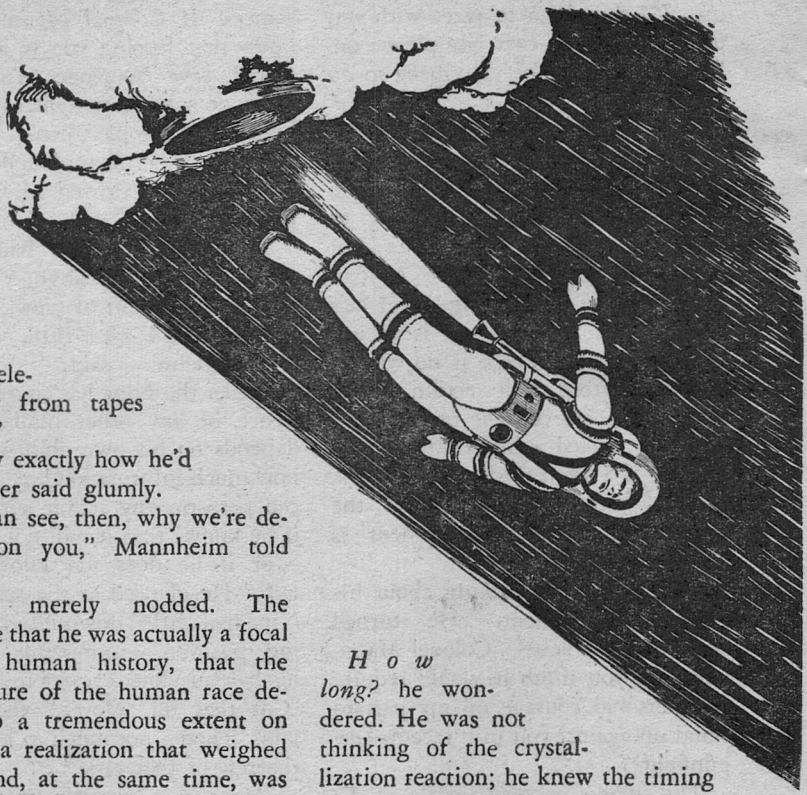
Colonel Mannheim laughed. "Meyer, you've just proved Mr. Stanton's point!"

Meyer gaped for a half second, then burst into laughter himself. "Pardon my point of view, Mr. Stanton! I guess I *am* a little slow!"

Mannheim said: "Precisely! Whether the Nipe has courage or patience or any other human feeling depends on his own abilities and on how much information he has. A man can perform any action without fear if he knows that it will not hurt him—or if he does *not* know that it *will.*" He glanced at the screen. The Nipe had settled down into his "sleeping position"—unmoving, although his baleful violet eyes were still open. "Cut that off, Meyer," the colonel said. "There's not much to learn from the rest of that tape."

"Have you actually managed to build any of the devices he's constructed?" Stanton asked.

"Some," said Colonel Mannheim. "We have specialists all over the world studying the tapes. We have the advantage of being able to watch every step the Nipe makes, and we know the materials he's using to work with. But, even so, the scientists are baffled by many of them. Can you imagine the time James Clerk Maxwell would have had trying to build a



modern television set from tapes like this?"

"I know exactly how he'd feel," Meyer said glumly.

"You can see, then, why we're depending on you," Mannheim told Stanton.

Stanton merely nodded. The knowledge that he was actually a focal point in human history, that the whole future of the human race depended to a tremendous extent on him, was a realization that weighed heavily, and, at the same time, was immensely bracing.

"And now," the colonel said, "I'll turn you over to the psychology department. They'll be able to give you a great deal more information on the Nipe than I can."

VI

The Nipe squatted, brooding, in his underground nest, waiting for the special crystallization process to take place in the sodium-gold alloy that was forming in the reactor.

How long? he wondered. He was not thinking of the crystallization reaction; he knew the timing of that to the fraction of a second. His dark thoughts were focused inwardly, upon himself.

How long would it be before he would be able to construct the communicator that would put him in touch with his own race again? How long before he could discourse again with reasonable beings? For how much longer would he be stranded on an insane planet, surrounded by degraded, insane beings?

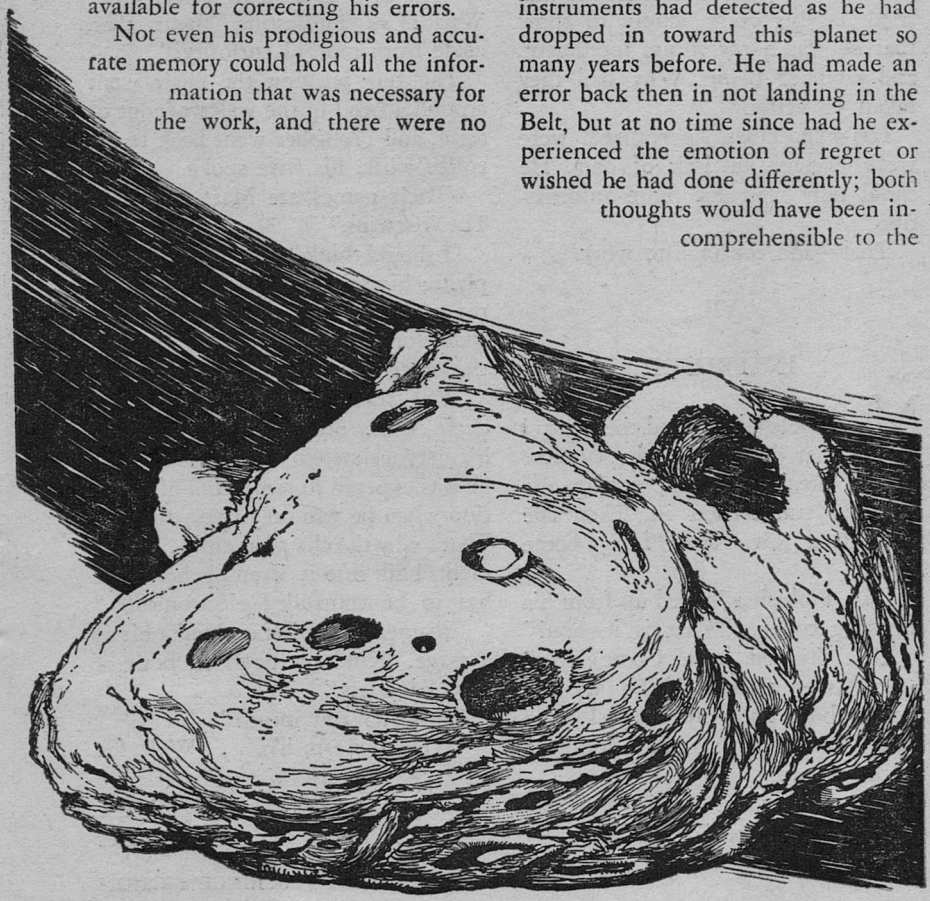
The work was going incredibly slowly. He had known at the begin-

ning that his knowledge of the basic arts required to build a communicator was incomplete, but he had not realized just how painfully inadequate it was. Time after time, his instruments had simply refused to function because of some basic flaw in their manufacture—some flaw that an expert in that field could have pointed out at once. Time after time, equipment had had to be rebuilt almost from the beginning. And, time after time, only cut-and-try methods were available for correcting his errors.

Not even his prodigious and accurate memory could hold all the information that was necessary for the work, and there were no reference tapes available, of course.

He had long since given up any attempt to understand the functioning of the mad pseudo-civilization that surrounded him. He was quite certain that the beings he had seen could not possibly be the real rulers of this society, but he had, as yet, no inkling as to who the real rulers were.

As to *where* they were, that question seemed a little easier to answer. It was highly probably that they were out in space, on the asteroids that his instruments had detected as he had dropped in toward this planet so many years before. He had made an error back then in not landing in the Belt, but at no time since had he experienced the emotion of regret or wished he had done differently; both thoughts would have been incomprehensible to the



Nipe. He had made an error; the circumstances had been checked and noted; he would not make that error again.

What further action could be taken by a logical mind?

None. The past was unchangeable. It existed only as a memory in his own mind, and there was no way to change that indelible record, even had he wished to do such an insane thing.

Surely, he thought, the real rulers must know of his existence. He had tried, by his every action, to show that he was a reasoning, intelligent, and civilized being. Why had they taken no action?

His hypotheses, he realized, were weak becuase of lack of data. He could only wait for more information.

That—and continue to work.

VII

INTERLUDE

Mrs. Frobisher touched the control button that depolarized the window in the breakfast room, letting the morning sun stream in. Then she said, in a low voice, "Larry, come here."

Larry Frobisher looked up from his morning coffee. "What is it, hon?"

"The Stanton boys. Come look."

Frobisher sighed. "Who are the Stanton boys, and why should I come look?" But he got up and came over to the window.

"See—over there on the walkway toward the play area," she said.

"I see three girls and a boy pushing a wheeled contraption," Frobisher said. "Or do you mean that the Stanford boys are dressed up as girls?"

"*Stanton,*" she corrected him. "They just moved into the apartment on the first floor."

"Who? The three girls?"

"No, silly! The two Stanton boys and their mother. One of them is in that 'wheeled contraption'. It's called a therapeutic chair."

"Oh? So the poor kid's been hurt. What's so interesting about that, aside from morbid curiosity?"

The boy pushing the chair went around a bend in the walkway, out of sight, and Frobisher went back to his coffee while his wife spoke.

"Their names are Mart and Bart. They're twins."

"I should think," Frobisher said, applying himself to his breakfast, "that the mother would get a self-powered chair for the boy instead of making the other boy push it."

"The poor boy can't control the chair, dear. Something wrong with his nervous system. I understand that he was exposed to some kind of radiation when he was only two years old. That's why the chair has all the instruments built into it. Even his heartbeat has to be controlled electronically."

"Shame." Frobisher speared a bit of sausage. "Kind of rough on both of 'em, I'd guess."

"How do you mean?"

"Well, I mean, like . . . Well, for instance, why are they going over to the play area? Play games, right? The one that's well has to push his brother

over there—can't just get out and go; has to take the brother along. Kind of a burden, see?

"And then, the kid in the chair has to sit there and watch his brother play baseball or jai alai, while he can't do anything himself. Like I say, kind of rough on both of them."

"Yes, I suppose it must be. More coffee?"

"Thanks, honey. And another slice of toast, hunh?"

VIII

The two objects floating in space both looked like pitted pieces of rock. The larger one, roughly pear-shaped and about a quarter of a mile in its greatest dimension, was actually that —a hunk of rock. The smaller—*much* smaller—of the two was a camouflaged spaceboat. The smaller was on a near-collision course with reference to the larger, although their relative velocities were not great.

At precisely the right time, the smaller drifted by the larger, only a few hundred yards away. The weakness of the gravitational fields generated between the two caused only a slight change of orbit on the part of both bodies. Then they began to separate.

But, during the few seconds of their closest approach, a third body had detached itself from the camouflaged spaceboat and shot rapidly across the intervening distance to land on the surface of the floating mountain.

The third body was a man in a spacesuit. As soon as he landed, he sat down, stock-still, and checked the instrument case he held in his hands.

No response. Thus far, then, he had succeeded.

He had had to pick his time precisely. The people who were already on this small planetoid could not use their detection equipment while the planetoid itself was within detection range of Beacon 971, only two hundred and eighty miles away. Not if they wanted to keep from being found. Radar pulses eminating from a presumably lifeless planetoid would be a dead giveaway.

Other than that, they were mathematically safe—if they depended on the laws of chance. No ship moving through the Asteroid Belt would dare to move at any decent velocity without using radar, so the people on this particular lump of planetary flotsam would be able to spot a ship's approach easily, long before their own weak detection system would register on the pickups of the approaching ship.

The power and range needed by a given detector depends on the relative velocity—the greater that velocity, the more power, the greater range needed. At one mile per second, a ship needs a range of only thirty miles to spot an obstacle thirty seconds away; at ten miles per second, it needs a range of three hundred miles.

The man who called himself Stanley Martin had carefully plotted the orbit of this particular planetoid and then let his spaceboat coast in without

using any detection equipment except the visual. It had been necessary, but very risky.

Had the people here seen his boat? If so, had they recognized it, in spite of the heavy camouflage? And, even if they only suspected, what would be their reaction?

He waited.

It takes nerve and patience to wait for thirteen solid hours without moving more than an occasional flexure of muscles, but he managed that long before the instrument case waggled a meter needle at him. The one relieving factor was the low gravity; on an asteroid, the problem of sleeping on a bed of nails is caused by the likelihood of accidentally throwing oneself off the bed. The probability of puncture or discomfort from the points is almost negligible.

When the needle on the instrument panel flickered, he got to his feet and began moving. He was almost certain that he had not been detected.

Walking was out of the question. This was a silicate-alumina rock, not a nickel-iron one. The group that occupied it had deliberately chosen it that way, so that there would be no chance of its being picked out for slicing by one of the mining teams in the Asteroid Belt. Granted, the chance of any given metallic planetoid's being selected were very small, they had not even wanted to take that chance. Therefore, without any magnetic field to hold him down, and only a very tiny gravitic field, the man had to use different tactics.

It was more like mountain climbing than anything else, except that there was no danger of falling. He crawled over the surface in the same way that an Alpine climber might crawl up the side of a steep slope—seeking handholds and toeholds and using them to propel himself onward. The only difference was that he covered distance a great deal more rapidly than a mountain climber could.

When he reached the spot he wanted, he carefully concealed himself beneath a craggy overhang. It took a little searching to find exactly the right spot, but when he did, he settled himself into place in a small pit and began more elaborate preparations.

Self-hypnosis required nearly ten minutes. The first five or six minutes were taken up in relaxing from his exertion. Gravity notwithstanding, he had had to push his hundred and eighty pounds of mass over a considerable distance. When he was completely relaxed and completely hypnotized, he reached up and cut down the valve that fed oxygen into his suit.

Then, of his own will, he went cataleptic.

A single note, sounded by the instruments in the case by his side, woke him instantly. He came fully awake, as he had commanded himself to do.

Immediately, he turned up his oxygen intake, at the same time glancing

at the clock dial in his helmet. He smiled. Nineteen days and seven hours. He had calculated it almost precisely. He wasn't more than an hour off, which was pretty good, all things considered.

He consulted his instruments again. The supply ship was ten minutes away. The smile stayed on his face as he prepared for further action.

The first two minutes were conscientiously spent in inhaling oxygen. Even under the best cataleptic conditions, the body tended to slow down too much. He had to get himself prepared for violent movement.

Eight minutes left. He climbed out of the little grotto where he had concealed himself and moved toward the spot where he knew the air lock to the caverns underneath the planetoid's surface was hidden. Then, again, he concealed himself and waited, while he continued to breathe deeply of the highly oxygenated air in his suit. Five minutes before the ship landed, he swallowed eight ounces of the nutrient solution from the tank in the back of his helmet. The solution of amino acids, vitamins, and honey sugar also contained a small amount of stimulant of the dexedrine type and one per cent ethanol. Then he unholstered his gun.

It wasn't a big ship. He had known it wouldn't be. It was only a little larger than the one he had used to come here. It dropped down to the surface of the small planetoid only ten meters from the hidden trapdoor that led to the air lock beneath the surface.

He could suddenly hear voices in the earphones of his helmet.

Lasser?

It's me, Fritz. I got your supplies and good news.

The air lock trapdoor opened, and a spacesuited figure came out. *How about the deal?*

That's the good news, said the second suited figure as it came from the air lock of the grounded spaceboat. *Another five million.*

The man who was hidden behind the nearby crag of rock listened and watched for a minute or so more while the two men began unloading cases of foodstuffs from the spaceboat. Then, satisfied that it was perfectly safe, he aimed his gun and shot twice in rapid succession. The range was almost point-blank, and there was, of course, no need to take either gravity or air resistance into account.

The pellets of the shotgun-like charge that blasted out from the gun were small, needle-shaped, and heavy. They were oriented point-forward by the magnetic field along the barrel of the weapon. Of the hundreds in each charge fired, only a few penetrated the spacesuits of the targets, but those few were enough. The powerful drug in the needle-pointed head of each went into the bloodstream of the target.

Each man felt an itching sensation. He had less than two seconds to think about it before unconsciousness overtook him and he slumped nervelessly.

The man with the gun ran across the intervening space quickly, his

body only a few degrees from the horizontal, and his toes paddling rapidly to propel him over the rough rock.

He braked himself to a halt and slapped air patches over the area where his charges had struck the men's suits, sealing the tiny air leaks, and, at the same time, driving more of the tiny needles into their skins. They would be out for a long time.

Neither of them had yet fallen to the ground; that would take several minutes under this low gravity. He left them to drop and headed toward the open air lock.

This was what he had been waiting for all those nineteen days in cataleptic hypnosis. He couldn't have cut his way in from the outside; he had had to wait until it was opened, and that time would come only when the supply ship came.

Once in the air lock, he touched the control stud that would close the outer door, pump air into the waiting room, and open the inner door. Here was his greatest point of danger—greater, even, than the danger of coming to the planetoid, or the danger of waiting nineteen days for the coming of the supply ship. If the ones who remained within suspected anything—anything at all!—then his chances of coming out of this alive were practically nil.

But there was no reason why they should suspect. They should think that the man coming in was one of their own. The radio contact between the men outside had been limited to a few millimicrowatts of power—necessarily, since radio waves of very small wattage can be decoded at tremendous distances in open space. The men inside the planetoid certainly should not have been able to pick up any more than the beginning of the conversation, before it had been cut off by solid rock.

It was a high-speed air lock. Unlike the soundless discharge of his special gun in the outer airlessness, the blast of air that came into the waiting chamber was like a hurricane in noise and force, as the room filled in a few seconds.

He held onto the handholds tightly while the brief but violet winds buffeted him. He turned as the inner door opened.

His eyes took in the picture in a fraction of a second. In an even smaller fraction, his mind assimilated the picture.

The woman was dark-haired, dark-eyed, and muscular. Her mouth was wide and thick-lipped beneath a large nose.

The man was leaner and lighter, bony-faced and beady-eyed.

The woman said: "Fritz, what—"

And then he shot them both with gun number two.

No needle charges this time; such shots would have blown them both in two, unprotected as they were by spacesuits. The small handgun merely jangled their nerves with a high-powered blast of accurately beamed supersonics. While they were still twitching, he went over and jabbed them with a drug needle.

Then he went on into the hideout.

He had to knock out one more man, whom he found sound asleep in a room off the short corridor.

It took a gas bomb to get the two women who were guarding the kid.

He made sure that the BenChaim boy was all right, then he went to the little communications room and called for help.

IX

Colonel Walther Mannheim tapped the map that glowed on the wall before him. "He's right there, where those tunnels come together."

Bart Stanton looked at the map of Manhattan Island and at the gleaming colored traceries that threaded their various ways across it. "Just what was the purpose of those tunnels?" he asked curiously.

"They were for rail transportation," said the colonel. "The island was hit by a sun bomb during the Holocaust, and almost completely leveled and slagged down. When the city was rebuilt, there was naturally no need for such things, so they were simply sealed off and forgotten."

"Right under Government City," Stanton said. "Incredible."

"It used to be one of the largest seaports in the world," Colonel Mannheim said, "and it probably still would be if the inertia drive hadn't made air travel cheaper and easier than seagoing."

"How did he find out about the tunnels?" Stanton asked.

The colonel pointed at the north end of the island. "After the Holocaust, the first returnees to the island were wild animals which crossed from the mainland from the north. The Harlem River isn't very wide at this point. Also, because of the rocky hills at this end of the island, there were places which were spared the direct effects of the bomb, and grasses and trees began growing there. That's why it was decided to leave that section as a game preserve when the Government built the capital on the southern part of the island." His finger moved down the map. "The upper three miles of the island, down to here, where it begins to widen, are all game preserve. There's a high wall here which separates it from the city, and the ruins of the bridges which connected with the mainland have been removed, so the animals can't get back across any more.

"Two years after he arrived, the Nipe was almost caught. He had managed, somehow—we're not sure yet exactly how—to get here from Asia. According to the psychologists who have been studying him, he apparently does not believe that human beings are any more than trained animals; he was looking then—as he is apparently still looking—for the 'real' rulers of Earth. He expected to find them, of course, in Government City. Needless to say," said the colonel with a touch of irony, "he failed."

"But he was seen?" asked Stanton.

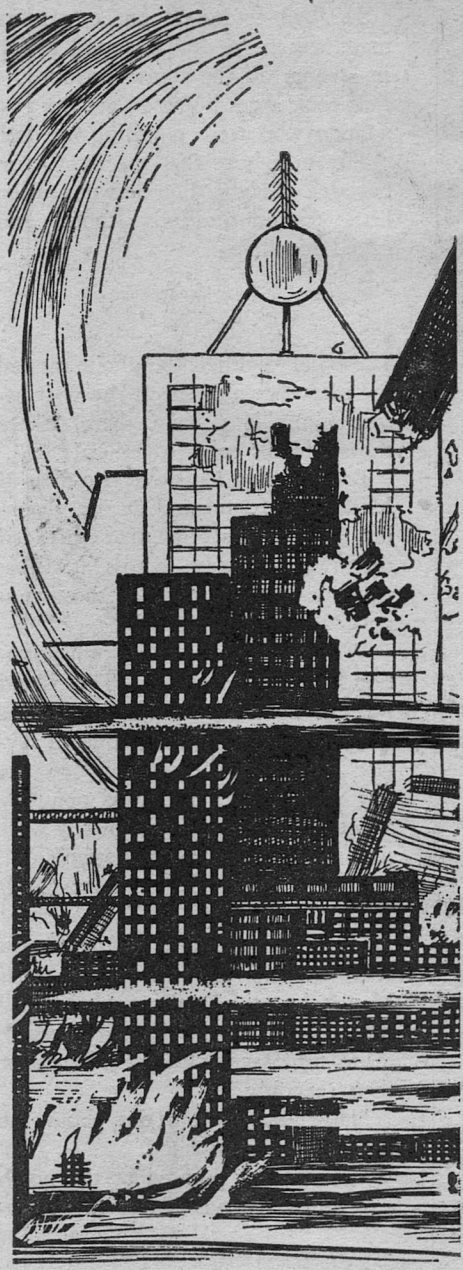
"He was seen. And pursued. But he got away easily, heading north. The island was searched, and the police were ready to start an inch-by-

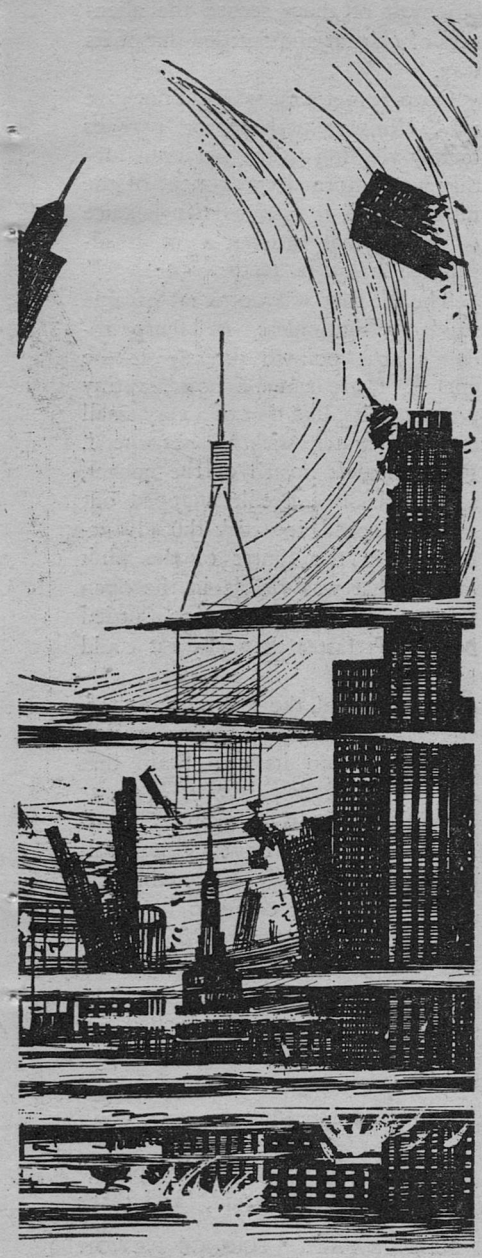
inch going over of the island two days later. But the Nipe hit and robbed a chemical supply house in northern Pennsylvania, killing two men, so the search was called off.

"It wasn't until two years later, after exhaustive analysis of the pattern of his raids had given us something to work with, that we decided that he must have found an opening into one of the tunnels up here in the game preserve." He gestured again at the map. "It wouldn't take him long to see that no human being had been down there in a long time. It was a perfect place for his base."

"How does he move in and out?" Stanton asked.

"This way." The colonel traced a finger down one of the red lines on the map, southward, until he came to a spot only a little over two miles





from the southernmost tip of the island. The line turned abruptly toward the western edge of the island, where it stopped. "This tunnel goes underneath the Hudson River at this point, and emerges on the other side. It's only one of several that do so. They're all flooded now; the sun bomb caved them in when the primary shock wave hit the surface of the river.

"In spite of his high rate of metabolism, the Nipe can store a tremendous amount of oxygen in his body, and can stay underwater for as long as half an hour without breathing apparatus—if he conserves his energy. When he's wearing his scuba apparatus; he's practically a self-contained submarine. The pressure doesn't seem to bother him much. He's a tough cookie."

Stanton nodded silently and slowly. Could he beat the Nipe in hand-to-hand combat? There would be no way of knowing until the final moment of success or failure.

"At that time," the colonel went on, "we hadn't formulated any definite policy on the Nipe. We didn't know what he was up to; we weren't even sure he was actually down in those tunnels. We had to find out."

He walked over to the nearby table and opened a box some twelve inches long and five-by-five inches in cross section.

"See this?" he said as he took something out.

It looked like a large dead rat.

"Our spy," said Colonel Mannheim.

* * *

The rat moved along the rusted steel rail that ran the length of the huge tunnel. To a human being, the tunnel would have seemed to be in utter darkness, but the little eyes of the rat saw its surroundings as faintly luminescent, glowing from the infra-red radiations given out by the internal warmth of cement and steel. The main source came from above, where the heat of the sun and of the energy sources in the buildings on the surface seeped through the roof of the tunnel.

On and on it moved, its little pinkish feet pattering almost silently on the oxidized metal surface of the rail. Its sensitive ears picked up the movements and the squeals of other rats, but it paid them no heed. Several times, it met other rats on the rail, but most of them sensed the alienness of *this* rat and scuttled out of its way.

Once, it met a rat who did not give way. Hungry, perhaps, or perhaps merely yielding to the paranoid fury that was a normal component of the rattish mind, it squealed its defiance to the rat that was not a rat. It advanced, baring its teeth.

The rat that was not a rat became suddenly motionless, its sharp rodent's nose pointed directly at the enemy. There came a noise, a tiny popping hiss, like that of a very small drop of water striking hot metal. From the left nostril of the not-rat, a tiny glasslike needle snapped out at bullet speed. It struck the advancing rat in the center of the pink tongue that was visible in the open mouth. Then the not-rat scuttled backwards faster than any rat could have moved.

For a second, the real rat hesitated, and it may be that the realization penetrated into its dim brain that rats did not fight this way. Then, as the tiny needle dissolved in its bloodstream, it closed its eyes and collapsed, rolling limply off the rail.

The rat might come to before it was found and devoured by its fellows—or it might not. The not-rat moved on, not caring either way. The human intelligence that looked out from the eyes of the not-rat was only concerned with getting to the Nipe.

* * *

"That's how we found the Nipe," Colonel Mannheim said, "and that's

how we keep tabs on him now. We have over seven hundred of these remote-controlled robots hidden in strategic spots in those tunnels now, but it took time to get everything set up this way. Now, we can follow the Nipe wherever he goes, so long as he stays in the tunnels. If he went out through an open air exit, we could have him followed by bird-robots but —" He shrugged wryly. "I'm afraid the underwater problem still has us stumped. We can't get the carrier wave for the remote-control impulses to go far underwater."

"How do you get your carrier wave underground to those tunnels?" Stanton asked.

The colonel grinned widely. "One of the boys dreamed up a real cute gimmick. The rails themselves act as antenna for the broadcaster, and the rat's tail is the pickup antenna. As long as the rat is crawling right on the rail, only a microscopic amount of power is needed for control, not enough for the Nipe to pick up with his instruments. Each rat carries its own battery for motive power, and there are old copper power cables down there that we can send direct current through to recharge the batteries. And, when we need them, the copper cables can be used as antennas. It took us quite a while to work the system out."

Stanton rubbed his head thoughtfully. *Damn these gaps in my memory!* he thought. It was sometimes embarrassing to ask questions that any schoolboy should know.

"Aren't there ways of detecting objects underwater?" he asked after a moment.

"Yes," said the colonel, "But they all require beamed energy of some kind to be reflected from the object, and we don't dare use anything like that." He sat down on one corner of the table, his bright blue eyes looking up at Stanton.

"That's been our problem all along," he said seriously. "Keeping the Nipe from knowing that he's being watched. In the tunnels, we've used only equipment that was already there, adding only what we absolutely had to—small things, a few strands of wire, a tiny relay, things that can be hidden in out of the way places. After all, he has his own alarm system in that maze of tunnels, and we've deliberately kept away from his detecting devices. He knows about the rats and ignores them; they're part of the environment. But we don't dare use anything that would tip him off to our knowledge of his whereabouts. One slip like that, and hundreds of human beings will have died in vain."

"And if he stays there too long," Stanton said levelly, "millions more may die."

The colonel's face was grim as he looked directly into Stanton's eyes. "That's why you have to know your job down to the most minute detail when the time comes to act. The whole success of the plan will depend on you and you alone."

Stanton's eyes didn't avoid the colonel's. *That's not true,* he thought. *I'll only be one man on a team, and*

you know it, Colonel Mannheim. But you'd like to shove all the responsibility off onto someone else—someone stronger. You've finally met someone that you consider superior in that way, and you want to unload. I wish I felt as confident as you do, but I don't.

Aloud, he said: "Sure. Nothing to it. All I have to do is take into account everything that's known about the Nipe and make allowances for everything that's not known." Then he smiled. "Not," he added, "that I can think of any other way to go about it."

X

St. Louis hadn't been hit during the Holocaust; it still retained much of the old-fashioned flavor of the Nineteenth and Twentieth Centuries, especially in the residential districts. Bart Stanton liked to walk along those quiet streets of an evening, just to let the peacefulness seep into him. And, knowing it was rather childish, he still enjoyed the small pleasure of playing hookey from the Neurophysics Institute. Technically, he supposed, he was still a patient there. More, now that he had accepted Colonel Mannheim's assignment, he was presumably under military discipline. But he assumed that, if he had asked permission to leave the Institute's grounds, he would have been given that permission without question.

But, like playing hookey, or stealing watermelon, it was more fun if it was done on the sly. The boy who comes home feeling deliciously wicked and delightfully sinful after staying away from school all day can have his whole day ruined by being told that it was a holiday and that the school had been closed. Bart Stanton didn't want to spoil his own fun by asking for permission to leave the grounds when it was so easy for a man with his special abilities to get out without asking.

Besides, there *was* a chance—a small one, he thought—that permission might be refused for one reason or another, and Bart was fully aware that he would not disobey a direct request—to say nothing of a direct order—that he stay within the walls of the Institute. He didn't want to run any risk of losing his freedom, small though it was. After five years of mental and physical hell, he felt a need to get out into the world of normal, everyday people.

His legs moved smoothly, surely, and unhurriedly, carrying him aimlessly along the resilient walkway, under the warm glow of the street lights. The people around him walked as casually and with seemingly as little purpose as he did. There was none of the brisk sense of urgency that he felt inside the walls of the Institute.

He knew he could never get away from that sense of urgency completely, even out here. There were times when it seemed that all he had ever done, all his life, was to train himself for the single purpose of besting the Nipe.

If he wasn't training physically, he

was listening to lectures from the psychologists or from Colonel Mannheim—laying plans and considering possibilities for the one great goal that seemed to be the focal point of his whole life.

What would happen if he failed? He would die, of course, and Mannheim's Plan Beta would immediately go into effect. The Nipe would be killed eventually.

But what if he, Stanton, won? Then what?

The people around him were not a part of his world, really. Their thoughts, their motions, their reactions, were slow and clumsy in comparison with his own. Once the Nipe had been conquered, what purpose would there be in the life of Bartholomew Stanton? He was surrounded by people, but he was not one of them. He was immersed in a society that was not his own because it was not, could not be, geared to his abilities and potentials. But there was no other society to turn to, either.

He was not a man "alone, afraid" in a world he had never made; he was a man who had been made for a world, a society, that did not exist.

Women? A wife? A family life?

Where? With whom?

He pushed the thoughts from his mind, the questions unanswered and perhaps unanswerable. In spite of the apparent bleakness of the future, he had no desire to die, and there was the possibility that too much brooding of that kind would evoke a subconscious reaction that could slow him down or cause a wrong decision at a vital moment. A feeling of futility could operate to bring on his death in spite of his conscious determination to win the coming battle with the Nipe.

The Nipe was his first duty. When that job was finished, he would consider the problem of himself. Just because he could not now see the answer to that problem did not mean that no answer existed.

He suddenly realized that he was hungry. He had been walking through Memorial Park, past the museum, an old, worn edifice that was still called the Missouri Pacific Building. There was a small restaurant only a block away. He reached into his pocket and took out the few coins that were there. Not much, but enough to buy a sandwich and a glass of milk. Because of the trust fund that had been set up when he had started the treatment at the Neurophysics Institute, he was already well off, but he didn't have much cash. What good was cash in the Institute, where everything was provided?

He stopped at a newsvendor, dropped in a coin, and waited for the reproducing mechanism to turn out a fresh paper. Then he took the folded sheets and went on to the restaurant.

He rarely read a newsheet. Mostly, his information about the world that existed outside the walls of the Institute came from the televised newscasts. But, occasionally, he liked to read the small, relatively unimportant little stories about people who had done small, relatively unimpor-

tant things—stories that didn't appear in the headlines or on the newscasts.

The last important news story had come two nights before, when the Nipe had robbed an optical products company in Miami. The camera had shown the shop on the screen. Whatever had been used to blow open the door of the vault had been more effective than necessary. It had taken the whole front door of the shop and both windows, too. The bent and twisted paraglass that had lain on the pavement showed how much force had been applied from within.

And yet, the results were not that of an explosion. It was more as though some tremendous force had *pushed* outward from within. It had not been the shattering shock of high explosive, but some great thrust that had unhurriedly, but irresistibly, moved everything out of its way.

Nothing had been moved very far, as it would have been by a blast. It appeared that everything had simply fallen aside, as though scattered by a giant hand. The main braces of the store front were still there, bent outward a little, but not broken.

The vault door had lain on the floor of the shop, only a few feet from the front door. The vault itself had been farther back, and the camera had showed it, standing wide open, gaping. Inside, there had been pieces of fragile glass standing on the shelves, unmoved, unharmed.

The force, whatever it had been, had moved in one direction only, from a point within the vault, just a few feet from the door, pushing outward to tear out the heavy door as though it had been made of paraffin or modeling clay.

Stanton had recognized the vault construction type: the Voisier construction, which, by test, could withstand almost everything known, outside of the actual application of atomic energy itself. In a widely-publicized demonstration several years before, a Voisier vault had been cut open by a team of well-trained, well-equipped technicians. It had taken twenty-one hours for them to breach the wall, and they had had no fear of interruption, or of making a noise, or of setting off the intricate alarms that were built into the safe itself. Not even a borazon drill could make much of an impression on a metal which had been formed under millions of atmospheres of pressure.

And yet the Nipe had taken that door out in a second, without much effort at all.

The crowd that had gathered at the scene of the crime had not been large. The very thought of the Nipe kept people away from places where he was known to have been. The specter of the Nipe evoked a fear, a primitive fear—fear of the dark and fear of the unknown, combined with the rational fear of a very real, very tangible danger.

And yet, there *had* been a crowd of onlookers. In spite of their fear, it is hard to keep human beings from being curious. It was known that the Nipe didn't stay around after he had struck, and, besides, the area was now

full of armed men. So the curious came to look and to stare in revulsion at the neat pile of gnawed and bloody bones that had been the night watchman, carefully killed and eaten by the Nipe before he had opened the vault.

Thus curiosity does make fools of us all, and the native hue of caution is crimsoned o'er by the bright red of morbid fascination.

Stanton went through the door of the automat restaurant and walked over to the vending wall. The dining room was only about three-quarters full of people; there were plenty of seats available. He fed coins into the proper slots, took his sandwich and milk over to a seat in one corner and made himself comfortable.

He flipped open the newspaper and looked at the front page.

And, for a moment, his brain seemed to freeze.

The story itself was straightforward enough:

BENCHAIM KIDNAPERS NABBED!
STAN MARTIN DOES IT AGAIN!

Ceres, June 3 (Interplanetary News Service)—The three men and three women who allegedly kidnaped ten-year-old Shmuel BenChaim were brought to justice today through the single-handed efforts of Stanley Martin, famed investigator for Lloyd's of London. The boy, held prisoner for more than ten months on a small asteroid, was reported in very good health.

According to Lt. John Vale, of the Planetiod Police, the kidnap gang could not have been taken by direct assault on their hideout because of fear that the boy might be killed. "The operation required a carefully-planned, one-man infiltration of their hideout," he said. "Mr. Martin was the man for the job."

Labeled "the most outrageous kidnaping in history", the affair was conceived as a long-term method of gaining control of Heavy Metals Incorporated, controlled by Moishe BenChaim, the boy's father. The details . . .

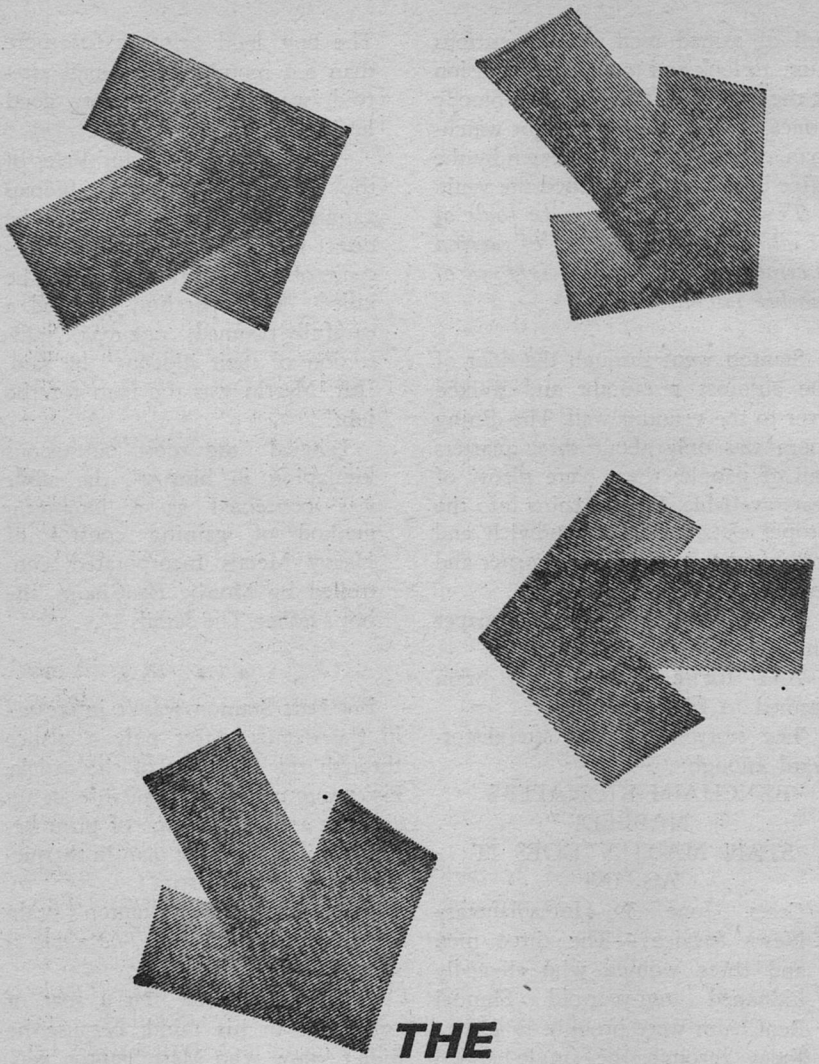
* * *

But Bart Stanton wasn't interested in the details. After only a glance through the first part of the article, his eyes returned to the picture alongside the article. The line of print beneath it identified the man in the picture as Stanley Martin.

But a voice in Bart Stanton's brain said: *Not Stan Martin! The name is Mart Stanton!*

And Bartholomew felt a roar of confusion in his mind, because he didn't know who Mart Stanton was, and because the face in the picture was his own.

« *To be concluded* »



THE NEXT LOGICAL STEP

Ordinarily the military least wants to have the others know the final details of their war plans.

But, logically, there would be times—

BY BEN BOVA

■ "I don't really see where this problem has anything to do with me," the CIA man said. "And, frankly, there are a lot of more important things I could be doing."

Ford, the physicist, glanced at General LeRoy. The general had that quizzical expression on his face, the look that meant he was about to do something decisive.

"Would you like to see the problem first-hand?" the general asked, innocently.

The CIA man took a quick look at his wristwatch. "O.K., if it doesn't take too long. It's late enough already."

"It won't take very long, will it Ford?" the general said, getting out of his chair.

"Not very long," Ford agreed. "Only a lifetime."

The CIA man grunted as they went to the doorway and left the general's office. Going down the dark, deserted hallway, their footsteps echoed hollowly.

"I can't overemphasize the seriousness of the problem," General LeRoy said to the CIA man. "Eight ranking members of the General Staff have either resigned their commissions or gone straight to the violent ward after just one session with the computer."

The CIA man scowled. "Is this area Secure?"

General LeRoy's face turned red. "This entire building is as Secure as any edifice in the Free World, mister. And it's empty. We're the only living people inside here at this hour. I'm not taking any chances."

"Just want to be sure."

"Perhaps if I explain the computer a little more," Ford said, changing the subject, "you'll know what to expect."

"Good idea," said the man from CIA.

"We told you that this is the most modern, most complex and delicate computer in the world . . . nothing like it has ever been attempted before—anywhere."

"I know that They don't have anything like it," the CIA man agreed.

"And you also know, I suppose, that it was built to simulate actual war situations. We fight wars in this computer . . . wars with missiles and bombs and gas. Real wars, complete down to the tiniest detail. The computer tells us what will actually happen to every missile, every city, every man . . . who dies, how many planes are lost, how many trucks will fail to start on a cold morning, whether a battle is won or lost . . ."

General LeRoy interrupted. "The

computer runs these analyses for both sides, so we can see what's happening to Them, too."

The CIA man gestured impatiently. "War games simulations aren't new. You've been doing them for years."

"Yes, but this machine is different," Ford pointed out. "It not only gives a much more detailed war game. It's the next logical step in the development of machine-simulated war games." He hesitated dramatically.

"Well, what is it?"

"We've added a variation of the electro-encephalograph . . ."

The CIA man stopped walking. "The electro-what?"

"Electro-encephalograph. You know, a recording device that reads the electrical patterns of your brain. Like the electro-cardiograph."

"Oh."

"But you see, we've given the EEG a reverse twist. Instead of using a machine that makes a recording of the brain's electrical wave output, we've developed a device that will take the computer's readout tapes, and turn them into electrical patterns that are put *into* your brain!"

"I don't get it."

General LeRoy took over. "You sit at the machine's control console. A helmet is placed over your head. You set the machine in operation. You *see* the results."

"Yes," Ford went on. "Instead of reading rows of figures from the computer's printer . . . you actually see the war being fought. Complete visual and auditory hallucinations. You can watch the progress of the battles, and as you change strategy and tactics you can see the results before your eyes."

"The idea, originally, was to make it easier for the General Staff to visualize strategic situations," General LeRoy said.

"But every one who's used the machine has either resigned his commission or gone insane," Ford added.

The CIA man cocked an eye at LeRoy. "You've used the computer."

"Correct."

"And you have neither resigned nor cracked up."

General LeRoy nodded. "I called you in."

Before the CIA man could comment, Ford said, "The computer's right inside this doorway. Let's get this over with while the building is still empty."

They stepped in. The physicist and the general showed the CIA man through the room-filling rows of massive consoles.

"It's all transistorized and subminiaturized, of course," Ford explained. "That's the only way we could build so much detail into the machine and still have it small enough to fit inside a single building."

"A single building?"

"Oh yes; this is only the control section. Most of this building is taken up by the circuits, the memory banks, and the rest of it."

"Hm-m-m."

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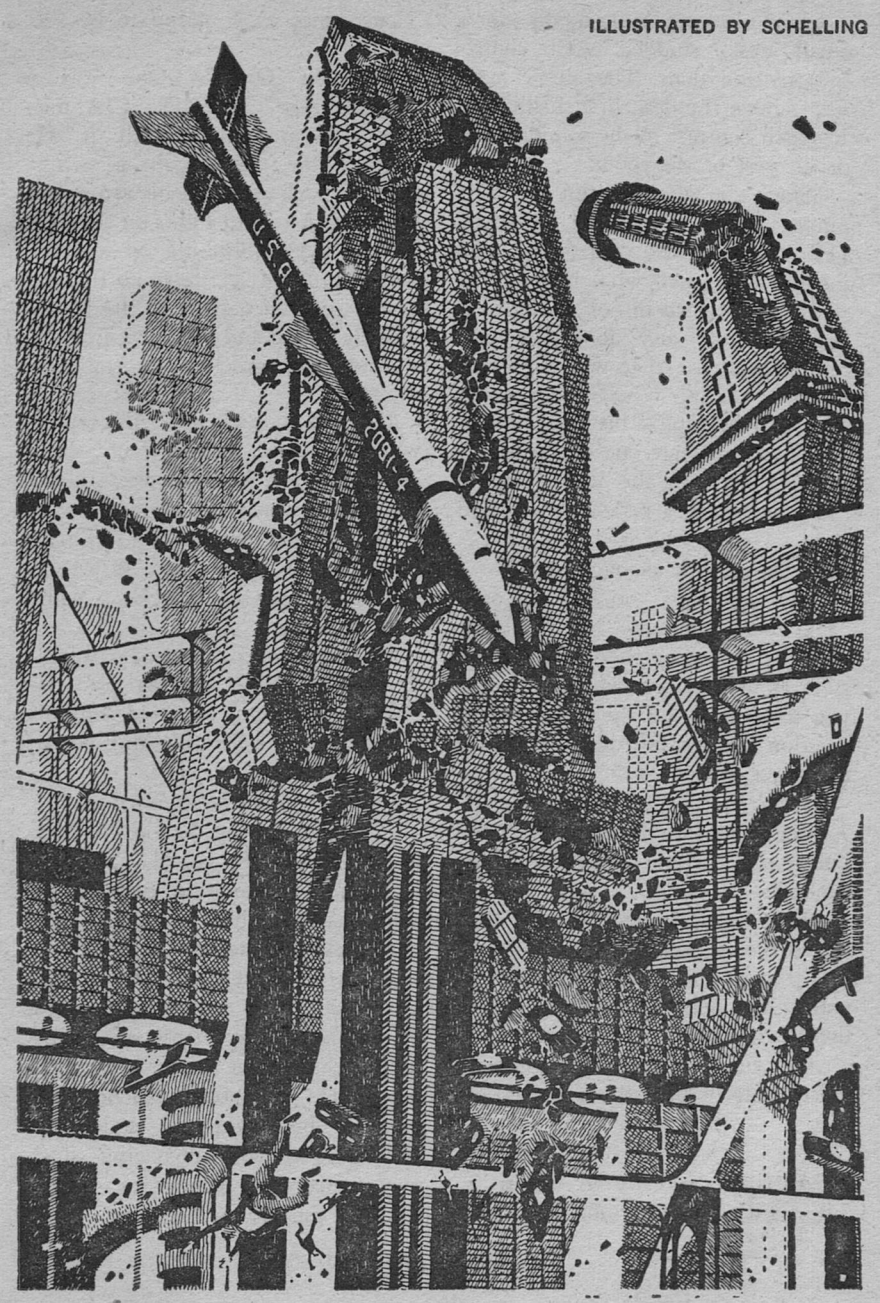


They showed him finally to a small desk, studded with control buttons and dials. The single spotlight above the desk lit it brilliantly, in harsh contrast to the semidarkness of the rest of the room.

"Since you've never run the computer before," Ford said, "General LeRoy will do the controlling. You just sit and watch what happens."

The general sat in one of the well-padded chairs and donned a grotesque headgear that was connected to the desk by a half-dozen wires. The CIA man took his chair slowly.

When they put one of the bulky helmets on him, he looked up at them, squinting a little in the bright light. "This . . . this isn't going to . . . well, do me any damage, is it?"

"My goodness no," Ford said. "You mean mentally? No, of course not. You're not on the General Staff, so it shouldn't . . . it won't . . . affect you the way it did the others. Their reaction had nothing to do with the computer *per se* . . ."

"Several civilians have used the computer with no ill effects," General LeRoy said. "Ford has used it many times."

The CIA man nodded, and they closed the transparent visor over his face. He sat there and watched General LeRoy press a series of buttons, then turn a dial.

"Can you hear me?" The general's voice came muffled through the helmet.

"Yes," he said.

"All right. Here we go. You're familiar with Situation One-Two-One? That's what we're going to be seeing."

Situation One-Two-One was a standard war game. The CIA man was well acquainted with it. He watched the general flip a switch, then sit back and fold his arms over his chest. A row of lights on the desk console began blinking on and off, one, two, three . . . down to the end of the row, then back to the beginning again, on and off, on and off . . .

And then, somehow, he could see it!

He was poised incredibly somewhere in space, and he could see it all in a funny, blurry-double-sighted, dream-like way. He seemed to be seeing several pictures and hearing many voices, all at once. It was all mixed up, and yet it made a weird kind of sense.

For a panicked instant he wanted to rip the helmet off his head. *It's only an illusion,* he told himself, forcing calm on his unwilling nerves. *Only an illusion.*

But it seemed strangely real.

He was watching the Gulf of Mexico. He could see Florida off to his right, and the arching coast of the southeastern United States. He could even make out the Rio Grande River.

Situation One-Two-One started, he remembered, with the discovery of missile-bearing Enemy submarines in the Gulf. Even as he watched the whole area—as though perched on a satellite—he could see, underwater and close-up, the menacing shadowy figure of a submarine gliding through the crystal blue sea.

He saw, too, a patrol plane as it spotted the submarine and sent an urgent radio warning.

The underwater picture dissolved in a bewildering burst of bubbles. A missile had been launched. Within seconds, another burst—this time a nuclear depth charge—utterly destroyed the submarine.

It was confusing. He was everyplace at once. The details were overpowering, but the total picture was agonizingly clear.

Six submarines fired missiles from the Gulf of Mexico. Four were immediately sunk, but too late. New Orleans, St. Louis and three Air Force bases were obliterated by hydrogen-fusion warheads.

The CIA man was familiar with the opening stages of the war. The first missile fired at the United States was the signal for whole fleets of missiles and bombers to launch themselves at the Enemy. It was confusing to see the world at once; at times he could not tell if the fireball and mushroom cloud was over Chicago or Shanghai, New York or Novosibersk, Baltimore or Budapest.

It did not make much difference, really. They all got it in the first few hours of the war; as did London and Moscow, Washington and Peking, Detroit and Delhi, and many, many more.

The defensive systems on all sides seemed to operate well, except that there were never enough anti-missiles. Defensive systems were expensive compared to attack rockets. It was cheaper to build a deterrent than to defend against it.

The missiles flashed up from submarines and railway cars, from underground silos and stratospheric jets; secret ones fired off automatically when a certain airbase command post ceased beaming out a restraining radio signal. The defensive systems were simply overloaded. And when the bombs ran out, the missiles carried dust and germs and gas. On and on. For six days and six firelit nights. Launch, boost, coast, reenter, death.

And now it was over, the CIA man thought. The missiles were all gone. The airplanes were exhausted. The nations that had built the weapons no longer existed. By all the rules he knew of, the war should have been ended.

Yet the fighting did not end. The machine knew better. There were still many ways to kill an enemy. Time-tested ways. There were armies fighting in four continents, armies that had marched overland, or splashed ashore from the sea, or dropped out of the skies.

Incredibly, the war went on. When the tanks ran out of gas, and the flame throwers became useless, and even the prosaic artillery pieces had no more rounds to fire, there were still simple guns and even simpler bayonets and swords.

The proud armies, the descendents of the Alexanders and Caesars and Timujins and Wellingtons and Grants and Rommels, relived their evolution in reverse.

The war went on. Slowly, inevitably, the armies split apart into smaller and smaller units, until the tortured countryside that so recently had felt the impact of nuclear war once again knew the tread of bands of armed marauders. The tiny savage groups, stranded in alien lands, far from the homes and families that they knew to be destroyed, carried on a mockery of war, lived off the land, fought their own countrymen if the occasion suited, and revived the ancient terror of hand-wielded, personal, one-head-at-a-time killing.

The CIA man watched the world disintegrate. Death was an individual business now, and none the better for no longer being mass produced. In agonized fascination he saw the myriad ways in which a man might die. Murder was only one of them. Radiation, disease, toxic gases that lingered and drifted on the once-innocent winds, and—finally—the most efficient destroyer of them all: starvation.

Three billion people (give or take a meaningless hundred million) lived on the planet Earth when the war began. Now, with the tenuous thread of civilization burned away, most of those who were not killed by the fighting itself succumbed inexorably to starvation.

Not everyone died, of course. Life went on. Some were lucky.

A long darkness settled on the world. Life went on for a few, a pitiful few, a bitter, hateful, suspicious, savage few. Cities became pestholes. Books became fuel. Knowledge died. Civilization was completely gone from the planet Earth.

The helmet was lifted slowly off his head. The CIA man found that he was too weak to raise his arms and help. He was shivering and damp with perspiration.

"Now you see," Ford said quietly, "why the military men cracked up when they used the computer."

General LeRoy, even, was pale. "How can a man with any conscience at all direct a military operation when he knows that *that* will be the consequence?"

The CIA man struck up a cigarette and pulled hard on it. He exhaled sharply. "Are all the war games . . . like that? Every plan?"

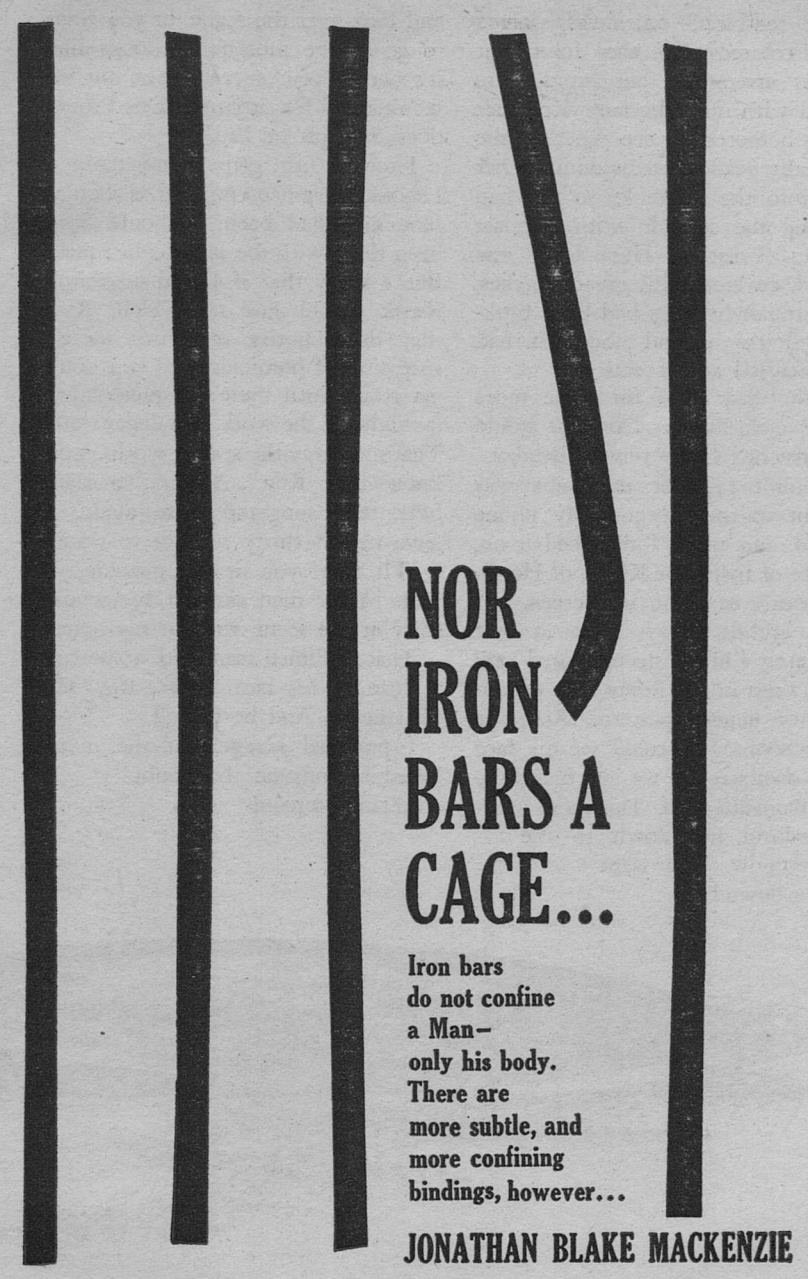
"Some are worse," Ford said. "We picked an average one for you. Even some of the 'brushfire' games get out of hand and end up like that."

"So . . . what do you intend to do? Why did you call me in? What can *I* do?"

"You're with CIA," the general said. "Don't you handle espionage?"

"Yes, but what's that got to do with it?"

The general looked at him. "It seems to me that the next logical step is to make damned certain that *They* get the plans to this computer . . . and fast!" ■


NOR
IRON
BARS A
CAGE...
Iron bars
do not confine
a Man—
only his body.
There are
more subtle, and
more confining
bindings, however...
JONATHAN BLAKE MACKENZIE

■ Her red-blond hair was stained and discolored when they found her in the sewer, and her lungs were choked with muck because her killer hadn't bothered to see whether she was really dead when he dumped her body into the manhole, so she had breathed the stuff in with her last gasping breaths. Her face was bruised, covered with great blotches, and three of her ribs had been broken. Her thighs and abdomen had been bruised and lacerated.

If she had lived for three more days, Angela Frances Donahue would have reached her seventh birthday.

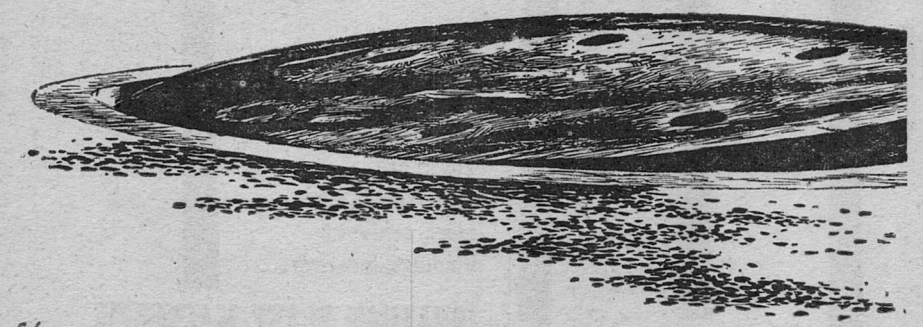
I didn't see her until she was brought to the morgue. My phone chimed, and when I thumbed it on, the face of Inspector Kleek, of Homicide South, came on the screen. His heavy eyelids always hang at half mast, giving him a sleepy, bored look and the rest of his fleshy face sags in the same general pattern. "Roy," he said as soon as he could see my face on his own screen, "we just found the little Donahue girl. The meat wagon's taking her down to the morgue now. You want to come down here and look over the scene, or you want to go to the morgue? It looks like it's one of your special cases, but we won't know for sure until Doc Prouty does the post on her."

I took a firm grip on my temper. I should have been notified as soon as Homicide had been; I should have been there with the Homicide Squad. But I knew that if I said anything, Kleek would just say, "Hell, Roy, they don't notify me until there's suspicion of homicide, and you don't get a call until there's suspicion that it might be the work of a degenerate. That's the way the system works. You know that, Roy." And rather than hear that song-and-dance again, I gave myself thirty seconds to think.

"I'll meet you at the morgue," I said. "Your men can get the whole story at the scene without my help."

That mollified him, and it showed a little on his face. "O.K., Roy, see you there." And he cut off.

I punched savagely at the numbered buttons on the phone to get an intercom-



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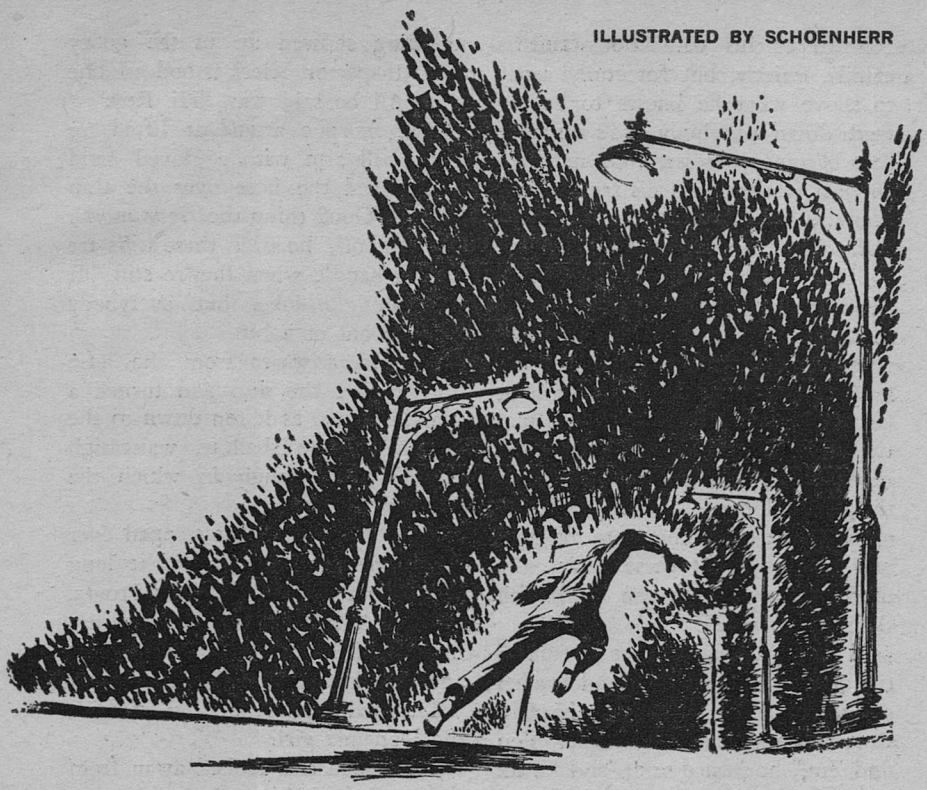


munication hookup with Dr. Barton Brownlee's office, on the third floor of the same building as my own office. His face, when it came on, was a calming contrast to Kleek's.

He's nearly ten years younger than I am, not yet thirty-five, and his handsome, thoughtful face and dark, slightly wavy hair always make me think of somebody like St. Edward Pusey or maybe Albert Einstein. Not that he looks like either one of them, or even that he looks saintly, but he does look like a man who has the

courage of his convictions and is calmly, quietly, but forcefully ready to shove what he knows to be the truth down everybody else's throat if that becomes necessary. Or maybe I am just reading into his face what I know to be true about the man himself.

"Brownie," I said, "they've found the Donahue girl. Taking her down to the morgue now. Want to come along?"

"I don't think so," he said without hesitation. "I'll get all the information I need from the photos and the reports. The man I do want to see is the killer; I need more data, Roy—always more data. The more my boys and I know about these zanies, the more effectively we can deal with them."

"I know. O.K.; I've got to run." I cut off, grabbed my hat, and headed out to fulfill my part of the bargain Brownlee and I had once made. "You find 'em," he'd once said, "and I'll fix 'em." So far, that bargain had paid off.

I got to the morgue a few minutes after the body was brought in. The man at the front desk looked up at me as I walked in and gave me a bored smile. "Evening, Inspector. The Donahue kid's in the clean-up room." Then he went back to his paper work.

The lab technicians were standing around watching while the morgue attendant sluiced the muck off the corpse with a hose, watching to see if anything showed up in the gooey filth. Inspector Kleek stood to one side. All he said was, "Hi, Roy."

The morgue attendant lifted up one small arm with a gloved hand and played the hose over the thin biceps. "Good thing the *rigor mortis* has gone off," he said, "these stiffs are hell to handle when they're stiff." It was an old joke, but everybody grinned out of habit.

The clear water from the hose flowed over the skin and turned a grayish brown as it ran down to the bottom of the shallow, waist-high stainless-steel trough in which the body was lying.

One of the lab techs stepped over and began going through the long hair very carefully, and Doc Prouty, the Medical Examiner, began cleaning out the mouth and nose and eyes and ears with careful hands.

I turned to Kleek. "You sure it's the Donahue girl?"

He sighed and looked away from the small dead thing on the cleaning table. "Who else could it be? She was found only three blocks from the Donahue home. No other female child reported missing in that area. We haven't checked the prints yet, but you can bet they'll tally with her school record."

I had to agree. "What about the time of death?"

"Doc Prouty figures forty-eight to sixty hours ago."

"I'll be able to give you a better figure after the post," the Medical Examiner said without looking up from his work.

A tall, big-nosed man in plainclothes suddenly turned away from the scene on the table, his mouth moving queerly, his eyes hard. After a moment, his lips relaxed. Still staring at the wall, he said: "I guess the case is out of Federal jurisdiction, then. We'll co-operate, as usual, of course." He looked at me. "Could I talk to you outside, Inspector Royall?"

I looked at Kleek. "O.K., Sam?" I didn't have to have his O.K.; it was just professional courtesy. He knew I'd tell him whatever it was that the FBI man had to say, and we both knew why the Federal agent wanted to leave.

Sam Kleek nodded. "Sure. I'll keep an eye out here."

The FBI man followed me into the outer room.

"Do you figure this as a sex-degenerate case, Inspector?" he asked.

"Looks like it. You saw the bruises. Dr. Prouty will be able to tell us for sure after the post mortem."

He shook his head as if to clear it of a bad memory. "You New York police can sure be cold-blooded at times."

The thing that was bothering him, as Kleek and I both knew, was that the FBI agent hadn't been exposed to this sort of thing often enough. They deal with the kind of crimes that actually don't involve the callous murder of children very often. Even the murder of adults doesn't normally come under the aegis of the FBI.

"We're not cold blooded," I said. "Not by inclination, I mean. But a man gets that way—he *has* to get that way—after he's seen enough of this sort of thing. You either get yourself an emotional callous or you get deathly sick from the repetition—and then you have to get out of the job."

"Yeah," he said. "Sure." He quit rubbing his chin with a knuckle, looked at me, and said: "What I wanted to say is that there's no evidence that she was taken across a state line. Whoever sent that ransom note to the Donahue parents was trying to throw us off the track."

"Looks like it. Look at the timetable. The note was sent *after* the girl was murdered, but *before* the information hit the papers or the newscasts. The killer wanted us to think it was a ransom kidnaping. It isn't likely that the note was sent by a crank. A crank wouldn't have known the girl was missing at all at the time the note was sent."

"That's the way it seems to me," he agreed. The color was coming back into his face. "But why would he want to make it look like a kidnaping instead of . . . of what it was? The penalty's the same for both."

My grin had anger, pity, and disgust for the killer in it—plus a certain amount of satisfaction. Some day, I'd like to see my face in a mirror when I feel like that.

"He was hoping the body wouldn't be found until it was too late for us to know that it was a rape killing. And that means that he knew that he would be on our list if we *did* find out that it was rape. Otherwise, he

wouldn't have bothered. If I'm right, then he has outsmarted himself. He has told us that we know him, and he's told us that he's smart enough to figure out a dodge—that he's not one of the helplessly stupid ones."

"That should help to narrow the field down," he said in a hard voice. He felt in his pocket for a cigarette, found his pack, took one out, and then held it, unlit, between the fingers of his right hand. "Inspector Royall, I've studied the new law of this state—the one you're working under here—and I think it'll be great if it works out. I wish you luck. Now, if you'll excuse me, I have to call the office."

As he went out to the desk phone, I gave him a silent thanks. Words of encouragement were hard to come by at that time.

I turned and went back towards the clean-up room.

She didn't look as though she were asleep. They never do. She looked dead. She'd been head down in the sewer, and the blood had pooled and coagulated in her head and shoulders. Now that the filth had been washed off, the dark purple of the dead blood cells showed through the translucent skin. She would look better after she was embalmed.

Doc Prouty was holding up a small syringe, eying the little bit of fluid within it. "We've got him," he said in a flat voice. "I'll have the lab run an analysis. We're well within the time limit. All we have to do is separate the girl's blood type from that of the spermatic fluid. You boys find your man, and I can identify him for you." He put the syringe in its special case. "I'll let you know the exact cause of death in a couple of hours."

"O.K., Doc. Thanks," said Inspector Kleek, closing his notebook. He turned to one of the other men. "Thompson, you notify the parents. Get 'em down here to make a positive identification, and send it along to my office with the print identification." Then he looked at me. "Anything extra you want, Roy?"

I shook my head. "Nope. Let's go check the files, huh?"

"Sure. Can I ride with you? I rode in with Thompson; he'll have to stay."

"Come along," I told him.

By ten fifteen that evening, we had narrowed the field down considerably. We fed all the data we had into the computer, including the general type number of the spermatic fluid, which Dr. Prouty had given us, and watched while the machine sorted through the characteristics of all the known criminals in its memory.

Kleek and I were sitting at a desk drinking hot, black coffee when the computer technician came over and handed Kleek the results at ten fifteen. "Quite a bunch of 'em, Inspector," he said, "but the geographic compartmentalization will help."

Kleek glanced over the neatly-printed sheaf of papers that the computer had turned out, then handed them to me. "There we are, Roy. One of those zanies is our boy."

I looked at the list. Every person on it was either a confirmed or suspected psychopath, and each one of them conformed to the set of specifications we had fed the computer. They were listed in four different groups, according to the distance they lived from the scene of the crime—half a mile, two miles, five miles, and "remainder," the rest of the city.

"All we got to do," Kleek said complacently, "is start rounding 'em up."

"You make it sound easy," I said tightly.

He put down his coffee cup. "Hell, Roy, it *is* easy! We've got all these characters down on the books, don't we? We know what they are, don't we? Look at 'em! Once in a while a new one pops up, and we put him on the list. Once in a while we catch one and send him up. Practically cut and dried, isn't it?"

"Sure," I said.

"Look, Roy," he went on, "we got it down to a fine art now—have for years." He waved in the general direction of the computer. "We got the advantage that it's easier to sort 'em out now, and faster—but the old tried-and-true technique is just the same. Cops have been catching these goons in every civilized country on Earth for a hundred years by this technique."

"Sam," I said wearily, "are you going to give me a lecture on police methods?"

He picked up his cup, held it for a moment, then set it down again, his eyes hardening. "Yes, Roy, I am! I'm older than you are, I've got more years on the Force, I've been working with Homicide longer, and I outrank you in grade by two and a half years! Yes, I figure it's about time I lectured you! You want to listen?"

I looked at him. Kleek is a good cop, I was thinking, and he deserves to be listened to, even if I don't agree with him.

"O.K., Sam," I said, "I'll listen."

"O.K., then." He took a breath. "Now, we got a system here that works. The nuts always show themselves up, one way or another. Most of 'em have been arrested by the time they're fourteen, fifteen years old. Maybe we can't nail 'em down and pin anything on 'em, but we got 'em down on the books. We know they have to be watched. We got ninety per cent of the queers and hopheads and stew-bums and firebugs and the rest of the zanies down on our books"—he waved toward the computer again—"and down in the memory bank of the computer. We know we're gonna get 'em eventually, because we know they're gonna goof up eventually, and then we'll have 'em. We'll have 'em"—he made a clutching gesture with his right hand—"right where it hurts!

"You take this Donahue killer. We know where he is. We can be pretty sure we got him down on the books." He tapped the sheaf of papers from the computer with a firm forefinger. "We can be pretty sure that he's one of those guys right down there!"

He waved his hand again, but, this time, he took in the whole city—the

whole outside world. "Like clockwork. The minute they goof, we nab 'em."

"Sam," I said, "just listen to me a minute. We know that ninety per cent of the men on that list right there are going to be convicted of a crime of violence inside the next five years, right?"

"That's what I've been tellin' you. The minute—"

"Wait a minute; wait a minute. Just listen. Why don't we just go out and arrest them all right now? Look at all the trouble that would save us."

"Hell, Roy! You can't arrest a man unless he's done something! What would you charge 'em with? Loitering with intent to commit a nuisance?"

"No. But we *can*—

I was cut off by a uniformed cop who stuck his head in the door and said: "Inspector Royall, Dr. Brownlee called. Says they picked up Hammerlock Smith. He's at the 87th Precinct. Wants you to come down right away if you can."

I stood up and grabbed my hat. "Sam, you can sit on this one for a while, huh? I've been waiting for Hammerlock Smith to fall for two months."

Sam Kleek looked disgusted. "And you'll see that he gets psycho treatment and a suspended sentence. A few days in the looney ward, and then right back out on the street. Hammerlock Smith! *There's* a case for you! Built like a gorilla and has a passion for Irish whisky and sixteen-year-old boys—and you think you can cure him in three days! Nuts!"

I didn't feel like arguing with him. "We might as well let him go now as lock him up for three or four months and then let him go, Sam. Why fool around with assault and battery charges when we can wait for him to murder somebody and then lock him up for good, eh, Sam? What's another victim more or less, as long as we get the killer?"

"That's what we're here for," he said stolidly. "To get killers." He scratched at his balding head. "I don't get you, Roy. I'd think you'd *want* these maniacs put away, after your—"

He stopped himself, wet his lips, and said: "O.K. You go ahead and take care of Smith. Get some sleep. I'm going to. I'll leave orders to call us both if anything breaks in the Donahue case."

I just nodded and walked out. I didn't want to hear any more.

But the door didn't close tightly, and I heard Kleek's voice as he spoke to the computer tech. "I just don't figure Roy. His wife died in a fire set by an arson bug, and he wants to—"

I kept on walking as the door clicked shut.

I was in my office at nine the next morning, after seven and a half hours of sleep on one of the bunks in the ready room. The business with Hammerlock Smith had taken more time than I had thought it would. The big, stupid ape had been in a vicious mood, reeking of whisky and roaring insults at everyone. His cursing was

neither inventive nor colorful, consisting of only four unlovely words used over and over again in various combinations with ordinary ones, a total vocabulary of maybe a dozen words.

It had taken four cops, using nightsticks, to get him into the paddy wagon, and Dr. Brownlee had finally had to give him a blast of supertranquilizer with a hypogun.

"Boy, Inspector," one of the officers had said, "don't let anyone ever tell you some of these guys aren't tough!"

I was looking over the written report. "What about this kid he accosted in the bar? Hurt bad?"

"Cracked rib, sprained wrist, and a bloody nose, sir. The doc said he'd be O.K."

"According to the report here, the kid was twenty-two years old. Smith usually picks 'em younger."

The cop grinned. "Smith had to get his eventually, sir. This guy looks pretty young, but he was a boxer in college. He probably couldn't've whipped Smith, but he had guts enough to try."

"Think he'll testify?"

"Said he would, sir. We already got his signature on the complaint while he was at the hospital. He's pretty mad."

Smith's record was long and ugly. Of the eight complaints made by young boys who had managed to brush off or evade Hammerlock's advances, six hadn't come to trial because there were no corroborating witnesses, and the charges had been dismissed. Two of the cases had come before a jury—and had resulted in acquittals. Cold sober, Smith presented a fairly decent picture. It was hard to convince a jury of ordinary citizens that so masculine-looking a specimen was homosexual.

The odd thing was that the psychopathic twist which got Hammerlock Smith into trouble had been able to get him out of it again. Both times, Smith's avowal that he had done no such disgusting thing had been corroborated by a lie detector test. Smith —when he was sober—had no recollection of his acts when drunk, and apparently honestly believed that he was incapable of doing what we knew he *had* done.

This time, though, we had him dead to rights. He had never made his play in a bar before, and we had three witnesses, plus an assault and battery charge. As Inspector Kleek had said, we get 'em eventually . . .

. . . *But at what cost? How many teenage boys had been frightened or whipped into doing as he told them and then been too ashamed and sick with themselves to say anything? How many young lives had been befouled by Smith's abnormal lust?*

And if Smith spent a year or two in Sing Sing, how many more would there be between the time he was released and the time he was caught again? And how long would it be before he obligingly hammered the life out of his young victim so that we could put him away permanently?

That was the "system" that Kleek —and a lot of the other men on the Force swore by. That was the "sys-

tem" that the boys in Homicide and in the Vice Squad thought I was trying to foul up by "babying" the zanies.

It's a hell of a great system, isn't it?

I called the hospital and talked to the doctor who had taken care of Smith's victim. Then I called Kleek to see if there had been any break in the Donahue case. There hadn't.

Finally, I called my son, Steve, at the apartment we shared, told him I wouldn't be home that night, and sacked out in the ready room.

By nine o'clock, I was ready to go back to work.

At nine thirty, Kleek called. His saggy face looked sleepier and more bored than ever. "No rest for the weary, Roy. I got a call on a killing on the Upper East Side. Some rich gal with too much time on her hands was having an all-night party, and she got herself shot to death. It looks like her husband did it, but there's plenty of money involved, and the Deputy Commissioner wants me to handle it personally, all the way through. I'm putting Lieutenant Shultz in charge of the Homicide end of the Donahue case, but I told him you were the man to listen to. He'll report directly to you if there's any new leads. O.K.?"

"O.K. with me, Sam." As I said, Kleek is a good cop in spite of his "system."

"The boys are out making the rounds," he went on, "bringing in all the men with conviction records and questioning the others. And we're combing the neighborhood for the kid's clothes. They might still be around somewhere. Shultz'll keep you posted."

"Fine, Sam. Happy hunting in High Society."

"Thanks, Roy. Take it easy."

At fifteen of eleven, the Police Commissioner called. He spent ten minutes telling me that I was going to be visited by a VIP and giving me exact instructions on how to handle the man. "I'm depending on you to take care of him, Roy," he said finally. "If we can get this program operating in other places, it will help us a lot. And if you need help from my office, grab the nearest phone."

"I'll do my best," I promised him. "And thanks, sir."

The Commissioner was a lawyer, not a cop, so he wasn't as tied to the system as Kleek and the others were. He was backing me all the way.

I punched Sergeant Vanney's number on the intercom. "Inspector Royall here, Sergeant. Do me a favor."

"Yes, sir."

"Go down to the library and get me a copy of Burke's 'Peerage.'"

"Burke's which, sir?"

I repeated it and spelled it for him. He didn't waste any time; he had it on my desk in less than twenty minutes. When the VIP arrived, I had already read up on Chief Inspector, the Duke of Acrington.

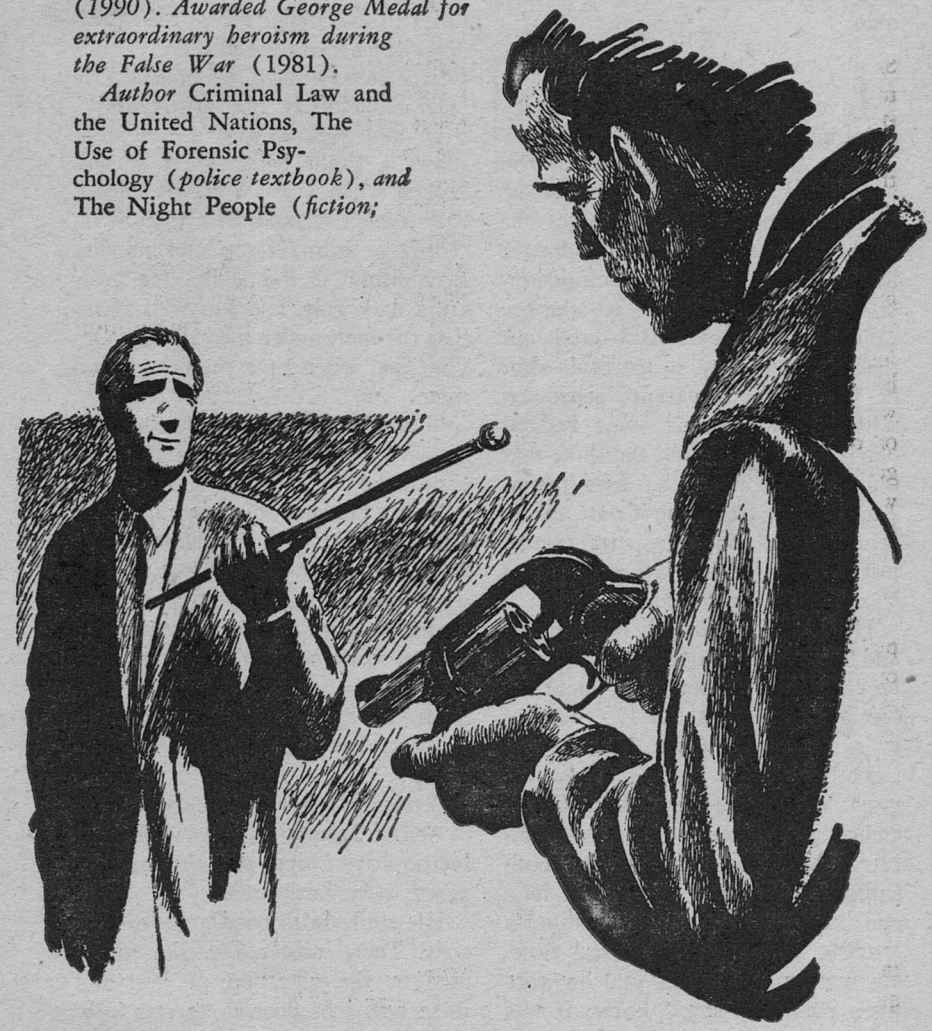
Here's how he was listed:

ACRINGTON, Seventh Duke of (Robert St. James Acrington) Baron Bennevis of Scotland, K. C. B.: Born 7 November 1950. B.S., M.S., Oxon.,

cum laude. *Married* (1977) *Lady Susan Burley, 2nd dau. Viscount Burley. 2 sons, Richard St. James, Philip William.*

Joined Metropolitan Police (1975); *C. I. D.* (1976); *dep. Insp.* (1980); *Insp.* (1984); *Ch. Insp.* (1990). *Awarded George Medal for extraordinary heroism during the False War* (1981).

Author Criminal Law and the United Nations, The Use of Forensic Psychology (*police textbook*), *and* The Night People (*fiction;*



under nom de plume *R. A. James*).

Clubs: *Royal Astronomical, Oxonian, Baker Street Irregulars.*

Motto: *Amicus Curiae.*

I had to admit that I was impressed, but I decided to withhold any judgment until I had met the man.

He was right on time for his appointment. The car pulled up to the parking lot with a sergeant at the wheel, and I got a bird's eye view of him from my window as he got out of the car and headed for the door. I had to grin a little; the Commissioner had obviously wanted to take the visitor around personally—roll out the rug for royalty, so to speak—but he had had a conference scheduled with the Mayor and some Federal officials, and, after all, the duke was only here on police business, not as Ambassador from the Court of St. James. So he ended up being treated just as any visitor from Scotland Yard would be treated.

He was shown directly to my office, and I gave hin a quick once-over as he came in the door. Tall, about six feet even; weight about 175, none of it surplus fat; light brown hair smoothed neatly back, almost no gray; eyes, blue-gray, with finely-etched lines around them that indicated they'd been formed by both smiles and frowns: face, rather long and bony, with thin, firm lips and a longish, thin, slightly curved nose. He wore good clothes, and he wore them well. His age, I knew; it was the same as mine. It was the first time I had ever seen a man who looked like a real aristocrat and a good cop rolled into one.

He had an easy smile on his face, and his eyes were taking me in, too. I stand an inch under six feet, but I'm a little broader across the shoulders than he, so the ten more pounds I carry doesn't make me look fat. My face is definitely not aristocratic—wide and square, with a nose that shows a slight bend where it was broken when I was a rookie, heavy, dark eyebrows, and hair that is receding a little on top and graying perceptibly at the sides. The eyes are a dark gray, and I'm well aware that the men under me call me "Old Flint-eye" when I put the pressure on them.

"I'm Chief Inspector Acrington," he said pleasantly, giving me a firm handshake.

"It's a pleasure to meet you, Your Grace," I said. "I'm Inspector Royall. Sit down, won't you?" I gestured toward one of the upholstered guest chairs, and sat down in the other one myself, so we wouldn't have the desk between us. "Have a good trip across?" I asked.

"Fine. Except, of course, for the noise."

"Noise?" I knew he'd come over in one of Transatlantic Airways' new inertia-drive ships, and they're supposed to be fairly quiet.

His smile broadened a trifle. "Exactly. There wasn't any. I'm rather used to the vibration of jets, and these new jobs float along at a hun-

dred thousand feet in the deadest silence you ever heard—if you'll pardon the oxymoron. Everybody chattered like a flight of starlings, just to keep the air full of sound."

I chuckled. "Maybe they'll put vibrators on them, just to make the people feel comfortable. I read that the men in the moon ships complain about the same thing."

"So I've heard. But, actually, the silence is a minor thing when one realizes the time one saves. When one is looking forward to something interesting, traveling can be deadly dull."

It was beautiful, the way he did it. He had told me plainly that he wanted to get down to business and cut the small talk, but he'd done it in such a way that the transition was frictionlessly smooth.

"Not much scenery up there," I said. "I hope you'll find what we're trying to do here has a few more points of interest."

"I'm quite sure it will, from what I've heard of your pilot project here. That's why I want to, well, sort of be a hanger-on for a few days, if that's all right with you."

Before I could answer, the phone blinked. I excused myself to the Duke and cut in. The image that came on the screen was almost myself, except that he had his mother's mouth and was twenty-odd years younger.

"Hi, Dad," he said, with that apologetic smile of his. "Sorry to bother you during office hours, but could I borrow fifty? Pay you back next week."

I threw a phony scowl at him. "Running short, eh? Have you been betting on the stickball teams again?"

He cast his eyes skyward, and raised the three fingers of his right hand. "Scout's Honor, Dad, I spent it on a new turbine for my Electro-Ford." Then he lowered his hand and looked down from the upper regions. "I really did. I forgot that I was supposed to take Mary Ellen out this evening. Car-happy, I guess. Can you advance the fifty?"

I threw away my phony scowl and gave him a smile. "Sure, Stevie. How's Mary Ellen?"

"Swell. She's all excited about going to the Art Ball tonight—that's why I didn't want to disappoint her."

"Slow up, son," I told him, "you've already made your pitch and been accepted. You'll get your fifty, so don't push it. Want to come down here and pick it up?"

"Can do. And have I told you that you'll be invited to the wedding?"

"Thanks, pal. Can I give the groom away?" It was a family joke that we'd kicked back and forth ever since he had met Mary Ellen, two years before.

"Sure thing. See you in a couple of hours. Bye, Dad." He cut off, and I looked at the Duke.

"Sorry. Now, you were saying?"

"Perfectly all right." He smiled. "I have two of my own at home.

"At any rate, I was saying that the Criminal Investigation Department

of New Scotland Yard has become interested in this experiment of yours, so I was sent over to get all the first-hand information I can. Frankly, I volunteered for the job; I was eager to come. There are plenty of skeptics at the Yard, I'll admit, but I'm not one of them. If the thing's workable, I want to see it used in England."

Here was another man who wasn't tied to the "system."

"D'you mind if I ask some questions?" he said.

"Go ahead, Your Grace. If I can't answer 'em, I'll say so."

"Thanks. First off, I'll tell you what I *do* know—get my own knowledge of the background straight, so to speak. Now, as I understand it, the courts have agreed—temporarily, at least—that any person convicted of certain types of crimes must undergo a psychiatric examination before sentencing. Right?"

"That's right."

"Then, depending on the result of that examination, the magistrate of the court may sentence the offender to undertake psychiatric therapy instead of sending him to a penal institution, such time in therapy not to exceed the maximum time of imprisonment originally provided for the offense under the law.

"His sentence is suspended, in other words, if he will agree to the therapy. If, after he is released by the psychiatrists, he behaves himself, he is not imprisoned. If he misbehaves, he must serve out the original sentence, plus any new sentence that may be imposed. Have I got it straight so far?"

"Perfectly."

"As I understand it, you've had astounding success." He looked, in spite of what he had said about skepticism, as though he thought the reports he'd heard were exaggerated.

"So far," I said evenly, "not a single one of our 'patients' has failed us."

He looked amazed, but he didn't doubt me. "And you've been in operation for how long?"

"A little over a year since the first case. But I think the record will stand the same way five, ten, fifty years from now.

"You see, Your Grace, we don't *dare* lose a man. If one of our tame zanies goes haywire again, the courts will stop this pilot project *fast*. There's a lot of pressure against us.

"In the first place, we only work with repeaters. You know the type. The world is full of them. The boys that are picked up over and over again for the same kind of crime."

He nodded. "They're the ones we wait for. The ones we catch, convict, and send to prison—and then wait until they get out, and then wait some more until they commit their next crime, so that we can catch them and start the whole cycle over again."

"That's them," I said. "When they're out, they're just between crimes, that's all. And that puts the police in a hell of a position, doesn't it? You *know* they're going to fall again; you know that they're going to rob,

or hurt, or kill someone. But there's nothing you can do about it. You're helpless. No police force has enough men to enable a cop to be assigned to every known repeater and follow him night and day.

"In this state, if a man is convicted of a felony for a fourth time, a life sentence is mandatory. *But that means that at least four victims have to be sacrificed before the dangerous man is removed from society!*"

The Duke nodded thoughtfully. "'Sacrifice' is the word. Go on."

"Now, the type of crime we're working with—the kind we expect future laws to apply to—is strictly limited. It must be a crime of violence against a human being, or a crime of destruction in which there is a grave danger that human lives may be lost. The sex maniac, the firebug, or the goon who gets a thrill out of beating people. Or the reckless driver who has proven that he can't be trusted behind the wheel of a car.

"We can't touch the kleptomaniac or the common drunk or the drug addict. They're already provided for under other laws. And those habits are not, *by themselves,* dangerous to the lives of others. A good many of our kind of zany *do* drink or take drugs—about fifty per cent of them. But what they're sentenced for is crimes of violence, not for guzzling hooch or mainlining heroin."

My phone chimed. It was Lieutenant Shultz, of Homicide. His square, blocky face held a trace of excitement. "Inspector Royall, Inspector Kleek told me to report to you if there was any news in the Donahue case."

"What is it, Lieutenant?"

"We're pretty sure of our man. Scrapings from the kid's fingernails gave us his blood type. The computer narrowed the list down quite a bit with that data. Then, a few minutes ago, one of the boys found the kid's clothes stuffed in with some trash paper in the back stairwell of a condemned building just a couple of blocks from where we found her last night.

"And—get this, Inspector!—she was wearing a pair of those shiny patent-leather shoes, practically brand-new, and they have prints all over them! His are over hers, since he was the last one to handle them, and there's only the two sets of prints! We just now got positive identification."

"Grab him and bring him in," I said. "I'll be right down. I want to talk to him."

His face fell a little. "Well, it isn't going to be as easy as all that, sir. You see, we'd already checked at his last known address, earlier this morning, before we got the final check on the blood type. This guy left the rooming house he was staying in—checked out two days ago, just a short time after the girl was killed. I figured that looked queer at the time, so I had two of my men start tracing him in particular. But there's not a sign of him so far."

I untensed myself. "O.K. What's his record?"

"Periodic drunk. Goes for weeks without touching the stuff, then he goes out on a binge that lasts for a week sometimes.

"Name's Lawrence Nestor, alias Larry Nestor. Twenty-eight years old, six feet one inch, slight build, but considered fairly strong. Brown hair, brown eyes. Speaks with a lisp due to a dental defect; the lisp becomes more noticeable when he's drinking." He turned the page of the report he was reading from. "Arrested for drunkenness four times in the past five years, got off with a fine when he pleaded guilty. He molested a little girl two years ago and was picked up for questioning, but nothing came of it. The girl hadn't been physically hurt, and she couldn't make a positive identification, so he was released from custody.

"Officers on duty in the neighborhood report that he has frequently been seen talking to small children, usually girls, but he wasn't seen to molest them in any way, and there were no complaints from parents, so no action could be taken."

Lieutenant Shultz looked up from the paper. "He's had all kinds of jobs, but he can't hold 'em very long. Goes on a binge, doesn't show up for work, so they fire him. He's a pretty good short-order cook, and that's the kind of work he likes, if he can talk a lunch room into hiring him. He's also been a bus boy, a tavern porter, and a janitor.

"One other thing: The superintendent at the place where he was staying reports that he had an unusual amount of money on him—four or five hundred dollars he thinks. Doesn't know where Nestor got the money, but he's been boozing it up for the past five days. Bought new clothes—hat, suit, shoes, and so on. Living high on the hog, I guess."

I thought for a minute. If he had money, he could be anywhere in the world by now. On the other hand—

"Look, Lieutenant, you haven't said anything to the newsmen yet, have you?"

He looked surprised. "No. I called you first. But I figured they could help us. Plaster his picture and name all over the area, and somebody will be bound to recognize him."

"Somebody might kill him, too, and I don't want that. Look at it this way: If he had sense enough to get out of the local area two days ago and really get himself lost, then it won't hurt to wait twenty-four hours or so to release the story. On the other hand, if he's still in the city or over in Jersey, he could still get out before the news was so widespread that he'd be spotted by very many people.

"But if he's still drinking and thinks he's safe, we may be able to get a lead on him. I have a hunch he's still in the city. So hold off on that release to the newsmen as long as you can. Don't let it leak.

"Meanwhile, check all the transportation terminals. Find out if he's ever been issued a passport. If he has,

check the foreign consuls here in the city to see if he got a visa. Notify the FBI; they're back in it now, since there's a chance that he may have crossed a state line—unlawful flight to avoid prosecution.

"And tell the boys that do the footwork that they're to say that the guy they're looking for is wanted by the Missing Persons Bureau—that he left home and his wife is looking for him. Don't connect him up with the Donahue case at all. Have every beat patrolman in the city on the lookout for a drunk with a lisp, but tell them the same story about the wife; I don't want any leaks at all.

"I'll call the Commissioner right away to get his O.K., because I don't want either one of us to get in hot water over this. If he's with us, we'll go ahead as planned; if he's not, we'll just have to call in the newsmen. O.K.?"

"Sure, Inspector. Whatever you say. I'll get right to work on it. You'll have the Commissioner call me?"

"Right. So long. Call me if anything happens."

I had added the bit about calling the Commissioner because I wasn't sure but what Kleek would decide I was wrong in handling the case and let the story out "accidentally." But I had to be careful not to make Shultz think I was trying to show my muscles. I called the Commissioner, got his O.K., and turned my attention back to my guest.

He had been listening with obvious interest. "Another one of your zanies, eh?"

"One that went too far, Your Grace. We didn't get to him in time." I spent five or six minutes giving him the details of the Donahue case.

"The same old story," he said when I had finished. "If your pilot project here works out, maybe that kind of slaughter can be eliminated." Then he smiled. "Do you know something? You're one of the few Americans I've ever met, outside your diplomats, who can address a person as 'Your Grace' and make it sound natural. Some people look at me as though they expected me to be all decked out in a ducal coronet and full ermines, ready for a Coronation. Your Commissioner, for instance. He seems quite a nice chap, but he also seems a bit overawed at a title. You seem perfectly relaxed."

I considered that for a moment. "I imagine it's because he tends to look at you as a Duke who has taken up police work as a sort of gentlemanly hobby."

"And you?"

"I guess I tend to think of you as a good cop who had the good fortune to be born the eldest son of a Duke."

His smile suddenly became very warm. "Thank you," he said sincerely. "Thank you very much."

There came the strained silence that sometimes follows when an honest compliment is passed between two men who have scarcely met. I broke it by pointing at the plaque on the front of my desk and giving him a broad grin. "Or maybe it's just the kind of blood that flows in my veins."

He looked at the little plaque that

said *Inspector Royal C. Royall* and laughed pleasantly. "I like to think that it's a little bit of both."

The intercom on my desk flashed, and the sergeant's voice said: "Inspector, a couple of the boys just brought in a man named Manewiscz. A stolen car was run into a fire plug over on Fifth Avenue near 99th Street. A witness has positively identified Manewiscz as the driver who ran away before the squad car arrived."

"Sidney Manewiscz?" I asked. "Manny the Moog?"

"That's the one. He's got a record of stealing cars for joyrides. He insists on talking to you."

"Bring him in," I said. "I'll talk to him. And get hold of Dr. Brownlee."

"Excuse me," I said to the Duke. "Business." He started to get up, but I said, "That's all right, Your Grace; you might as well sit in on it." He relaxed back into the chair.

Two cops brought in Manewiscz, a short, nervous man with a big nose and frightened brown eyes.

"What's the trouble, Manny?" I asked.

"Nothing, Inspector; I'm telling you, I didn't do nothing. I'm walking along Fifth Avenoo when all of a sudden these cops pull up in a squad-car and some fat jerk in the back seat is hollering that I am the guy he seen get out of a smashup on 99th Street, which is a good three blocks from where I am walking. Besides which, I have not driven a car for over a year now, and I have been in all ways a law-abiding citizen and a credit to the family and the community."

"Do you know the fat guy?" I asked. "The guy who fingered you for the boys?"

"I never had the pleasure of seeing him before," said Manny the Moog, "but, on the other hand, I do not expect to forget his fat face between now and the next time we meet."

At that point, Dr. Brownlee came through the door.

"Hello, Inspector," he said with a quick smile. He saw Manewiscz then, and his eyebrows went up. "What are you doing here, Manny?"

"I am here, Doc, because the two gentlemen in uniform whom you see standing on both sides of me extend a polite invitation to accompany them here, although I am not in the least guilty of the thing they say I do which causes them to issue this invitation."

I explained what had happened and Brownlee shook his head slowly without saying anything for a moment. Then he said, "Come on in my office, Manny; I want to talk to you for a few minutes. O.K., Inspector?" He glanced at me.

"Sure." I waved him and Manny away. "You boys stay here," I told the patrolmen, "Manny will be all right." As soon as the door closed behind Dr. Brownlee and Manewiscz I said: "You two brought the witness in, too, didn't you?"

"Yes, sir," said one. The other nodded.

"You'd better do a little more careful checking on him. He may be simply mistaken, or he may have been the actual driver. See if he's been in any trouble before."

"The sergeant's already doing that, sir," said the one who had spoken before. "Meanwhile, maybe we better go out and have a little talk with the guy."

"Take it easy; he may be a perfectly respectable citizen."

"Yes, sir," he said. "We'll just ask him a few questions."

They left, and I noticed that the Duke was looking rather puzzled, but he didn't ask any questions, so I couldn't answer any.

The intercom lit up, and I flipped the switch. "Yes?"

"I just checked up on the witness," said the sergeant. "No record. His identification checks out O.K. Thomas H. Wilson, an executive at the City-Chemical Bank; lives on Central Park West. The lab says that the driver of the car wore gloves."

"Thank Wilson for his information, let him go, and tell him we'll call him if we need him. Lay it on thick about what a good citizen he is. Make him happy."

"Right."

I switched off and started to say something to my guest, but the intercom lit up again. "Yeah?"

"Got a call-in from Officer McCaffery, the beat man on Broadway between 108th and 112th. He's got a lead on the guy you're looking for."

"Tell him we'll be right over. Where is he?"

The sergeant told me, and I cut off.

I took out my gun and spun the cylinder, checking it from force of habit more than anything else, since I always check and clean it once a day, anyhow. I slid it back into its holster and turned to the Duke, who was already on his feet.

"Did the Commissioner give you a Special Badge?" I asked him.

"Yes, he did." He pulled it out of his inside pocket and showed it to me.

"Good. I'll have the sergeant fill out a temporary pistol permit, and—"

"I don't have a pistol, Inspector," he said. "I—"

"That's all right; we'll issue you one. We can—"

He shook his head. "Thanks, I'd rather not. I've never used a pistol except when I've gone out after a criminal who is known to be armed and dangerous. I don't think Lawrence Nestor is very dangerous to adult males, and I doubt that he's armed." He hefted the walking stick he'd been carrying. "This will do nicely, thank you."

The way he said it was totally inoffensive, but it made me feel as though I were about to go out rabbit hunting with an elephant gun. "Force of habit," I said. "In New York, a cop would feel naked without a gun. But I assure you that I have no intention of shooting Mr. Nestor unless he takes a shot at me first."

Just as we were leaving, Dr. Brownlee met us in the outer room.

"All right if I let Manny the Moog go, Roy?"

"Sure, Doc; if you say so." I didn't have any time for introductions just then; Chief Inspector the Duke of Acrington and I kept going.

Eight minutes later, I pulled up to the post where Officer McCaffery was waiting. Since I'd already talked to him over the radio, all he did was stroll off as soon as we pulled up. I didn't want everyone in the neighborhood to know that there was something afoot. His Grace and I climbed out of the car and walked up toward a place called Flanagan's Bar.

It was a small place, the neighborhood type, with an old-fashioned air about it. Two or three of the men looked up as we came in, and then went back to the more important business of drinking. We went back to the far end of the bar, and the bartender came over, a short, heavy man, with the build of a heavyweight boxer and hands half again as big as mine. He had dark hair, a square face, a dimpled chin, and calculating blue eyes.

"What'll it be?" he said in a friendly voice.

"Couple of beers," I told him.

I waited until he came back before I identified myself. Officer McCaffery had told me that the bartender was trustworthy, but I wanted to make sure I had the right man.

"You Lee Darcey?" I asked when he brought back the beers.

"That's right."

I flashed my badge. "Is there anywhere we can talk?"

"Sure. The back room, right through there." He turned to the other bartender. "Take over for a while, Frankie." Then he ducked under the bar and followed the Duke and me into the back room.

We sat down, and I showed him the picture of Lawrence Nestor. "I understand you've seen this guy."

He picked up the picture and cocked an eyebrow at it. "Well, I wouldn't swear to it in court, Inspector, but it sure looks like the fellow who was in here this afternoon—this evening, rather, from six to about six-thirty. I don't come on duty until six, and he was here when I got here."

It was just seven o'clock. If the man was Nestor, we hadn't missed him by more than half an hour.

"Notice anything about his voice?"

"I noticed the lisp, if that's what you mean."

"Did he talk much?"

Darcey shook his head. "Not a lot. Just sat there and drank, mostly. Had about three after I came on."

"What was he drinking?"

"Whisky. Beer chaser." He grinned. "He tips pretty well."

"Has he ever been in here before?"

"Not that I know of. He might've come in in the daytime. You'd have to check with Mickey, the day man."

"Was he drunk?"

"Not that I could tell. I wouldn't have served him if he was," he said righteously.

I said, "Darcey, if he comes back in here . . . let's see—Can you shut off that big sign out front from behind the bar?"

"Sure."

"O.K. If he comes in, shut off the sign. We'll have men here in less than a minute. He isn't dangerous or anything, so just act natural and give him whatever he orders. I don't want him scared off. Understand?"

"I got you."

His Grace and I went outside, and I used my pocket communicator to instruct a patrol car to cover Flanagan's Bar from across the street, and I called for extra plainclothesmen to cover the area.

"Now what?" asked His Grace.

"Now we go barhopping," I said. "He's probably still drinking, but it isn't likely that he'll find many little girls at this time of night. He's probably got a room nearby."

At that point, a blue ElectroFord pulled up in front of us. Stevie stuck his head out and said: "Your office said you'd be around here somewhere. Remember me, Dad?"

I covered my eyes with one hand in mock horror. "My God, the fifty!" Then I dropped the hand toward my billfold. "I'm sorry, son; I got wrapped up in this thing and completely forgot." That made two apologies in two minutes, and I began to have the uneasy feeling that I had suddenly become a vaguely repellant mass of thumbs and left feet.

I handed him the fifty, and, at the same time, said: "Son, I want you to meet His Grace, Chief Inspector the

Duke of Acrington. Your Grace, this is my son, Steven Royall."

As they shook hands, Steve said: "It's a pleasure to meet Your Grace. I read about the job you did in the Camberwell poisoning case. That business of winding the watch was wonderful."

"I'm flattered, Mr. Royall," said the Duke, "but I must admit that I got a great deal more credit in that case than was actually due me. Establishing the time element by winding the watch was suggested to me by another man, who wouldn't allow his name to be mentioned in the press."

I reminded myself to read up on the Duke's cases. Evidently he was better known than I had realized. Sometimes a man gets too wrapped up in his own work.

"I'm sorry," Stevie said, "but I've got to get going. I hope to see you again, Your Grace. So long, Dad—and thanks."

"So long, son," I said. "Take it easy."

His car moved off down the street, gathering speed.

"Fine boy you have there," the Duke said.

"Thanks. Shall we go on with our pub crawling?"

"Let's."

By two o'clock in the morning, we had heard nothing, found nothing. The Duke looked tired, and I knew that I was.

"A few hours sleep wouldn't hurt either one of us," I told His Grace. "It's a cinch that Nestor won't be able to find any little girls at this hour of the morning, and I have a feeling that he probably bought himself a bottle and took it up to his room with him."

"You're probably right," the Duke said wearily.

"Look," I said, "there's no point in your going all the way down to your hotel. My place is just across town, I have plenty of room, it will be no trouble to put you up, and we'll be ready to go in the morning. O.K.?"

He grinned. "Worded that way, the invitation is far too forceful to resist. I'm sold. I accept."

By that time, we had left several dollars worth of untasted beers sitting around in various bars on the West Side, so when I arrived at my apartment on the East Side, I decided that it was time for two tired cops to have a decent drink. The Duke relaxed on the couch while I mixed a couple of Scotch-and-waters. He lit a cigarette and blew out a cloud of smoke with a sigh.

"Here, this will put sparks in your blood. Just a second, and I'll get you an ash tray." I went into the kitchen and got one of the ash trays from the top shelf and brought it back into the living room. Just as I put it down on the arm of the couch next to His Grace, the buzzer announced that there was someone at the front door downstairs.

I went over to the peeper screen and turned it on. The face was big-jawed and hard-mouthed, and there was scar tissue in the eyebrows and

on the cheeks. He looked tough, but he also looked worried and frightened.

I could see him, but he couldn't see me, so I said: "What's the trouble, Joey?"

A look of relief came over his face. "Can I see ya, Inspector? I saw your light was on. It's important." He glanced to his right, toward the doorway. "Real important."

"What's it all about, Joey?"

"Take a look out your window, Inspector. Across the street. They're friends of Freddy Velasquez. They been following me ever since I got off work."

"Just a second," I said. I went over to the window that overlooks the street and looked down. There were two men there, all right, looking innocently into a delicatessen window. But I knew that Joey Partridge wasn't kidding, and that he knew who the men were. I went back to the peeper screen just as Joey buzzed my signal again. "I buzzed again so they won't know you're home," he said before I could ask any questions. "Freddy must've found out about my hands, Inspector. According to the word I got, they ain't carrying guns—just blackjacks and knucks."

"O.K., Joey. Come on up, and I'll call a squad car to take you home."

He gave me a bitter grin. "And have 'em coming after me again and again until they catch me? No, thanks, Inspector. In one minute, I'm going to walk across and ask 'em what they're following me for."

"You can't do that, Joey!"

He looked hurt. "Inspector, since when is it against the law to ask a couple of guys how come they're following you? I just thought I oughta tell ya, that's all. So long."

I knew there was no point in arguing with Joey Partridge. I turned and said: "Want some action, Your Grace?"

But he was already on his feet, holding that walking stick of his. "Anything you say."

"Come on, then. We'll take the fire escape; the elevator is too slow. The fire escape will let us out in the alley, and we won't be outlined by the light in the foyer."

I already had the bedroom door open. I ran over to the window, opened it, and started down the steel stairway. The Duke was right behind me. It was only three floors down.

"That Joey is too smart for his own good," I said, "but he's right. This is the only way to work it. Otherwise, they'd have him in the hospital eventually—or maybe dead."

"He looked like a man who could take care of himself," the Duke said.

"That's just it. He can't. Come on."

The ladder to the street slid down smoothly and silently, and I thanked God for modern fire prevention laws. When we reached the street, it was deserted, and, for a moment, I wondered where they could have gone to so quickly. Then the Duke said: "There! In that darkened areaway next to the little shop!" And he started running. His legs were longer

than mine, and he reached the areaway a good five yards ahead of me.

Joey had managed to evade them for a short while, but they had cornered him, and one of them knocked him down just as the Duke came on the scene. The other had swung at his ribs with a blackjack as he dropped, and the first aimed a kick at Joey's midriff, but Joey rolled away from it.

Then the two thugs heard our footsteps and turned to meet us. If we'd been in uniform, they might have run; as it was, they stood their ground.

But not for long.

The Duke didn't use that stick as though it were a club, swinging it like a baseball bat. That would be as silly as using an overhand stab with a dagger. He used it the way a fencer would use a foil, and the hard, blunt end of it sank into the first thug's solar plexus with all the drive of the Duke's right arm and shoulder behind it. The thug gave a hoarse scream as all the air was driven from his lungs, and he dropped to the pavement.

The second man came in with his blackjack swinging. His hand stopped suddenly as his wrist met that deadly stick, but the blackjack kept on going, bouncing harmlessly off the nearby wall as it flew from nerveless fingers.

That stick never stopped moving. On the backswing, it thwacked resoundingly against the thug's ribcage. He grunted in pain and tried to charge forward to grapple with the Englishman. But His Grace was grace itself as he leaped backwards and then thrust forward with that wooden snake-tongue. The thug practically impaled himself on it. He stopped and twisted and was suddenly sick all over the pavement. Almost gently, the Duke tapped him across the side of his head, and he fell into his own mess.

It was all over before I'd even had a chance to mix in. I stood there, holding an eleven millimeter Magnum revolver in my hand and feeling vaguely foolish.

I reholstered the thing and walked over to where Joey Partridge was propping himself up to a sitting position. His right eye was bruised, and there was a trickle of blood running from the corner of his mouth, but he was grinning all the way across his battered face. And he wasn't looking at me; he was looking at the Duke.

"You hurt, Joey?" I asked. I knew he wasn't hurt badly; he'd taken worse punishment than that in his life.

He looked at me, still grinning. "Hurt? You're right I'm hurt, Inspector! Them goons tried to kill me. Let's see—assault and battery, assault with a deadly weapon, assault with intent to kill, assault with intent to maim, attempted murder, and—" He paused. "What else we got, Inspector?"

"We'll think of plenty," I said. "Can you stand up?"

"Sure I can stand up. I want to

shake the hand of your buddy, there. Geez! I ain't seen anything like that since I used to watch Bat Masterson on TV, when I was a little kid!"

"Joey, this is Chief Inspector the Duke Acrington, of Scotland Yard. Inspector, this is Joey Partridge, the greatest amateur boxer this country has ever produced."

Amazingly enough, Joey extended his hand. "Pleased t'meetcha, Inspector! Uh—watch the hand. Sorta tender. That was great? Duke, did you say?" He looked at me. "You mean he's a real English Duke?" He looked back at Acrington. "I never met a Duke before!" But by that time he had taken his hand away from the Duke's grasp.

"It's a pleasure to meet you, Joey," the Duke said warmly. "I liked the way you cleaned up on that Russian during the '72 Olympics."

Joey said to me. "He remembers me! How d'ya like that?"

One of the downed thugs began to groan, and I said, "We'd better get the paddy wagon around to pick these boys up. You'll prefer charges, Joey?"

"Damn right I will! I didn't let myself get slugged for nothing!"

It was nearly forty-five minutes later that the Duke and I found ourselves in my apartment again. The ice in our drinks had melted, so I dumped them and prepared fresh ones. The Duke took his, drained half of it in three fast swallows, and said: "Ahhhhhh! I needed that."

We heard a key in the door, and His Grace looked at me.

"That's my son," I said. "Back from his date."

Steve came in looking happy. "You still awake, Dad? A cop ought to get his sleep. Good morning, Your Grace. Both of you look sleepy."

Stevie didn't. He'd danced with Mary Ellen until four, and he still looked as though he could walk five miles without tiring. Me, I felt about as full of snap as a soda cracker in a Turkish bath. The three of us talked for maybe ten minutes, and then we hit the hay.

Three and a half hours of sleep isn't enough for anybody, but it was all we could afford to take. By eight-thirty, the Duke and I were in my office, sloshing down black coffee, and, half an hour after that, we were cruising up Amsterdam Avenue on the second day of our hunt for Mr. Lawrence Nestor.

Since we were now reasonably sure that our man was in the area, I ordered the next phase of the search into operation. There were squads of men making a house-to-house canvass of every hotel, apartment house, and rooming house in the area—and there are thousands of them. A flying squad took care of the hotels first; they were the most likely. Since we knew exactly what day Nestor had arrived, we narrowed our search down to the records for that day. Nestor might not use his own name, of course, but the photograph and description ought to help. And, since Nestor didn't have a job, his irregular

schedule and his drinking habits might make him stand out, though there were plenty of places where those traits would simply make him one of the boys. It still looked like a long, hard search.

And then we got our break.

At 9:17 a.m., Lieutenant Holmquist's voice snapped over my car phone: "Inspector Royall; Holmquist here. Child missing in Riverside Park. Officer Ramirez just called in from 111th and Riverside."

"Got it!"

I cut left and gunned the car eastward. I hit a green light at Broadway, so I didn't need to use the siren. Within two minutes, we had pulled up beside the curb where an officer was standing with a woman in tears. The Duke and I got out of the car.

We walked over to her calmly, although neither one of us felt very calm. There's no point in disturbing an already excited mother—or aunt or whatever she was.

The officer threw me a salute. I returned it and said to the sobbing woman, "Now, just be calm, ma'am. Tell us what happened."

It all came out in a torrent. She'd been sitting on one of the benches, reading a newspaper, and she'd looked around and little Shirley was gone. Yes, Shirley was her daughter. How old? Seven and a half. How long ago was this? Fifteen minutes, maybe. She hadn't been worried at first; she'd walked up and down, calling the girl's name, but hadn't gotten any answer. Then she saw the policeman, and . . . and—

And she broke down into tears again.

It was the same thing that had happened a few days before. I had already ordered extra men put on the Riverside and Central Park details, but a cop can't be everywhere at once.

"I've got the rest of the boys beating the brush between here and the river," Officer Ramirez said. "She might have gone down one of the paths on the other side of the wall."

"She wouldn't go too near the river," the woman sobbed. "I just know she wouldn't." She sounded as though she were trying to convince herself and failing miserably.

Nobody said anything about Nestor; the poor woman was bad enough off without adding more horror to the pictures she was conjuring up in her mind.

"We'll find her," I said soothingly, "don't you worry about that. You're pretty upset. We'll have the police doctor look you over and maybe give you a tranquilizer or something to make you feel better." No point in telling her that the doctor might be needed for a more serious case. "Keep an eye on her till the doctor comes, Ramirez. Meanwhile, we'll look around for the little girl."

I walked over to the wall and looked down. I could see uniformed police walking around, covering the ground carefully.

Riverside Park runs along the eastern edge of Manhattan Island, between Riverside Drive and the Hud-

son River, from 72nd Street on the south to 129th Street on the north. In the area where we were, there is a flat, level, grassy area about a block wide, where there are walks and benches to sit on. The eastern boundary of this area is marked by a retaining wall that runs parallel with the river. Beyond the wall, the ground slopes down sharply to the Hudson River, going under the elevated East Side Highway which carries express traffic up and down the island. The retaining wall is cut through at intervals, and winding steps go down the steep slope. There are bushes and trees all over down there.

I thought for a minute, then said, "Suppose it was Nestor. How did he get her away? It's a cinch he didn't just scoop her up in broad daylight and go trotting off with her under his arm."

"Precisely what I was thinking," the Duke agreed. "There was no scream or disturbance of that kind. Could he have lured her away, do you think?"

"Possible, but not likely. Little girls in New York are warned about that sort of thing from the time they're in diapers. If she were five years old, it might be more probable, but little girls who are approaching eight are pretty wise little girls."

"It follows, then, that she went somewhere of her own accord and he followed her. D'you agree?"

"That sounds the most reasonable," I said. "The next question is: Where?"

"Yes. And why didn't she tell her mother where she was going?"

I gave him a sour grin. "Elementary, my dear Duke. Because her mother had forbidden her to go there. And, from the way she was talking, I gather the mother had expressly directed her to stay away from the river." I looked back over the retaining wall again. "But it just doesn't sound right, does it? Surely someone would have seen any sort of attack like that. Of course, it's possible that she *did* fall in the river, and that this case doesn't have anything to do with Nestor at all, but—"

"It doesn't feel that way to me, either," said the Duke.

"Let's go talk to the mother again," I said. "There are plenty of men down there now; they don't need us."

The woman, Mrs. Ebbermann, had calmed down a little. The police surgeon had given her a tranquilizer with a hypogun, Officer Ramirez was getting everything down in his notebook, and his belt recorder was running.

"No," she was saying, "I'm sure she didn't go home. That's the first place I looked after she didn't answer when I called. We live down the block there. I thought she might have gone home to go to the bathroom or something—but I'm sure she would have told me." She choked a little. "Oh, Shirley, baby! Where are you? Where *are* you?"

I started to ask her a question, but she suddenly said: "Shirley, baby, next time, I promise, you can bring your water gun with you to the park, if you'll just come back to Mommie

now! Please, Shirley, baby! Please!"

I glanced at the Duke. He gave me the same sort of look.

"What was that about a water gun, Mrs. Ebbermann?" I asked casually.

"Oh, she wanted to bring her water gun with her, poor baby. But I made her leave it at home—I was afraid she might squirt people with it. But I shouldn't have done that! She's a good girl! She wouldn't squirt anybody!"

"Sure not, Mrs. Ebbermann. Does Shirley have a key to your apartment?"

"Yes. I gave her her own key, a pretty one, with her initials on it, for her seventh birthday, so she wouldn't have to push the buzzer when she came home from school."

"Where's your husband?" I asked, taking a look at Ramirez' notebook to get her address.

"Shirley's father? Somewhere in Boston. We've been separated for two years. But I wish he were here!"

"Would you give me the key to your apartment, Mrs. Ebbermann? We'd like to take a look around."

She gave me the key. "But she's not there. I told you, that's the first place I looked."

"I know," I said. "We just want to look around. We won't disturb anything."

Then His Grace and I got out of there as fast as we could.

I keyed open the front door of the apartment building, and we went inside. Neither of us said anything. There was no need to. We knew what must have happened; we could see it unfolding as plainly as if we'd watched it happen.

Nestor had seen Shirley sneak off from her mother and had followed her. In order to get into the building, he must have come right in with her, right behind her when she unlocked the outer door. Then what?

The chances were a billion to one against his ever having been in the building before, so it stood to reason that all he would have been doing is watching for an opportunity and—the right place.

The foyer itself? No. Too much chance of being seen. The basement? Unlikely. He must have followed her into the elevator, and she would have pushed the button for the seventh floor, where her apartment was, so there wouldn't be much likelihood of his getting a chance to see the basement. Besides, there was a chance that he might run into the janitor.

The Duke and I went into the old-fashioned self-service elevator, and I pushed number seven. The doors slid shut, and the car started up. The roof? No. Too much danger of being seen from other buildings higher than this one.

Where, then? I looked at the control panel of the elevator. The button for the basement was controlled by a key; only the employees were allowed in the basement, so that place was ruled out absolutely.

I began to get the feeling that we

« *Continued on page 105* »

Moloch Horridus

BY JOHN SCHOENHERR

■ The "Bug-eyed Monster" on the cover is truly bug-eyed—or rather ant-eyed—and a monster—by most standards. It is, surprisingly, a gentle and inoffensive creature, at least to anything too large to be eaten. This fortunately includes humans and all other animals larger than ants. Ants —especially Australian ants—are in difficulty, since it consumes a thousand to fifteen hundred of them at a sitting. (Squatting?)

The beast is in reality *Moloch horridus,* alias the Mountain Devil, Thorny Devil, or Just Plain Moloch. An almost universal desire is for it never to attain the name of The *Common* Moloch.

Molochs are classified as reptiles (Class Reptilia), lizards (Order Sauria), agamids (Family Agamidae), and molochs (Genus Moloch). (Species horridus.)

The agamids are an Old World family of lizards equivalent to, and roughly paralleling, the American iguanids, which contain most of the typical American lizards—the chuckwallas, swifts, horned lizards, and of course, the Iguanas.

The Moloch, in fact, is the Australian equivalent of our own horned toad (lizard). Both of them eat ants, lay eggs, inhabit sandy areas, and prove quite a mouthful to predators. The Moloch is the longer of the two, running eight inches to *Phrynosomas,* four or five, but its tail accounts for most of the Difference.

The Moloch would seem to make an interesting—if not a unique—pet. ■

THE FOURTH LAW OF MOTION

BY DR. WILLIAM O. DAVIS

DR. WILLIAM O. DAVIS

Dr. William O. Davis is Director of Research of the Huyck Corporation of New York City. He was born in Buffalo, New York on November 11, 1919. He received his A.B. degree from New York University in 1939, with study at Cambridge University, England, on a Carnegie Scholarship from 1937 to 1938. He received his Ph. D. in physics from New York University in 1950.

In 1940 Dr. Davis joined what was then the Army Air Corps as a flying Cadet. At the close of World War II he was commanding the 824th Bombardment Squadron (B-24's) of the Fifteenth Air Force.

After completion of his graduate training in 1950 he became a member of the staff of the Los Alamos Scientific Laboratory as an Air Force Officer, where he worked on nuclear weapons development. From 1953 to 1955 he was Chief of Scientific Research, Headquarters, Air Research and Development Command and from 1955 to 1957 Deputy Commander of the Air Force Office of Scientific Research. It was while in this post that Col. Davis initiated the Project Farside *program discussed in the article "Pie In The Sky" in the August, 1961 ANALOG, the first U.S. Spaceprobe program to get instruments out into the van Allen radiation belt. And the one U.S. Space program to get there ahead of the Russians.*

His last assignment in the Air Force, from 1957 to 1958, as Assistant to the Director of Laboratories, Wright Air Development Center. He resigned as a Colonel from the Air Force in 1958.

In 1958-59 he was Vice President for Research, Executive Vice President and President, in succession, of the Turbo Dynamics Corporation. His research activities have covered the fields of cosmic ray neutrons, special weapons development and the management of government and industrial research programs.

Huyck Corporation, Official U.S. Air Force Photo

You can get away with anything provided you don't get caught while you're doing it, and you leave the system immediately thereafter!

■ Fundamentally, science must be a series of successive approximations to reality. It simply is not possible to arrive at absolute truth with a finite number of investigations. Physics at the Freshman level is a very straightforward subject. Facts are well known, relationships are stated in forthright terms without equivocation, and there is little room for doubt. It takes three years or more of graduate school before it finally dawns on a budding scientist that the whole structure of science, so monumental when viewed from a distance, is a cracked and sagging edifice held together with masking tape and resting on the shifting sands of constantly changing theory. Nothing is known with any real certainty. Some things are merely more probable than others. Well-known theories and even laws turn out to be only partially confirmed hypotheses, waiting to be replaced with somewhat better partially confirmed hypotheses. If there is one thing we know about every theory in modern physics, it is that it is wrong, or at least incomplete. Sooner or later somebody will come along with a more general theory of which the old theory is seen to be a special case.

This is not a criticism of science, but merely a description of the scientific method. Like democratic processes in general—for science is necessarily a democratic process—this method may seem a bit sloppy, and even bog down from time to time with authoritarian red tape, but it's the only method we know at the moment, and its results have been spectacular.

Progress tends to take place by a more or less random series of spurts in different fields at different times. The Laws in a given field of science will appear adequate for many years and little attention will be paid. The glamour is all in another field. Then little anomalies start showing up in engineering or scientific applications of the Laws which are accounted for by engineers through "Finagle Factors" and explained by scientists as "second-order effects." Usually, it takes a really major anomaly to generate the necessary speculation to derive a new and improved theory.

The field of Mechanics is a case in point. Euler, Lagrange, Hamilton, and

Newton did such a beautiful job of synthesizing a workable theory that no further attention was paid to Mechanics for many years. Certain anomalies in astronomical data led Einstein to the Theory of Relativity, and the study of atomic physics led to the development of the Quantum Theory, but the mechanics of simple everyday systems is still founded squarely on the cornerstone of the three Laws of Motion of Newton.

These Laws are usually stated in the elementary textbooks as:

First Law: Every body tends to remain at rest or in uniform motion in a straight line, unless acted upon by an outside force.

Second Law: An unbalanced force acting on a body causes the body to accelerate in the direction of the force, and the acceleration is directly proportional to the unbalanced force and inversely proportional to the mass of the body.

Third Law: For every action, there is an equal and opposite reaction.

By and large, the Laws of Motion have stood the test of time remarkably well. In spite of the newer concepts of Relativity and Quantum Mechanics, the basic meaning of the Laws has merely been interpreted, not challenged. Even then, interpretation has only been required in the case of very small or very large systems and in everyday life Newton still reigns supreme, much to the distress of a host of would-be inventors.

There have been anomalies from time to time, of course, but it has normally been possible to attribute these to lack of sufficient information or understanding.

For a number of years, the author has been intrigued with a group of anomalies having to do essentially with rate of strain in materials and mechanical systems. It is well known, for example, that the strength of many materials is a function of rate of strain. Some materials such as silicone putty, display this characteristic to a marked extent. The field of terminal ballistics is replete with odd rate of strain effects such as the tendency of long projectiles to penetrate targets by means of a series of hammer blows. There are many other examples which come to mind from almost every field of science and engineering. Generally speaking, it is very difficult to explain such effects in terms of Newtonian physics, although it has been done.

Fig. 1 Input data channel: Col. John Stapp's experimental work on the effects of extreme acceleration. Pictures 1-3 show first five seconds as the rockets accelerated sled to 421 mph, with max acceleration reaching 12 G's. Pictures 4-6 show initial deceleration as thrust ends, and the water-brakes slow the sled, with max acceleration reaching —22 G's. But . . . Col. Stapp found in this experimental series that acceleration alone did not tell the full story; rate of onset was equally important in predicting damage effects.

Official U.S. Air Force Photo

Several years ago, the importance of rate-of-onset effects in general was highlighted for the author by studies of the dynamics of the high speed pressing of paper and textiles in the laboratories of Huyck Corporation based on a theoretical study by E. L. Victory. The need to solve certain problems relating to very high speed paper machines led to the creation of a small research program involving both theory and experiment.

Interest in this field was further heightened by the discussions of the Dean Drive started by John Campbell in these pages in 1960. Our earlier investigations led the author to the hypotheses that the Drive, if it worked might be explained in some way by rate-of-onset effects.

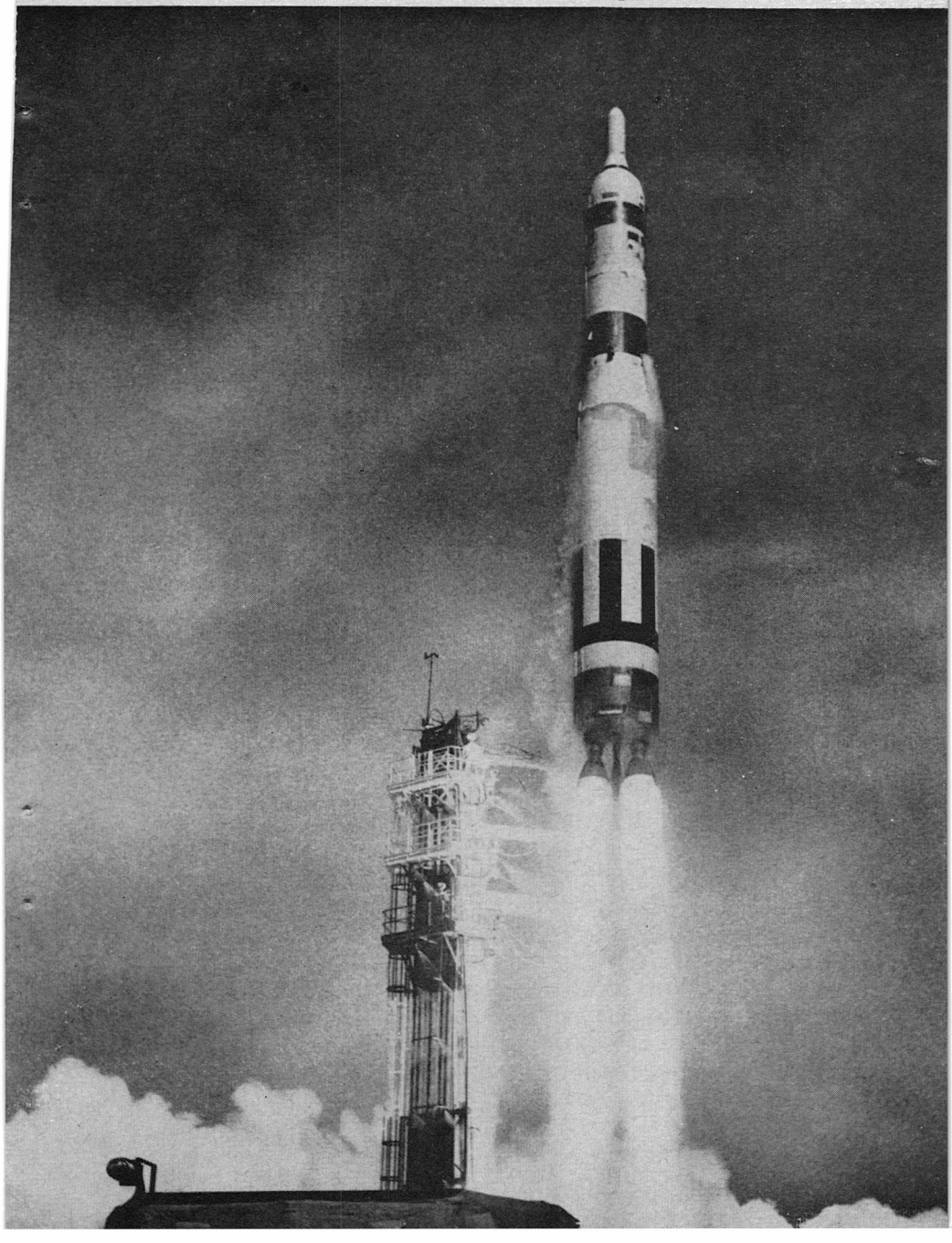
This article is a preliminary report on findings of general interest which have resulted from this research program. It is not primarily designed to explain "reactionless" drives, but certain conclusions will certainly have a bearing on the evaluation of those devices. Because this is a preliminary report, there will be no attempt to offer proof of assertions as such, although it is believed that existing data will tend to confirm theoretical predictions in the areas that have been investigated after the analysis has been completed.

A speculative theory will be proposed which has been logically and mathematically explored to some extent and checked against known data in various areas of science and engineering. No claim is made that this theory has been "proven" any more than any theory is "proven." We do believe that this approach will shed some light on certain problems.

Let us take a moment to review the meaning of the terms describing a body in motion. First of all, a body has a position, described in terms of its distance and direction from some arbitrary point or "origin." To this distance we assign the letter, s. If the body is in motion it will move a very small distance, ds, in a very short time, dt, so that its instantaneous velocity will be given by $v = \frac{ds.}{dt}$ Note that the body might move in such a way that its distance from the origin remained constant and only the angle or direction changed; it might move directly away from the origin in a straight line so that only its distance changed; or it might move in some intermediate way so that both its distance and direction change at the same time. Thus, in general v must represent a rate of change of position in any of these ways. It represents not only a speed, but a speed in a certain direction, and therefore, like the displacement, it is called a "vector."

Fig. 2. Data source: Titan ICBM take-off. The big rockets have a rapidly changing acceleration, since the thrust-force remains nearly constant, while the mass of the rocket changes rapidly as reaction-mass is ejected. Performance figures don't check Newtonian formulas accurately.

Official U.S. Air Force Photo



If now, we make a small change in the velocity, dv, in a small period of time, dt, the body will have an instantaneous acceleration vector given by:

$$a = \frac{dv}{dt} \qquad (1)$$

But, $v = \frac{ds}{dt}$, so that we can also say $a = \frac{d}{dt}(ds)$ which is normally written:

$$a = \frac{d^2s}{dt^2} \qquad (2)$$

An expression like $\frac{ds}{dt}$ or $\frac{dv}{dt}$ is called a "derivative," and therefore v is called the "first derivative" of the displacement with respect to time. Since the derivative must be taken twice to get it, we say that a is the "second derivative" of the displacement. Thus, Newton's Second Law could be written (and frequently is),

$$F = M\frac{d^2s}{dt^2} \qquad (3)$$

Let us now go one step further and assume that the acceleration is not constant. In other words, if we make a small change in acceleration, da, in a short time, dt, the body will have an instantaneous "surge" given by:

$$\dot{a} = \frac{da}{dt} = \frac{d^2v}{dt^2} = \frac{d^3s}{dt^3} \qquad (4)$$

Surge is thus the "third derivative" of displacement. This quantity has previously been referred to as "rate of onset," "jerk," "kick," and a number of other terms. We use "surge" because it seems more appropriate to describe an action that may be repetitive or even continuous in some systems. We use the symbol $\dot{a}$ because it is conventionally used as an abbreviation for $\frac{da}{dt}$.

It is obviously possible to continue indefinitely to define fourth, fifth, and higher derivatives of displacement with respect to time. In some cases, such as very high speed impact, this may prove later to be worthwhile. In most cases, higher derivatives will probably shed little light on the problem and in the case of cyclic or oscillating motion, it can be shown that a dynamic system can be completely described with not more than three derivatives. Higher orders may be present, but can always be expressed in terms of combinations of the first three.

The class of anomalous behavior which we wish to study involves in every case the presence of surge as we have just defined it. Under conditions of constant or zero acceleration mechanical bodies or systems of bodies obey Newton's Laws reasonably well. It is under conditions of changing acceleration that difficulties arise.

The key word in our analysis of dynamic systems will be "simultaneity." The Laws of Motion presuppose exact simultaneity of action and reaction. In other words, if the force exerted by Mass #1 on Mass #2 is suddenly changed, the force exerted by Mass #2 on Mass #1 must change at the same instant to satisfy Newton's image of the universe. Einstein recognized that this condition would

not be met in the case of bodies separated by astronomical distances since the change in gravitational field would have to be propagated at some finite velocity, presumably that of light, but he did not carry his investigations into the simpler field of everyday mechanics.

If it is true that two stars cannot act as a Newtonian system in less time than it takes gravity to propagate from one to the other and back, it is equally true that any real body or system of bodies suffers to a greater or lesser extent from the same problem. Newton's Laws, strictly speaking, apply only to mathematically infinitesimal particles or perfectly rigid bodies, neither of which exists in the real world.

Consider, for example, a simple steel rod one meter long which I wish to move by applying a force to one end. The instant I start to apply the force a message leaves the end of the rod as a plastic or elastic compressive wave which travels at a speed of approximately, 5,000 meters/second. The compressive wave travels to the far end of the rod where it is reflected as a rarefaction and returns to the point of application of force at the same speed.

Until the wave returns, 4/10,000 of a second later *the rod as a whole cannot move according to the Second Law!* No matter how much force is applied, the center of gravity of the rod cannot obey $F = Ma$ in less than this time. It would be oversimplifying to say that the rod acts as though it had infinite mass during this time, since the center of gravity will be moved somewhat by compression, but for all practical purposes, the rod acts as though it had a much larger mass than it actually has.

This phenomenon is observed with all real mechanical systems to a greater or lesser extent and is normally described in the engineering textbooks as the "starting transient." Although engineers must concern themselves with starting transients in such matters as determining peak power requirements for motors, science has devoted relatively little attention to study of this phenomena, preferring, in general, to consider steady-state conditions where the Laws of Motion and the Laws of Thermodynamics may be more comfortably applied. Therefore, it is precisely with the starting transient that we will begin our investigation of the dynamic behavior of real bodies.

We have concluded that all real bodies or systems of bodies experience a starting transient when a force is applied. The particular behavior of a given system will depend on: (a) how rapidly the force is applied and, (b) the built-in delay time, or "critical action time" of the system. More exactly, we have found that the behavior depends upon how rapidly one attempts to *change the acceleration* applied to the body. The ultimate acceleration of the body, the "a" of $F = Ma$, is not what is critical; it is the *rate of onset* or "surge" of the acceleration which is vital.

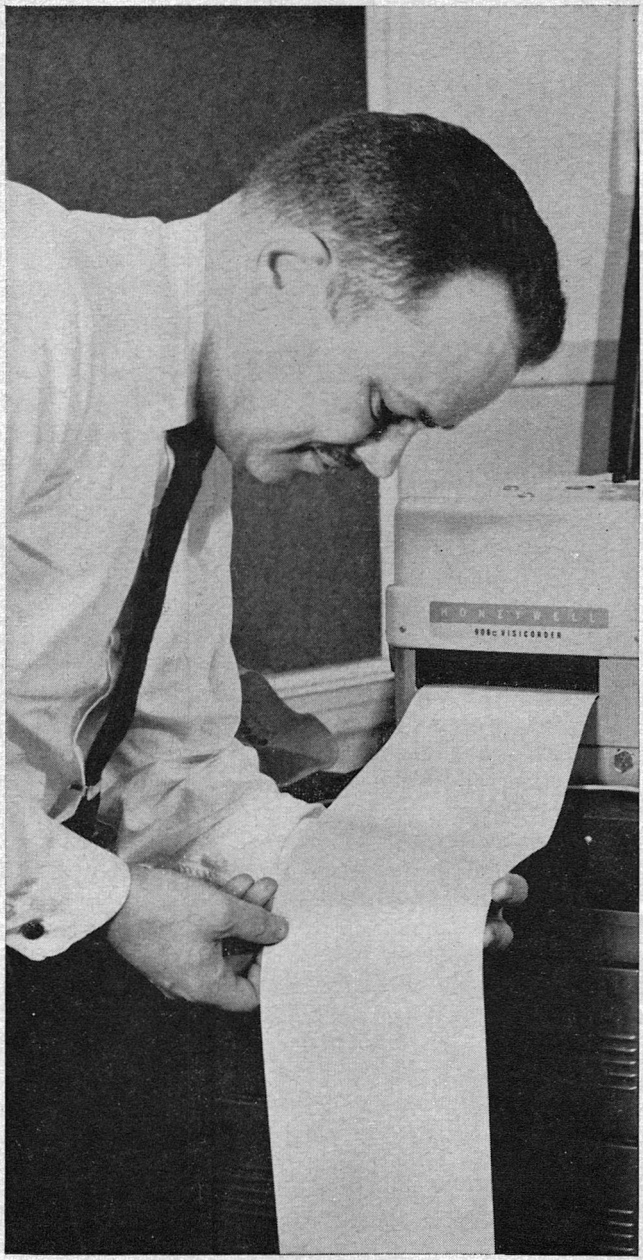
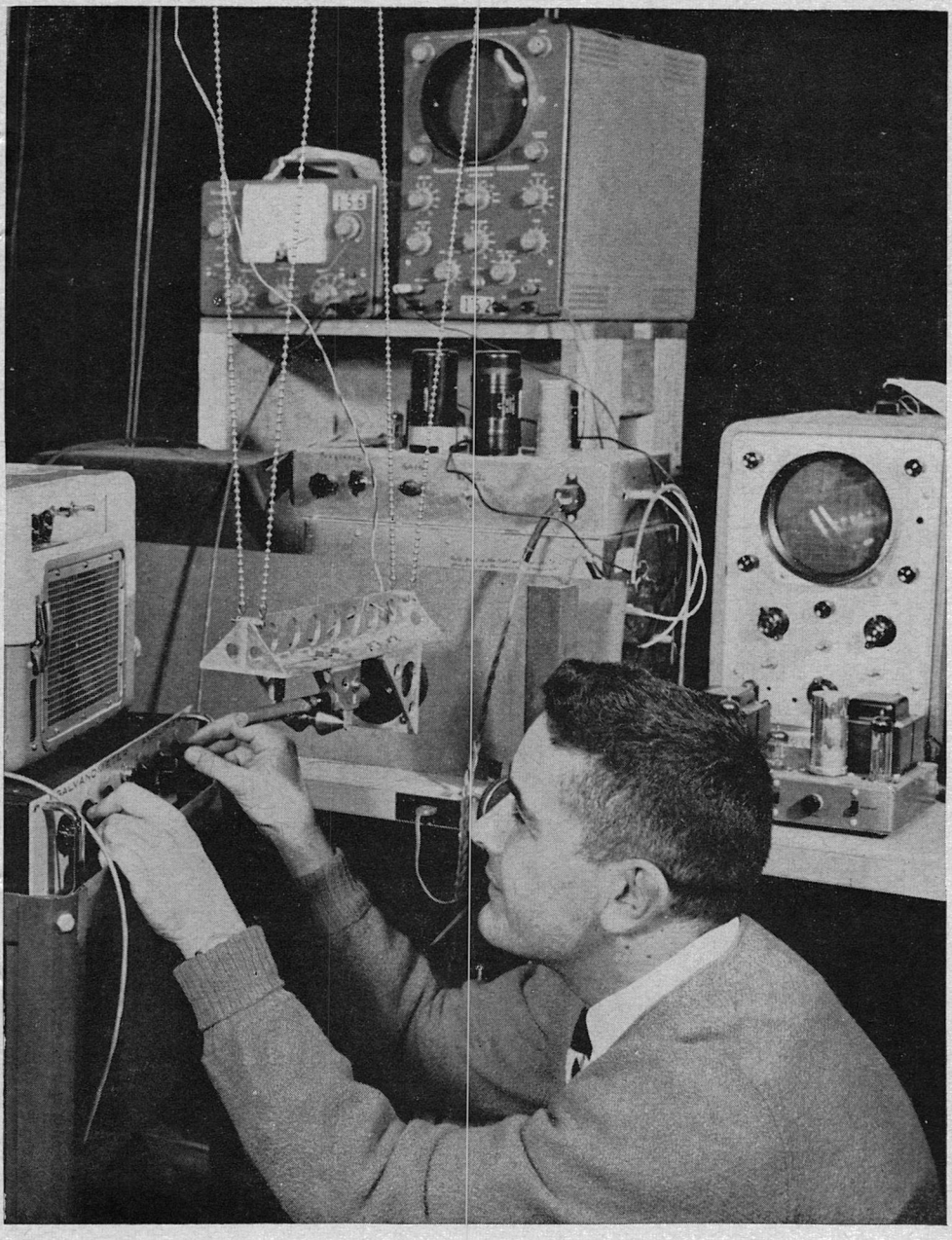


Fig. 3. Experimental setup at the Huyck laboratories, Milford, Conn., Dr. William O. Davis checking the multichannel oscillogram; Harry Stine at the amplifier controls. The suspended device is an electromagnetic driver acting on the horizontal test-mass of the cylindrical rod.



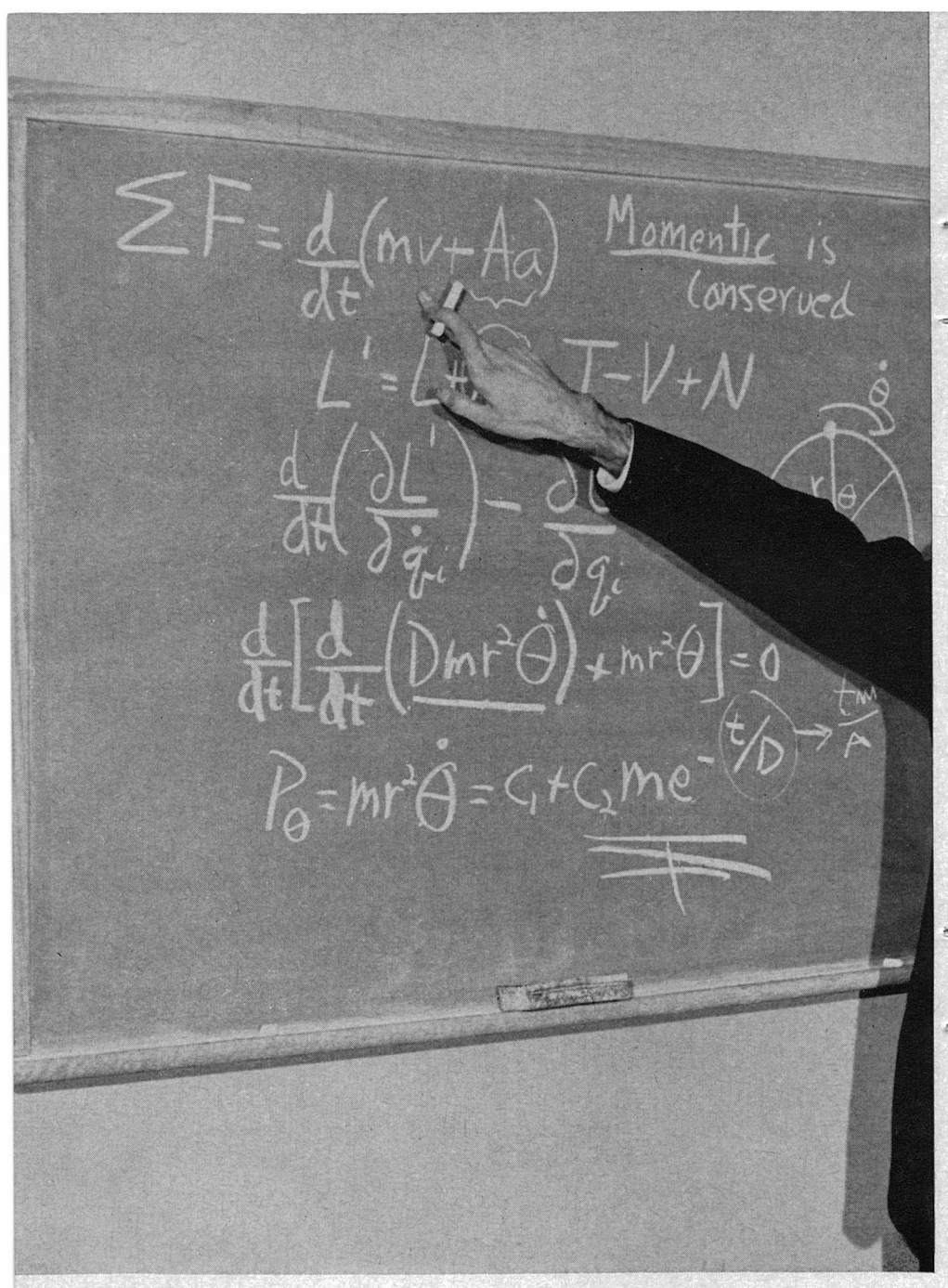
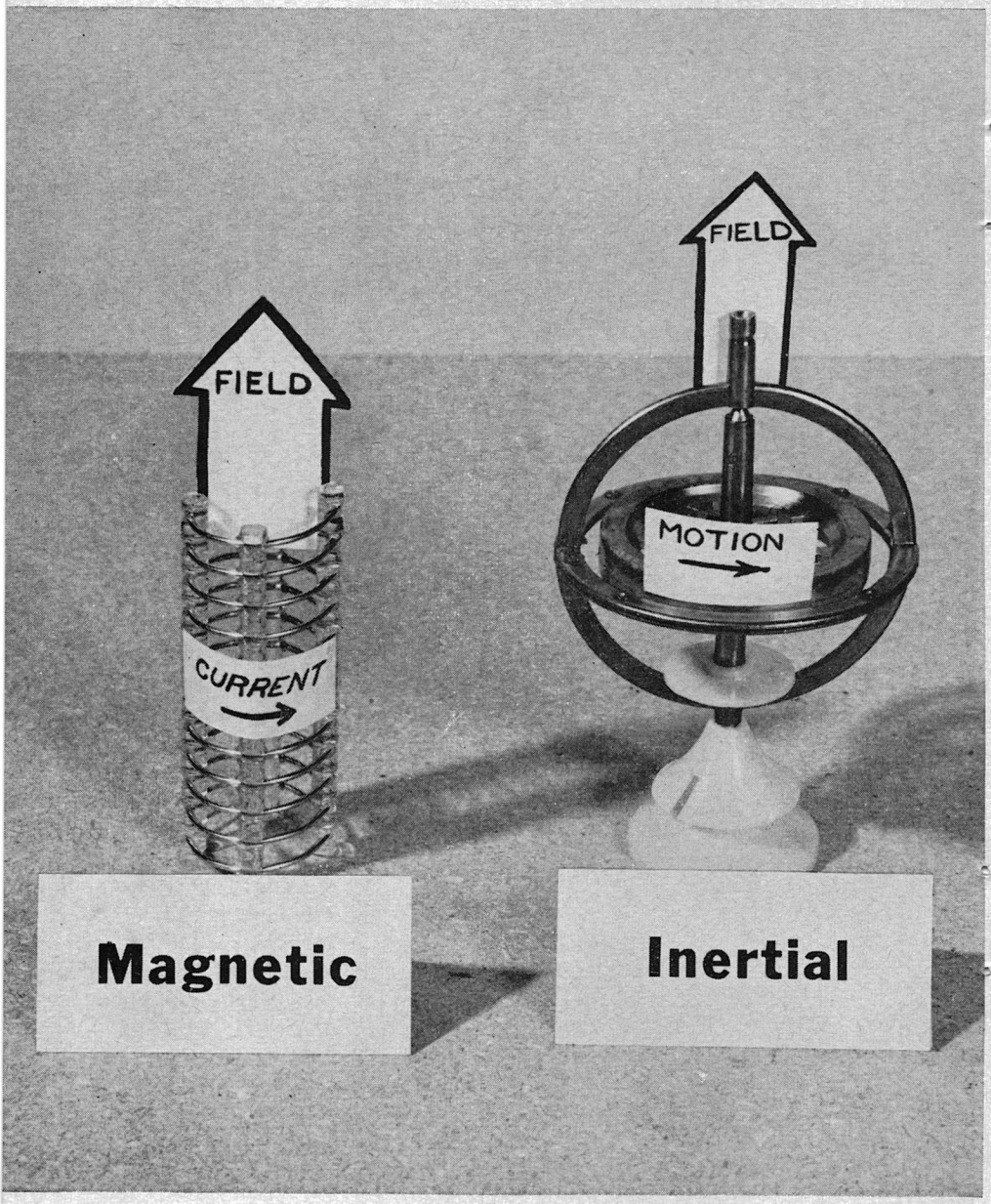

$\Sigma F = \frac{d}{dt}(mv + Aa)$
Momentic is conserved
$L' = L + \ldots$
$T - V + N$
$\frac{d}{dt}\left(\frac{\partial L'}{\partial \dot{q}_i}\right) - \frac{\partial}{\partial q_i}$
$\frac{d}{dt}\left[\frac{d}{dt}\left(Dmr^2\dot{\theta}\right) + mr^2\dot{\theta}\right] = 0$
$P_\theta = mr^2\dot{\theta} = C_1 + C_2 me^{-t/D}$
$\frac{t}{M/A}$
r
θ
θ̇

Fig. 4.
Dr. Davis and E. L. Victory arguing some of the equations produced in the analysis of results. Modern math tools are not adequate to solution of some of the functions resulting— as when the third term alone— representing the third cycle of an asymmetrical da/dt system— fills six pages of paper!


FIELD
CURRENT
FIELD
MOTION
Magnetic
Inertial

Colonel John Paul Stapp, the United States Air Force Flight Surgeon who subjected himself to crushing accelerations to investigate the hazards of seat ejection and airplane crashes, observed that the extent of damage to personnel and equipment depended in an important way on surge as well as the acceleration itself. In fact, today the Air Force specifies limiting rates of onset as well as limiting accelerations for men and equipment. On one case, Colonel Stapp estimated that the effect of a given acceleration on his body was *over twice as great if applied at very high rate,* than would be predicted by $F = Ma$!

Thus, it is not wholly illogical to attempt to solve the puzzle of high rate-of-onset anomalies by postulating that there is a force proportional to the rate of change of acceleration as well as Newton's force proportional to acceleration itself. There is no conflict here with Newton, for Newton considered only systems where either velocity or acceleration were constant. Since his data inputs were from astronomy and since he had no instruments capable of investigating effects of changing acceleration—effects that may occupy milliseconds or less—this is not particularly surprising.

What form should the Equation of Motion now take if we assume a force proportional to the surge as well as a force proportional to acceleration? The simplest assumption, and one which seems to be supported by preliminary data, is that the new force is additive, in the same way that forces due to viscous drag and displacement are additive. In other words, we now write the Equation of Motion:

$$F = Ma + A\dot{a} \qquad (5)$$

where A is a new term which we have labeled "intractance" and which has units of mass-seconds. Because the solutions of the equation in some cases yield the ratio A/M as the critical action time of the system, we have in those cases assumed that the intractance is the product of the mass and the critical action time:

$$A = DM \qquad (6)$$

Let us now see how this equation of motion can be used to analyze and predict the anomalous behavior of a simple system. Starting transients normally are considered only in connection with the beginning or the end of a motion and hence are accorded no particular attention. However, there are certain types of cyclic motion where the transient behavior is continuous, or repetitive and we will see later that even certain single transients may have critical importance in understanding natural events.

First consider the simple case of a real body subjected to harmonic oscillation. To make matters easier, we will assume that there is no restoring force proportional to displacement

Fig. 5. Corresponding relationships in electric-magnetic field interactions, and mass-inertia, or gravito-inertial fields.

present and no viscous damping in the system. If the applied force is simple harmonic in nature it may be expressed in the form:

$$F = F_0 \cos 2\pi ft \qquad (7)$$

where f is the frequency of the vibration in cycles per second, and t is the time in seconds after the beginning of the motion. The Newtonian equation for vibration in one dimension would be:

$$F_0 \cos 2\pi ft = Ma = \frac{Md^2x}{dt^2} \qquad (8)$$

and the displacement of the driven body would be:

$$x = x_0 \cos 2\pi ft = \frac{-F_0}{4\pi^2 f^2 M} \cos 2\pi ft \qquad (9)$$

In other words, the displacement will obey Newton's Second Law and will be exactly opposite in phase to the driving force, thus also satisfying the Third Law.

However, if the body to be oscillated is real, it will not respond instantaneously, so that the rate of onset must be considered. The equation of motion then assumes the form:

$$F_0 \cos 2\pi ft = Ma + DM\frac{da}{dt} = M\frac{d^2x}{dt^2} + DM\frac{d^3x}{dt^3} \qquad (10)$$

where D is the delay time, or "critical action time" of the body and $\frac{da}{dt}$ is the surge. D is assumed to be constant.

This equation has the solution:

$$X = X_0 \cos (2\pi ft - \phi) \qquad (11)$$

where $\tan \phi = 2\pi fD \qquad (12)$

and $$X_0 = -\frac{F_0}{4\pi^2 f^2 MZ} \qquad (13)$$

where Z is a sort of complex impedance and

$$Z = \sqrt{1 + 4\pi^2 f^2 D^2} \qquad (14)$$

The important feature to note in this solution is that the amplitude of the oscillation is less than predicted by the Newtonian equation and even more important, *there is a phase angle between the driving force and the displacement,* even in the absence of viscous damping. This solution demonstrates the most significant characteristic of real bodies, to wit: not only is displacement somewhat less than Newton would predict for a given force, leading to an *increased apparent mass,* but *reaction is no longer exactly opposite to the applied force*: there is a phase angle which will be larger the longer the critical action time of the system! *Action and reaction are not simultaneous!*

A technical paper will be published in the near future which will present a more general discussion of solutions to the equations of motion. The solution presented here will serve only to show the effect of critical action time in a system under the simplest situation. The disastrous effect on the theory of mechanics of the existence of critical action time in real bodies may be realized at once when we consider a system so arranged that the critical action time is not the same in all directions.

If, for example, we build a mechanical oscillator such that the critical action time is short compared to the period of oscillation in one direction, the mass will appear to be approximately Newtonian and the phase angle of reaction will be negligible when the oscillator is moving in that direction. If we now change the system to make the critical action time much longer during the time the oscillator is moving in the opposite direction, the mass will appear to be greater and the phase angle larger, *even though the total applied force is exactly the same in the two directions.* Thus there will be a net unidirectional acceleration of the driven mass in the direction of the least apparent mass even though the applied force is balanced!

This conclusion is merely a logical consequence of the existence of a force proportional to the third derivative. We have not yet, of course, considered how such a behavior could be possible in terms of physical reality.

In recent years a number of "reactionless" drives have been proposed and some demonstrated, including the controversial Dean Drive. To the extent that any of these devices have produced useful thrust, they presumably have embodied this principle. It is not the purpose of this article to attempt to explain the operation of these systems as such, nor to claim that any of them are practical devices. However, an analysis of the possible compatibility of some form of mechanically reactionless drive with the body of known data from the past may help shed some light on deficiencies in present theory and, hopefully, lead to some useful applications.

If a device of this kind operates, what has happened to the laws of the Conservation of Momentum and Energy? Actually, the situation is no worse than it once was in the field of electricity. It was sincerely believed a century or so ago that it would be impossible to do work with alternating current without violating the Conservation of Momentum, since the average current was zero. Although the current in one direction is balanced by an equal flow in the opposite direction, the flows are not equal and opposite *simultaneously* and thus work can be done. Furthermore, when all else failed, radiation was invoked to preserve the Conservation of Momentum.

We are going to try the same approach. Let us again consider the case of a real body, having mass M and constant critical action time D, moving in one dimension, and let us calculate the work necessary to change the kinetic energy of the body. If the force is applied over the distance between two positions, X_0 and X_1, during a corresponding time interval, t_0 to t_1, then it can be shown that:

$$\int_{x_0}^{x_1} F dx = \left[\frac{Mv^2}{2}\right]_{t_0}^{t_1} + D\left[\frac{d}{dt}\left(\frac{Mv^2}{2}\right)\right]_{t_0}^{t_1} - DM\int_{t_0}^{t_1} a^2 dt \quad (15)$$

where v is the velocity and a the acceleration in the x-direction.

It will not be necessary to go into the calculus involved. The important point is that only the first term on the right-hand side is Newtonian. The second two terms represent the portion of the energy that has not been converted to kinetic energy because of third derivative effects. This portion of the energy, in keeping with the terminology applied in modern nuclear physics to particles which exist in the nucleus for too short a time to violate the Law of the Conservation of Energy, we have called the "virtual energy." Thus this equation expresses an amendment to the Energy Conservation Law by a new "Principle of Virtual Energy." If a force proportional to surge exists, then a logical consequence is the existence of such "virtual energy." We will continue to explore the question of whether this makes sense in terms of the real world.

Let us see what the presence of virtual energy in a system implies. First of all, if the acceleration is constant the sum of the virtual energy terms is zero and the equation becomes Newtonian. The equation is not readily soluble for an arbitrary variation of acceleration with time but a simple example will demonstrate the principle. Let us assume a constant surge as such that the acceleration varies according to:

$$a = a_0 t \qquad (16)$$

For the sake of simplicity let us assume that we are describing a rocket during take-off so that the initial displacement, velocity, and acceleration are all zero and $t_o = 0$. We will also ignore the presence of the earth's gravitational field, since the conclusions will not be affected. One can then find the solution that at time t_1 the virtual energy is given by:

$$N = \frac{DMa_0 t_1^3}{6} \qquad (17)$$

This means that the kinetic energy at t_1 will be too small by this amount. The rocket will have acted as though it were heavier than its true weight! What has happened to the energy that has been lost?

Now it is necessary to go back and make some postulates. A moving electrical charge creates a magnetic field. Einstein, in his General Field Equations assumes that a moving gravitational "charge" or mass will also produce a field. The predicted strength of such a field is extremely small for any reasonable velocity, smaller in general than the gravitational field due to the mass alone. Any radiation resulting from the interaction of the gravitational and "inertial" field—in the same way that electromagnetic radiation results from the interaction of the electric and magnetic fields—is thus so small as to be negligible in any practical system.

Although all of the reasons cannot be developed here, I believe it is more reasonable to postulate an "inertial" field due to the *acceleration* of a mass rather than simply due to its velocity. It is as though the fundamental

"charge" were momentum, Mv, instead of simply the mass, M.

It is possible in this light to point immediately to the gyroscope as a well-known example of an inertial field. Mathematically, the "angular momentum" of a gyroscope is calculated from the motion of the mass in the wheel in exactly the same way as the magnetic field of a solenoid is calculated from the flow of current. Mathematically, then, "angular momentum" may be said to be identical with "inertial field" in this case, and we will prefer the latter terminology. Anyone who has felt the resistance of a gyroscope to precession will know that this type of "inertial field," if that is what it turns out to be, is far from negligible. The forces involved may be very large with a heavy wheel rotating at high speeds. Since there exists a constant centrifugal acceleration in a gyroscope running at constant speed, any attempt to precess the device must automatically result in a "third derivative" reaction force, since the acceleration is being changed.

Based on this example it can now be seen that the coefficient of the third derivative or surge term in the Equation of Motion must represent the resistance of the system to a change of inertial field, in the same sense that self-inductance represents the resistance of a coil to a change of magnetic field. We have discussed a case where we assumed that this coefficient was the product of the mass and the critical action time of the system. This is not necessarily true of all systems, so that we choose to define this coefficient more generally in relation to the inertial field as the "intractance" of a system. Thus the force due to rate of onset may be defined as the product of the intractance and the surge.

The well-known concept of a limiting velocity of propagation for energy in any form established by Einstein is a direct embodiment of the intractance of real systems. In fact, viewed from another point of view, it is precisely the intractance of a system which requires that propagation velocity be limited. If energy could propagate at infinite speed, then it would be possible to change the energy of a system in zero time.

Now it is possible to visualize a completely new type of radiation resulting from the existence of this type of inertial field. If an electron radiates electromagnetic radiation when it is accelerated, then clearly we will now expect a mass having intractance to radiate gravitational-inertial radiation when it is subjected to *surge*. It is in fact my postulate that the flux of such radiation from a system is proportional to the *rate of change of virtual energy*. Based on this assumption, the energy which has failed to appear as kinetic energy or potential energy in the example of the rocket we discussed, has left the mechanical system in the form of gravitational-inertial radiation, as we have defined it.

For obvious reasons it will not be practical to go into the mathematical

steps taken to arrive at this conclusion, but once again we have followed a logical course starting from the assumption of a third derivative force. It is interesting to note that the new radiation, if it exists, will have radically different characteristics than electromagnetic radiation, at least as it is now described. First of all, it is not a "dipole" radiation, but more like the radiation from an "end-fire" antenna. Secondly, each period of changing acceleration produces a "quantum" of radiation equal to the change of virtual energy, so that the emission is not continuous.

The consequences of this behavior will have to be explored in more detail in the future. It is even possible that this approach may shed some light on the quantum nature of electromagnetic radiation. For example, we have considered the hydrogen atom in an excited state. By writing the equations of motion for an orbiting body with intractance, it can be shown that when third derivative effects are considered the angular momentum is not initially constant! In fact the equations show that a body first placed in orbit contains a significant transient term in the expression for its angular momentum which ultimately decays to a constant with time.

Furthermore, the energy lost during this decay disappears entirely from the mechanical system and can only be accounted for by some form of radiation! Thus if the electron of a hydrogen atom were excited with additional kinetic energy, our theory would predict the radiation of a quantum of energy during this decay time. It is therefore possible that the quantum condition is a perfectly logical consequence of the existence of intractance in real systems, and that thus quantum theory can be derived from Newtonian physics!

During this brief discussion of the application of our theory of real dynamic systems to nuclear physics some reference should be made to the upwards of forty new nuclear particles which have been postulated in recent years. Since many of these particles have been postulated to explain an apparent violation of the Conservation of Energy or Momentum during some very brief time period—brief even by nuclear standards—it is possible that the Principle of Virtual Energy may offer an alternative explanation in many cases.

Quite apart from the possibility of inertial radiation, several conclusions may now be drawn, at least on a tentative basis. When computed including intractance, the solutions to the equation of motion indicate that very large systems should tend to be unstable, unless the mass in the system is very large. This conclusion, for example, may have a bearing on the theory of the expanding universe. Furthermore, it suggests that the application of thermodynamic analysis to large systems should be re-examined. Thermodynamics relates to systems in equilibrium and simultaneity is obviously important. If gravitational waves propagate at the velocity of light, which is by no means certain yet, then the critical action time of

the observable universe is roughly 12 billion years and simultaneity cannot be defined for the complete system in less than that time. Thus it should be perfectly possible to reverse entropy in a local area and not have to pay the piper for a very long time!

We come now to a consideration of what must be the Fourth Law of Motion. There will obviously be several alternative expressions. Mathematically, what seems to be critical in systems with intractance is the rate of change of energy, so that the Law is perhaps best expressed in these terms: *The energy of a given system can only be changed in some finite length of time depending on the system, and never in zero time.*

Similarly, one can suggest an expression for the Fourth Law of Thermodynamics, to wit: *Systems can only be considered to be thermodynamic in nature over time periods large in comparison to their critical action time.* In other words: You can violate the first three Laws, providing you don't get caught while you're doing it!

At this point, it is proper to ask the question: Is there any real evidence for this theory, and if it is true, why haven't these phenomena been obvious for some time?

First of all, rate of onset effects per se are well-known and their existence is hardly controversial. The entire field of shock and vibration gives signs of supporting our conclusions. In general, mechanical systems do not possess the simple resonance characteristics that Newtonian theory would predict. The existence of intractance permits many more modes of resonance since there are now four terms in interaction in the equation of motion for a system including viscous damping and linear restoring force instead of three. This permits a much greater number and variety of resonances to occur.

The discovery of the existence of "virtual particles" in the atomic nucleus, which appear to violate the Conservation of Energy, is an important addition to the list of anomalies which suggest the validity of the theory. Under the assumption that the theory is correct, it is possible to derive the quantum condition from the planetary model of the atom. In short, wherever the theory would predict certain behavior, there are indications that the behavior is present. Obviously, the mere fact that an equation gives correct results does not mean the theory is correct. The model must also make sense.

Most obvious embodiments of third derivative theory are associated with high rates of onset, impact, or strong vibrations. Under these conditions, it is very hard to make measurements. It is hard to find accelerometers, for example, which have response times sufficiently short to permit proper observation. For another thing, a system running in a continuous or intermittent transient mode tends to create very large internal forces which are very destructive. It is hard to maintain a system

at its proper operating point for a long enough time to make observations. It is highly probable that most data on this type of behavior consisted of observations of the type, "Then the machine broke down for no known reason," or "Witnesses stated that the wing suddenly broke off the airplane."

Evidence for the existence of inertial radiation is not quite as plentiful. The concept of gravitational waves is not a new one, and in fact is implicit in the weak-field solutions of the Einstein General Field Equations, known for forty years. On the other hand, the type of gravitational-inertial radiation predicted by our theory is quite new since it is presumed to be a consequence of surge rather than simple acceleration. The magnitude of the Einstein radiation is predicted to be so small as to defy detection, but the radiation described here should be clearly observable under the right conditions.

For example, the success of one of the proposed "reactionless" drives would strongly tend to confirm the existence of the radiation. At the same time, if radiation is generated it should be detectable, and sooner or later a "Hertzian" experiment will have to be performed. A number of experiments are now underway in our laboratories at Huyck Corporation which we hope will provide confirmation in the near future. Preliminary experiments have produced favorable qualitative results, but data has not been sufficiently accurate to permit a proper statistical correlation. We hope to correct this situation with new instrumentation by the time this article appears.

In addition to the author, a number of individuals have played key roles in the Huyck Dynamic Systems Project. The experimental work was performed at the Huyck Research Center at Milford, Connecticut, under the direction of Mr. G. Harry Stine who also contributed a number of concepts to the theory. Theoretical calculations and analytical studies were performed by Mr. E. L. Victory. Certain specialized instrumentation and general consultation were provided by Mr. John W. Campbell, under a consulting agreement, and overall professional review of the theoretical and experimental programs has been given by Professor Serge A. Korff, of the Physics Department at New York University. We are also deeply indebted to Dr. O. G. Haywood, Vice President of Huyck Corporation, for technical and moral support.

Obviously, there are an almost unlimited number of fields where the consequences of this theory might be explored. Validation, if ever, will probably result from many experiments in many fields. We cannot perform them all. We intend to continue our own research program and will be interested to hear of the results produced by other groups.

Science, as we said, is a series of successive approximations to reality. Here is another approach. Let's find out if it is a better approximation. ■

« *Continued from page 81* »
were on a wild goose chase, after all. "What do you think?" I asked His Grace.

"I can't imagine where he might have taken her. We may have to search the whole building."

The car stopped at the seventh floor, and we stepped out as the doors slid open. The hallways stretched to either side, but there were no apparent hiding places. I went over to the stairwell, which was right next to the elevator shaft and looked up and down. No place there, either.

Then it hit me.

Again, I could see Nestor, like a scene unfolding in a TV drama, still following little Shirley. Had he spoken to her in the elevator? Maybe. Maybe not. He was still undecided, so he followed her to the door of her apartment. Wait—very likely, he *had* made friends with her on the elevator. He saw her push button seven—

Well, well! Do you live on the seventh floor?"

Yes, I do.

Then we're neighbors. I live on the seventh, too. I just moved in. Do you live with your mommie and daddy?

Just my mommie. My daddy doesn't live with us anymore.

And, since he knew that mommie was in the park, he could guess that the apartment was empty.

All that went through my mind like a bolt of lightning. I said: "The apartment! Come on!"

The Duke, looking a little puzzled, followed me to the door of 706. I put my ear against the door and listened. Nothing. Then I eased the key in and flung the door open.

No one in the living room. I raced for the bedroom. No one in there, either, but the clothes closet door was shut.

When I opened it, we saw a small, dark-haired girl lying naked and unconscious on the floor.

Then there were noises from the front room. The sound of a door opening and closing, and the clatter of hurrying footsteps in the hall outside.

We both turned and ran.

In the hallway, we could hear the footsteps going down the stairwell. The slow elevator was out of the question. We took off down the stairs after him. He had a head start of about a floor and a half, and kept it all the way down. We saw the door swinging shut as we arrived in the foyer. Outside, we saw our man running toward the corner. I started to reach for my gun, but there were too many people around. I couldn't risk a shot.

And then that amazing walking stick came into action again. The Duke took a few running steps forward and hurled it like a javelin, the heavy silver head forward. Robin Hood couldn't have done better with an arrow. When the silver knob hit the back of the running man's head, he fell forward to the sidewalk.

He was still struggling to get up when we grabbed him.

The Duke and I were waiting for Dr. Brownlee when he came back from talking to Lawrence Nestor in his cell. "He's one of our zanies, all right," he said sadly. "A very sick man."

"He's lucky he wasn't lynched," I said. "Did he tell you what happened?"

Brownlee nodded. "Just about the way you had it figured. He had the little girl's clothes off when her mother came back. He heard her putting her key in the door, so he grabbed Shirley and dragged her into the closet with him. The mother didn't search the place at all; she just went through the main rooms, called her daughter's name a few times, and then left."

"That's what threw us off at first," I said. "We both accepted Mrs. Ebbermann's word that Shirley wasn't in the apartment. Then I realized that she wouldn't have taken time to look in all the closets. Why should she? As far as she knew, there wasn't any reason for Shirley to hide from her."

"It's a good thing Mrs. Ebbermann did come back," Dr. Brownlee said. "That was the only thing that saved the girl from rape and death. Nestor was so unnerved that he just left her in the closet, still unconscious from the blow he'd given her.

"Any normal man would have gotten out of there right then. Not Nestor. He went looking for a drink. Fortunately, he found a bottle of whisky in the kitchen. He was just

getting in the mood to go back in after the girl when you two came charging in.

"He saw you run to the bedroom, so he knew the girl's mother must have called for help. He decided it was time to run. Too late, of course."

"Too late for a lot of things," I said. "Much too late for Angela Donahue, for instance. And, as a matter of fact, we were so close to being too late with Shirley Ebbermann that I don't even want to think about it. I should have let Shultz go ahead and tell the newsmen. At least people would have been warned."

"There's no way of knowing," said the Duke, "but I think there's just as good a chance that he'd have gotten his hands on some other little girl, even if the warning had gone out. There will always be parents who don't pay enough attention to what their children are doing. They may blame themselves if something happens, but that may be too late. As it happens, we *weren't* too late. Let's be thankful for that.

"By the way, am I wrong in assuming that Nestor will not get your psychotherapy treatment?"

"No, you're right," I said. "The warden at Sing Sing will be taking care of him from now on." I turned to Brownlee and said: "Which reminds me—what's going to be the disposition on the Hammerlock Smith case?"

"I talked to Judge Whittaker and the D.A. Your recommendation pulled a lot of weight with them. They agreed that if Smith will plead guilty to felonious assault and agree to therapy, he'll get off with eighteen months, suspended. When I release him, he'll never bother young boys again."

The Duke looked puzzled. "Hammerlock Smith? Odd name. What's he up for?"

I told him about Hammerlock Smith.

He thought it over for a while, then said: "Just what is it you do to men like that? How can you be so sure he'll never hurt anyone again?"

Brownlee started to answer him, but a uniformed officer put his head in the door. "Excuse me. Dr. Brownlee, the District Attorney would like to talk to you."

Brownlee excused himself and followed the cop out, leaving me to explain things to His Grace.

"Do you remember that, a couple of centuries ago, the laws of some countries provided the perfect punishment for pickpockets and pursesnatchers?"

He gave me a wry grin. "Certainly. The hands of the felon were amputated at the wrist. Usually with a headsman's ax, I believe."

"Exactly. And they never picked another pocket again as long as they lived," I said. "Society had denied them the means to pick pockets."

"Go on."

"Do you remember Manny the Moog? The little fellow who was brought in yesterday?"

"Distinctly. I thought it was odd at the time that you should release

a man who has a record of such activities as car-stealing and reckless driving, especially when the witness against him turned out to be a perfectly respectable person. I took it for granted that he was one of your . . . ah . . . 'tame zanies', I think you called them. But I did not and still don't understand how you can be so positive."

"I let Manny go because he's incapable of driving a car. The very thought of being in control of a machine so much more powerful than he is would give him chills. Did you ever see what happens when you lock a claustrophobe up in a dark closet—the mad, unreasoning, uncontrollable panic of absolute terror? That's what would happen to Manny if you put him behind the wheel of a running automobile. It's worse than fear; fear is controllable. Blind terror isn't.

"Manny had one little twist in his mind. He liked to get into a car—*any* car, whether it was his or not—and drive. He became king of the road. He wasn't a little man any more. He was God, and lesser beings had better look out.

"We got to him before he actually killed anyone, but there is a woman in Queens today who will never walk again because of Manny the Moog. But there won't be any more like her. We took the instrument of destruction away from him; we 'cut off his hands'. Now he's leading a reasonably useful life. We don't need to sacrifice another's life before we neutralize the danger."

"What about Joey Partridge?" His Grace asked. "He's one of your zanies, too, isn't he?"

"That's right. He couldn't keep from using his fists. He liked the feel of solid flesh and bone giving under the impact of those big fists of his. Boxing wasn't enough; he had to be able to feel flesh-to-flesh contact, with no padded glove between. He almost killed a couple of men before we go to him."

"What did you do to his hands?"

"Nothing. Not a thing. There's nothing at all wrong with his hands. But he *thinks* there is. He's firmly convinced that the bones are as brittle as chalk, that if he uses those fists, *he* will be the one who will break and shatter. It even bothers him to shake hands, as you saw last night. It took a lot of guts to do what he did last night—walk over to those two thugs knowing he couldn't defend himself. He's no coward. But he's as terrified of having his hands hurt as Manny is of driving a car."

"I see," the Duke said thoughtfully.

"There are other cases, plenty of them," I went on. "We have pyromaniacs who are perfectly harmless now because they have a deathly terror of flame. We have one fellow who used to be very nasty with a knife; he grows a beard now because the very thought of having a sharp edge that close to him is unnerving. The reality would send him screaming. We have a girl who had the weird idea that it was fun to drop

things out of windows or off the tops of high buildings. Aside from the chance of people below being hurt, there was another danger. Two cops grabbed her just as she was about to drop her baby brother off the roof of her apartment house.

"But we don't worry about her any more. People with acute acrophobia are in no condition to pull stunts like that."

"What will you do to this Hammerlock Smith, then?" His Grace asked.

"Actually, he's one of the simpler cases. A large percentage of our zanies lose control when they're under the influence of alcohol or drugs. Alcohol is by far the more common. Under the influence, they do things they would never do when sober.

"As long as they remain sober, they have control. But, give them a few drinks and the control slips and then vanishes completely. One of our others was a little like Manny the Moog; he drove like a madman—which he was when he was drunk. Sober, he was as careful and cautious a driver as you'd want—a perfectly reliable citizen. But, after losing his license and the right to own a car, he'd still get drunk and steal cars.

"He has his license back now, but we know we can trust him with it. He will never be able to take another drink.

"Smith is of that type. So, apparently, is Nestor. When we get through with Smith, he'll be sober, and he'll stay that way to his grave."

"Astounding." The Duke looked at me again. "I can see the results, of course. I'm going to see that some sort of similar program is started in England, even if I have to stand up in the House of Lords to do it. But, I still don't understand how it can be done so rapidly—a matter of hours. What is the technique used?"

"It all depends on the therapist," I said. "Brownlee is one of the best, but there are others who are almost as good. Some of the officers have started calling them *hexperts* because, in effect, that's exactly what they do—put a hex on the patient."

"A *geas,* in other words."

I'd never heard the word before. "A what?"

"A *geas.* A magical spell that causes a person to do or to refrain from doing some act, whether he will or no. He has no choice, once the *geas* has been put on him."

"That's it exactly."

"But, man, it isn't magic we're discussing, is it?"

"I don't know," I admitted frankly. "You tell me. Was it magic this morning when both you and I had a hunch that little Shirley was *not* in the park, in spite of the way it looked? Was it magic when we eliminated, without even searching, every spot but the place where she actually was?"

"Well, no, I shouldn't say so. I think every good policeman gets hunches like that every so often. He gets a feel for his work and for the types he's dealing with."

"Well, then, call it hunch or telepathy or extra-sensory perception or thingummybob or whatever. Brownlee has just what you say a good cop should have—a feel for his work and for the types he's dealing with. Within a very short time, Dr. Brownlee can actually get the feel of being inside his patient's mind—deep enough, at least, so that he can spot just what has to be done to put a compensating twist in a twisted mind.

"He says the genuine zanies are very simple to operate on. They have already got the raw materials in them for him to work with. A normally sane, normally well integrated person would require almost as much work to put a permanent quirk in as removing such a quirk would be in a zany. The brainwashing techniques and hypnotism can introduce such quirks temporarily, but as soon as a normally sane person regains his balance, the quirks tend to fade away.

"But a system that is off balance and unstable doesn't require much work to push it slightly in another direction. When Brownlee finds out what will do the job, he does it, and we have a tame zany on our hands."

"It sounds as though men of Brownlee's type are rather rare," His Grace said.

"They are. Rarer than psychiatrists as a whole. On the other hand, they can take care of a great many more cases."

"One thing, though," the Duke said thoughtfully. "You mentioned the amputation of a pickpocket's hands. It seems to me that this technique is just as drastic, just as crippling to the person to whom it is done."

"Of course it is! No one has ever denied that. God help us if it's the final answer to the problem! A man who can't drive a car, or use a razor, or punch an enemy in the teeth when it's necessary is certainly handicapped. He's more crippled than he was before. The only compensation for society is that now he's less dangerous.

"There are certain compensations for the individual, too. He stands less chance of going to prison, or to a death cell. But he's still hemmed in; he's not a free man. Of course, in most instances, he's not aware of what has been done to him; his mind compensates and rationalizes and gives him a reason for what he's undergoing. Joey Partridge thinks his condition is due to the fractures he suffered the last time he beat up a man; Manny the Moog thinks that he's afraid to drive a car because of the last wreck he was in. And, partly, maybe they're both right. But they have still been deprived of a part of their free will, their right of choice.

"Oh, no; this isn't the final answer by a long shot! It's a stopgap—a *necessary* stopgap. But, by using it, we can learn more about how the human mind works, and maybe one of these days we'll evolve a science of the mind that can take those twists *out* instead of compensating for them.

"On the other hand, we can save lives by using the technique we have now. We don't dare *not* use it.

"When they chopped off those hands, centuries ago, the stumps were cauterized by putting them in boiling oil. It looked like another injury piled on top of the first, but the chirurgeons, not knowing *why* it worked, still knew that a lot more expickpockets lived through their ordeal if the boiling oil was used afterward.

"And that's what we're doing with this technique right here and now. We're using it because it saves lives, lives that may potentially or actually be a great deal more valuable than the warped personality that might have taken such a life.

"But the one thing that I am working for right now and will continue to work for is a *real* cure, if that's possible. A real, genuine, usable kind of psychotherapy; one which is at least on a par with the science of cake-baking when it comes to the percentages of successes and failures."

His Grace thought that over for a minute. Then he leaned back and looked at me through narrowed eyes. There was a half smile on his lips. "Royall, old man, let's admit one thing, just between ourselves." His voice became very slow and very deliberate. "Both you and I know that this process, whatever it is, is *not* psychotherapy."

"Why do you say that?" I wasn't trying to deny anything; I just want-

ed to know the reasoning behind his conclusions.

"Because I know what psychotherapy can and can't do. And I know that psychotherapy can *not* do the sort of thing we've been discussing.

"It's as if you'd taken me out on a rifle range, to a target two thousand yards from the shooter and let me watch that marksman put fifty shots out of fifty into a six-inch bull's-eye. I might not know what the shooter is using, but I would know beyond any shadow of doubt that it was *not* an ordinary revolver. More, I would know that it could not be any possible improvement upon the revolver. It simply would have to be an instrument of an entirely different order.

"If, in 1945, any intelligent military man had been told that the Japanese city of Hiroshima had been totally destroyed by a bomber dropping a single bomb, he would be certain that the bomb was of a new and different kind from any ever known before. He would know that, mind you, without necessarily knowing a great deal about chemistry.

"I don't need to know a devil of a lot about psychotherapy to know that the process you've been describing is as far beyond the limits of psychotherapy as the Hiroshima bomb was beyond the limits of chemistry. Ditto for hypnosis and/or Pavlov's 'conditioned reflex', by the way.

"Now, just to clear the air, what *is* it?"

"It has no official name yet," I told him. "To keep within the law, we have been calling it psychotherapy. If we called it something else, and admitted that it *isn't* psychotherapy, the courts couldn't turn the zanies over to us. But you're right—it is as impossible to produce the effect by psychotherapy as it is to produce an atomic explosion by a chemical reaction.

"I've got a hunch that, just as chemistry and nucleonics are both really branches of physics, so psychotherapy and Brownlee's process are branches of some higher, more inclusive science—but that doesn't have a name, either."

"That's as may be," the Duke said, "but I'm happy to know that you're not deluding yourself that it's any kind of psychotherapy."

"You know," I said, "I kind of like your word *geas*. Because that's exactly what it seems to be—a *geas*. A hex, an enchantment, if you wish.

"Did you know that Brownlee was an anthropologist before he turned to psychology? He has some very interesting stories to tell about hexes and so on."

"I'll have to hear them one day." His Grace took a pack of cigarettes from his pocket. "Cigarette?"

"No, thanks. I gave up smoking a few years back."

He puffed his alight. "This *geas*," he said, "reminds me of the fact that, before the medical profession came up with the antibiotics that would destroy the microorganisms that

cause gas gangrene, amputation was the only method of preventing the death of the patient. It was crippling, but necessary."

"*No!*" My voice must have been a little too sharp, because he raised one eyebrow. "The analogy," I went on in a quieter tone, "isn't good because it gives a distorted picture. Look, Your Grace, you know what's done to keep a captive wild duck from flying away?"

"One wing is clipped."

"Right. Certain of the feathers are trimmed, which throws the duck off balance every time he tries to fly. He's crippled, right? But if you clip the *other* wing, what happens? He's in balance again. He can't fly as *well* as he could before his wings were clipped—but he *can* fly!

"That's what Brownlee's *geas* does —restore the balance by clipping the other wing."

His Grace smiled. There was an odd sort of twinkle in his eyes. "Let me carry your analogy somewhat farther. If the one wing is too severely clipped, clipping the other won't help. Our duck wouldn't have enough lift to get off the ground, even if he's balanced.

"Now, a zany who was that badly crippled—?"

I grinned back at him. "Right. It would be so obvious that he would have been put away very quickly. He would not be just psychopathic, but completely psychotic—and demonstrably so."

"Then," the Duke said, still pursuing the same track, "the only way to 'cure' that kind would be to find a method to . . . ah . . . 'grow the feathers back', wouldn't it? And where does that put today's psychotherapy? Providing, of course, that the analogy follows."

"It does," I said. "The real cure that I want to find would do just that—'grow the feathers back'. And that's beyond the limits of psychotherapy, too. That's why Dr. Brownlee and his boys want to study every zany we bring in, whether he can be helped or not. They're looking for a *cure,* not a stopgap."

"Let me drag that analogy out just a tiny bit more," said His Grace. "Suppose there is a genetic defect in the duck which makes it impossible —absolutely impossible—to grow feathers on that wing. Will your cure work?"

I was very quiet for a long time. At least, it seemed long. The question had occurred to me before, and I didn't even like to think about it. Now, I had to face it again for a short while.

"Frankly," I said as evenly as I could, "I doubt that anything could be done. But that's only an opinion. We don't know enough yet to make any such predictions. It is my hope that some day we'll find a method of restoring every human being to his or her full potential—but I'm not at all certain of what the source of that potential is.

"But when we do get our cure," I went on, "then our first move must be to abolish the *geas.* And I wish that day were coming tomorrow."

There seemed to be a sudden silence in the room. I hadn't realized that I'd been talking so loudly or so vehemently.

The Duke broke it by saying: "Look here, Royall; I'm going to stay on here until I've learned all about every phase of this thing. It may sound a bit conceited, but I'm going to try to learn in a few weeks everything you have learned in a year. So you'll have to teach me, if you will. And then I'd like to borrow one or two of your therapists, your hexperts, to teach the technique in England.

"Allowing people like that to kill and maim when it can be prevented is unthinkable in a civilized society. I've got to learn how to stop it in England. Will you teach me?"

"On one condition," I said.

"What's that?"

"That you teach me how to use a walking stick."

He laughed. "You're on!"

The officer stuck his head in the waiting room again. "Pardon me. Inspector Acrington? The District Attorney would like to see you."

"Surely."

After he had left, I sat there for a minute or two, just thinking. Then Brownlee came back from his conference with the D. A. and sat down beside me.

"I met your noble friend heading for the D.A.'s office," he said with a smile. He said that any man who was as determined to find a better method in order to replace a merely workable method is a remarkable man and therefore worth studying under. I just told him I agreed with him."

"Thanks," I said. "Thanks a lot."

Because Brownlee knows why I'm looking for a cure to replace the stopgap. Brownlee knows why I gave up smoking three years ago, why I don't have any matches or lighters in the house, why I keep the ashtrays for guests only, and why, for that reason, I don't have many guests. Brownlee knows why there are only electric stoves in my apartment—never gas.

Brownlee knows why my son quivers and turns his head away from a match flame. Brownlee knows why he had to put the *geas* on Stevie.

And I even think Brownlee suspects that I concealed some of the evidence in the fire that killed Stevie's mother—my wife.

Yes, I'm looking for a cure. But until then, I'll be thankful for the stopgap. ■

■ ■ ■

SIGHT GAG

Intelligence is a great help in the evolution-by-survival —but intelligence without muscle is even less useful than muscle without brains. But it's so easy to forget that muscle—plain physical force—is important, too!

BY LARRY M. HARRIS

ILLUSTRATED BY SCHOENHERR

■ Downstairs, the hotel register told Fredericks that Mr. John P. Jones was occupying Room 1014. But Fredericks didn't believe the register. He knew better than that. Wherever his man was, he wasn't in Room 1014. And whoever he was, his real name certainly wasn't John P. Jones. "P for Paul," Fredericks muttered to himself. "Oh, the helpful superman, the man who knows better, the man who does better."

Fredericks had first known of him as FBI Operative 71-054P, under the name of William K. Brady. "And what does the K stand for?" Fredericks muttered, remembering. "Killer?" Brady wouldn't be the man's real name, either. FBI Operatives had as many names as they had jobs; that much was elementary. Particularly operatives like Jones-Brady-X. "Special talents," Fredericks muttered, "Psi powers," he said, making it sound like a curse. "Superman."

Upstairs, in Room 1212, the superman sat in a comfortable chair and tried to relax. He wasn't a trained telepath but he could read surface thoughts if there were enough force behind them, and he could read the red thoughts of the man downstairs. They worried him more than he wanted to admit, and for a second he considered sending out a call for help. But that idea died before it had been truly born.

Donegan had told him he could handle the situation. Without weapons, forbidden to run, faced by a man who wanted only his death, he could handle the situation.

Sure he could, he thought bitterly.

Of course, if he asked for reinforcements he would undoubtedly get them. The FBI didn't want one of its Psi Operatives killed; there weren't enough to go round as it was. But calling for help, when Donegan had specifically told him he wouldn't need it, would mean being sent back a grade automatically. A man of his rank and experience, Donegan had implied, could handle the job solo. If he couldn't—why, then, he didn't deserve the rank. It was all very simple.

Unfortunately, he was still fresh out of good ideas.

The notion of killing Fredericks—using his telekinetic powers to collapse the hotel room on the man, or some such, even if he wasn't allowed to bear arms—had occurred to him in a desperate second, and Donegan had turned it down very flatly. "Look," the Psi Section chief had told him, "you got the guy's brother and sent him up for trial. The jury found him guilty of murder, first degree, no recommendation for mercy. The judge turned him over to the chair, and he fries next week."

"So let Fredericks take it out on the judge and jury," he'd said. "Why do I have to be the sitting duck?"

"Because . . . well, from Fredericks' point of view, without you his brother might never have been caught. It's logic—of a sort."

"Logic, hell," he said. "The guy was guilty. I had to send him up. That's my job."

"And so is this," Donegan said.

"That's our side of it. Fredericks has friends—his brother's friends. Petty criminals, would-be criminals, unbalanced types. You know that. You've read the record."

"Read it?" he said. "I dug up half of it."

Donegan nodded. "Sure," he said. "And we're going to have six more cases like Fredericks' brother—murder, robbery, God knows what else—unless we can choke them off somehow."

"Crime prevention," he said. "And I'm in the middle."

"That's the way the job is," Donegan said. "We're not supermen. We've got limits, just like everybody else. Our talents have limits."

He nodded. "So?"

"So," Donegan said, "we've got to convince Fredericks' friends—the unbalanced fringe—that we are supermen, that we have no limits, that no matter what they try against us they're bound to fail."

"Nice trick," he said sourly.

"Very nice," Donegan said. "And what's more, it works. Nobody except an out-and-out psychotic commits a crime when he hasn't got a hope of success. And these people aren't psychotics; most criminals aren't. Show them they can't get away with a thing—show them we're infallible, all-knowing, all-powerful supermen—and they'll be scared off trying anything."

"But killing Fredericks would do that just as well—" he began.

Donegan shook his head. "Now, hold on," he said. "You're getting all worked up about this. It's your first time with this stakeout business, that's all. But you can't kill him. You can't kill except when really necessary. You know that."

"All right. But if he's going to kill me—"

"That doesn't make it necessary, not this time," Donegan said. "This vengeance syndrome doesn't last forever, you know. Block it, and you're through with it. And think how much more effective it is, letting Fredericks go back alive to tell the tale."

"Think how much more effective it would be," he said, "if Fredericks managed to get me."

"He won't," Donegan said.

"But without weapons—"

"No Psi Operative carries weapons," Donegan said. "We don't need them. We're supermen . . . remember?"

He twisted his face with a smile. "Easy for you to talk about it," he said. "But I'm going to have to go out and face it—"

"We've all faced it," Donegan said. "When I was an Operative I went through it, too. It's part of the job."

"But—"

"And I'm not going to tell you how to do the job," Donegan went on firmly. "Either you know that by now, or you don't belong here."

He got up to leave, slowly. "It's a fine way to find out," he said mournfully.

Donegan rose, too. "Good luck," he said. And meant it, too.

That was the chief for you, he thought. Send you out into God

knows what with no weapons, no instructions, lots of help planted for the man who wanted to kill you—and then wish you good luck at the end of it.

Sometimes he wondered why he didn't go in for some nice, peaceful job of work—like rocket testing, for instance.

Fredericks, downstairs, was deciding to do things the subtle way. The man upstairs—Jones, Brady or whatever his name was—deserved what he was going to get. Psi powers were all very well, but there were defenses against them. Briefly he thought of the man who'd sold him the special equipment, and wondered why more criminals didn't know the equipment existed. It worked; he was sure of that. Fredericks knew enough of general psi theory to know when somebody was handing him a snow job. And the equipment was no snow job.

A force shield, that was the basic thing. A shield with no points of entrance for anything larger than air molecules. Sight and sound could get through, because the shield was constructed to allow selected vibrations and frequencies. But no psi force could crack the shield.

Fredericks had sat through a long explanation. Psi wasn't a physical force; it was more like the application of a mental "set," in the mathematical sense, to the existing order. But it could be detected by specially built instruments—and a shield could be set up behind which no detection was possible. It wasn't accurate to say that a psi force was blocked by the shield; no construct can block that which has no real physical existence. It was, more simply, that the shield created a framework inside of which the universe existed in the absence of psi.

That wasn't very clear, either, Fredericks thought; but mathematics was the only adequate language for talking about psi, anyhow. It had been the theory of sets that had led to the first ideas of structure and rationality within the field, and the math had gotten progressively more complex ever since.

Psi couldn't get through the shield, at any rate; that was quite certain. And very little else could get in, or out. There was only one point of exit. Unholstering his gun and aiming it automatically keyed the shield to allow passage of a bullet, and the point of exit was controlled by the gun's aiming. It was efficient and simple to handle.

But Fredericks wasn't depending on the shield alone. There was a binder field, too—a field which linked him to the surrounding area, quite tightly. That took care of the chance that the Psi Operative would try to pick him up, force shield and all, and throw him out a window or through the roof. With the binder field in operation, no psi force could move him an inch.

A plug gas mask, too, inserted into the nostrils. The shield plus the mask's pack held two hours' worth of air—just in case the Psi Operative

tried to throw poisonous molecules through the force shield, or deprive him of oxygen.

And then there was the blindfold. Such a simple thing, and so effective.

Upstairs, the Psi Operative caught the sequence of thoughts. Did the FBI have to do such a thorough job, he wondered bitterly. The equipment, he knew, would do everything Fredericks thought it would do. It was important that Fredericks go up against the Operative thinking he was completely protected—in that way his final defeat would be most effective. He'd have guarded against every possible failure—so, when he failed, there would be nothing to explain it.

Except the "fact" that the Psi Operatives were supermen.

He gritted his teeth. It would be nice, he reflected, to be a real superman. But any talent has its limits. And, even allowing for that, only Donegan and a very few others could handle the full theoretical potentials of their talents. In theory, a telekineticist could move any object with his mind that he could move with his hands. That was a rough rule of thumb, but it worked. The larger objects were barred by sheer mass; no matter what kind of force you're using, there's a limit to how much of it you can apply.

The smaller objects—molecules, electrons, photons—simply took practice and training. First the object had to be visualized, and the general structure memorized. Then the power had to be controlled carefully enough so that you moved just what you wanted to move and not, for instance, shift the Empire State Building while trying to lift a molecule out of its topmast.

It was possible, in theory, to create full sensory hallucinations by juggling electron streams and molecules within the brain. But memorizing the entire structure of the brain was a lifelong task, since you also had to allow for individual variation, and that meant working with "tracking" molecules inside each brain before any work began. Most Operatives stuck to one area—usually, as most effective, sight or sound.

He was a sight man. He could create any visual hallucination, as long as the subject was within a twenty-five-foot range. Beyond that, control of the fantastically small electrons and photons simply became too diffused.

But Fredericks had a shield. And in case the shield didn't work, he was coming with a blindfold.

The Psi Operative had no weapons, no reinforcements, no chance to run—nothing except his psi talent, which Fredericks had defenses against, and his brains.

But there had to be a way out.

Didn't there?

The desk clerk looked young and comparatively innocent. Fredericks ambled over, taking his time about it. The clerk looked up and smiled distantly. "Yes, sir?"

"You've got a man registered here," Fredericks said, in crisp, official tones. "He gave the name of John P. Jones —"

The clerk was consulting a card file. "Yes, sir," he said brightly. "Room 1014."

"He's at work on an FBI matter," Fredericks said. "Naturally, this is private and confidential—"

"Naturally," the clerk said in a subdued tone. "But I—"

"I'm assigned to work with him," Fredericks said. "You understand."

"Of course, sir," the clerk said, trying to look as if he did.

Fredericks took a deep breath. "I know he's here, but I don't know his room number," he said. "Some red-tape mixup."

"He's in 1014," the clerk said hopefully.

Fredericks shook his head. "Not that," he said. "The real room number. Look, I've got to get to him immediately—"

"Of course, sir," the clerk said. "Identification, sir?"

Fredericks grinned and fished in his pockets. Naturally, he didn't come up with a thing; FBI identification was infra-red tested, totally unmistakable and unavailable to non-Operatives under any circumstances whatever. "Got it here some place," he muttered.

The clerk nodded. "Of course, sir," he said. "No need to waste time. I understand."

Fredericks stopped and stared. "You what?"

"The room, sir, is 1212," the clerk said. "Would you like me to accompany you—"

"No, thanks," Fredericks breathed. "I'll find it myself." The man was too easy to find, he thought savagely. It ought to be tough to find him—but it's easy.

Remotely, that idea bothered him. But what difference did it make, after all? He had all the protection in the world. He had all the protection he was going to need. And all the time to fire one shot. Doing it blindfolded was going to be tough, but not insuperably tough. Fredericks had spent a week practicing, and he could locate a fly by sound within two inches, nineteen times out of twenty. That, he thought, was going to be good enough.

Upstairs, the Psi Operative thought so, too.

There had to be a way out, he told himself desperately.

But he couldn't find it.

He couldn't even come close.

On the way to Room 1212, he flipped on the shield, the mask, the binder field. Now let the superman try something, he thought wildly. Now let him try his tricks! He attached the blindfold as he got off the elevator. He could see Room 1212, three doors down the corridor, twenty steps—and then the blindfold was on. From now on he worked in the dark.

He felt the skeleton key in his palm and flipped the shield off for a second; then the key was in the lock,

the shield back on, protecting him. The door opened slowly.

He heard it shut behind him. Then there was silence. He drew his gun.

"Go ahead," a muffled voice said from his right. "Go ahead and try something, Fredericks."

He whirled and almost fired—but voices could be thrown. He listened again. There was silence . . . not quite silence . . . a movement . . . a rustle—

Breathing was faint but unmistakable. It gave him a new direction. Breathing couldn't be faked.

He pictured the Psi Operative, in one flash of imagination, trying to get through the shield, sweating as he strained helplessly against the force shield, the binder field, the mask, the blindfold—oh, there was no way out for the poor superman, no way at all.

And Psi Operatives didn't carry weapons or anything else. They depended on their powers, and that was all.

And he'd neutralized those powers.

The breathing gave him the direction. He turned again, bringing the gun up, and fired six shots without a second's break between them. There was a sound like a gasp, and then nothing.

Nothing at all.

Grinning wildly, Fredericks whipped off the blindfold and switched off his shield in one triumphant motion. There, on the floor—

There, on the floor, was a nice gray rug with nobody at all lying dead on top of it. In the half-second it took Fredericks to see that, the Psi Operative moved. Fredericks tossed the empty gun at him and missed; the man was coming too fast. He guarded his face but the Psi Operative didn't go for the face. Instead his hands went swinging up and out and *back.*

The sides of the palms landed neatly on the twin junctions of Fredericks' arms and shoulders. Fredericks let out a shriek as his arms turned to acutely painful stone, and the Psi Operative stepped back and moved again in one blinding motion. This time the solar plexus was the target for one balled fist.

And then, of course, it was all over.

Of course it was simple," Donegan said. "Anyone could have thought of it—and I knew you would."

"All the same," the Psi Operative said, "I nearly didn't."

Donegan nodded. "If you hadn't," he said, "we'd stationed a man downstairs who'd memorized your room. He could have done the job, too."

The Operative blinked. "Who?" he said.

"Desk clerk," Donegan said.

"Why didn't you tell me—"

"Now, use your head," Donegan said. "If you'd known you were all right, you'd never have thought of the answer. You had to prove you could do it—prove it to yourself as well as to me."

"But—"

"And you had to prove you could

beat him on his grounds, too, as well as yours," Donegan went on. "You had to take him, not only with psi forces, but with the only weapons a Psi Operative is allowed to carry."

"Fists," the Operative said. "Sure. Judo and Karate are standard subjects—every Operative has to know them. What's so tough about that?"

"Nothing," Donegan said. "Nothing at all—except for Fredericks. He's been beaten on your ground, and on his own. Now he *knows* he's licked. Standard operating procedure."

"I guess so," the Operative said.

"And after all," Donegan said, "now that you're going up a grade —"

"Now that I'm what?"

"That," Donegan said, "was your promotion test, friend. And you passed."

There was a second of absolute silence. Then the Operative said: "And it was all so simple."

"Sure," Donegan said. "Simple enough so that you get a promotion out of it—and Fredericks gets sixty days for attempted assault."

"Not ADW—assault with a deadly weapon—because we've got to keep up the myth," the Operative said. "Psi Operatives are untouchable. No such thing as a deadly weapon for a Psi Operative."

"Which is nonsense," Donegan said, "but necessary nonsense. I wonder if Fredericks will ever figure out how you got him."

"I wonder," the Operative said. "He'll know about karate, of course."

"Karate's hand-to-hand fighting," Donegan said. "That was *his* field. No, I mean *our* field. Psi."

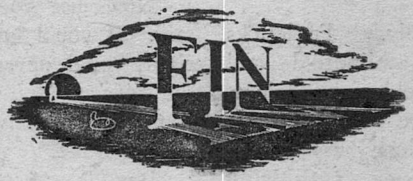
"It makes a nice puzzle for him, doesn't it?" the Operative said, and grinned. "After all, I didn't touch him—couldn't, in any way. He'd shielded himself perfectly from any telekinetic force—and I had no weapons. I couldn't even get to him barehanded because of his shield and the binder field. He had me located —no tomfoolery about that. He fired six shots at me, point-blank at can't-miss range."

"But you got him," Donegan said.

"Sure," the Operative said. "Simplest thing in the world."

"All you had to do—" Donegan began.

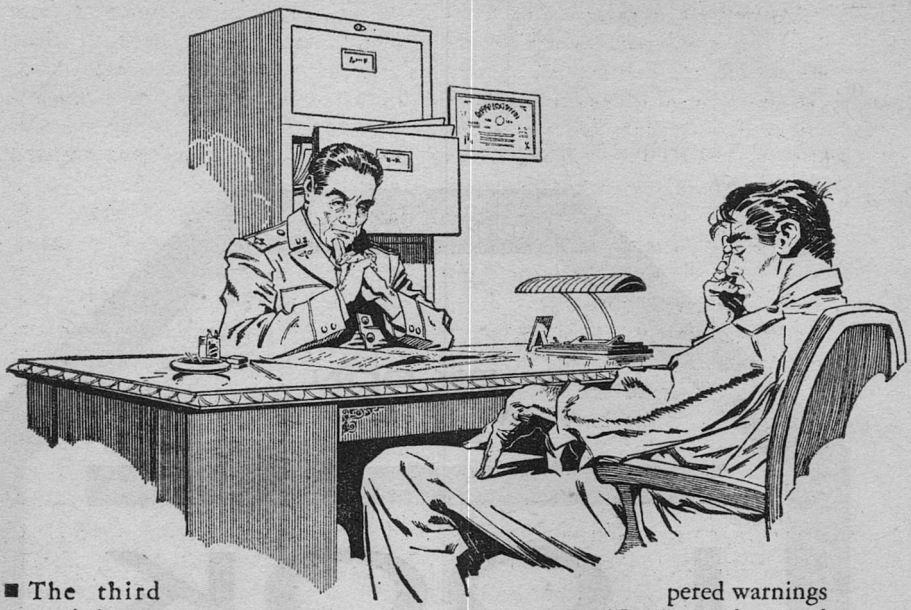
"All I had to do," the Operative finished for him, "was use my mind to move the bullets—as he fired them." ■



BY DON
WESTLAKE

LOOK
before you leap

Want a man with his heart on the right-hand side? A left-handed red-head with one blue and one brown eye? If you just check carefully enough millions of men, you can expect to find almost any anomaly you want...



■ The third day of bivouac Jeremy got so scared he went home. Just like that. And *that* scared him so much, he went right back. And then he spent a few days thinking about it.

Jeremy *knew* that it had been an hallucination. They were on bivouac, on night problem, with the tear gas bombs bursting in air, and everybody whispering, "Gas!", and the concealed Tactical Instructors having fun with rifle shots and flares and things that went bump in the night. Jeremy was one of a long line of basic trainees crawling through a pitch-black dry drainage pipe, the curved roughness of the pipe magnifying the sounds from outside. A couple of TI's had dropped tear gas bombs at either end of the pipe, and the whispered warnings —"Gas!"—had echoed forward and back toward Jeremy, in the middle of the pipe.

By this time, Jeremy was just about as frightened as he could possibly be anyway. And then he heard the whispers, and he pulled off his fatigue cap with one hand, and his glasses with the other hand, and that didn't leave any hands for the gas mask.

He skittered frantically, all crouched and cramped in the pipe, trying to hold cap and glasses in one hand and put the gas mask on with two hands, and it was pitch-black so he couldn't see a thing, and then he dropped the gas mask, and couldn't find it.

And the first whiff of tear gas reached him.

And he could *feel* the young terror of all the other basic trainees in the pipe, reduced to harried sewer-crawling by a world they never made.

One second, there he was in the pipe, his heart pounding like a jack hammer. The next second, he was huddled over on hands and knees atop his own bed at home. The bedroom door was open, and soft light filtered up from the living room downstairs, and he could recognize his room, his bed, his desk, the full-length mirror on the closet door, the painting of a collie hanging on the wall over the bureau. *I'm crazy!* he thought wildly.

And the next second, he was back in the pipe in the miserable dark, hands fumbling for the gas mask. He found it, and got it on at last, and the people behind him were pushing and swearing. He crawled through the pipe and ran with the rest.

Colonel Brice stood on the road across the ravine, watching the scurrying basic trainees down below, and wondering whether there'd be one in this group or not. He watched the TI's drop their tear gas bombs down toward the entrances of the drainage pipe, listened to the crash and boom of the combat simulation from up and down the length of the ravine, and he hoped there would be one. There wasn't any reason for this, otherwise.

He wondered how much longer he could fight modernization on this front. He had the older staff officers on his side, of course; none of them would ever really believe in their heart of hearts that the every-man-a-rifleman-first concept was obsolescent now. But there were younger men coming up, men who realized that this week of bivouac was a farce, that its only result was to terrify, anger, and occasionally maim the basic trainees. The vast majority of Air Force enlisted men were going to be clerks or technicians, in support of the airplanes and missiles which were the actual combat arm. Besides, reducing the sixteen weeks of Army basic training to a five-day bivouac was, at the least, overly optimistic.

Thank heaven, the colonel thought, *for the military mind. Or is that a contradiction in terms?* But, at any rate, as long as the military mind retains its basic qualities of blind unadaptability, every single enlisted man in the Air Force would go through this bivouac: Colonel Brice's field experiment.

And if they phase out the bivouac, he thought, *I'll just have to find some other way to screen these people.*

The colonel looked up at the control shack just in time to see the door open and Ed Clark stick his head out to speak to the runner.

They've found someone! he thought, and started for the control shack, not waiting for the runner to come down to him. Behind him, the TI's with the tear gas bombs looked after him, and then glanced at one another and shrugged. Neither of them knew where Colonel Brice fit into the general scheme of things.

No one seemed to know. But he was always there, every week, every Wednesday night, to watch the night problem.

The runner met the colonel halfway up the slope. "Mr. Clark wants to see you, sir," he said.

"I know," said the colonel. "Thank you."

"Yes, sir."

The colonel held in the smile he felt tugging at his lips. The runner was so frankly curious. Only three people on this base were allowed into the control shack, or knew what went on in there. The colonel himself, and Ed Clark, and Paul Swanson. Not even Lieutenant general Poole, the base commander, knew anything about the colonel and his two assistants, and not even he was allowed inside the control shack, a fact which pleased the good general not at all.

There was no way to open the door from the outside. The colonel knocked, and Ed Clark pushed the door open for him. "Come on in, sir," he said. "We've got a real dilly this time."

The colonel stepped into the shack and closed the door, glancing at Clark and Paul Swanson, seated over by the TV screen.

The three men were of decided types. Colonel James Brice, tall and lean in his blue uniform, was square-jawed and thin-lipped, his brown eyes deep set beneath shaggy brows, his gray hair cropped close to his skull. Before the Second World War, he had been an anthropologist, associated with a New England university. He had learned to fly a plane, since there were some areas of the world which could be reached by no other kind of vehicle, and when the war had come along he had wound up in the Army Air Corps. He had stayed in the service, switching over to the new-born Air Force in 1947, and settled into Intelligence in 1949.

Ed Clark was twenty-six and looked ten years younger. His boyish, cheerful face was topped by pale blond hair in the inevitable crewcut. He was tall and slender, looking exactly like a first-string center on a high school basketball team. He was wearing tan slacks and a short-sleeved white shirt, open at the collar. He and Paul Swanson were both enlisted men, and took the prerogative given Intelligence personnel to wear civilian clothing. The base finance officer was the only individual on the base outside this room who knew their ranks. They sirred only Colonel Brice, and were called Mister by both enlisted men and officers on the base.

Paul Swanson was short and wiry, black-haired and full-lipped. He was twenty-three, and looked five years older. He came originally from New York City, and no one could have mistaken his place of origin. Dressed now in black trousers and a pale-green shirt, he glumly watched the dim figures moving across the television screen, piped up from the infra-red camera concealed in the drainage pipe down at the ravine.

The colonel looked at the TV

screen for a second, then looked back at Ed Clark. "What is it this time?" he asked.

"I'm not sure," Clark admitted. "We did get a picture of him, though, so we'll be able to identify him."

"Well, what did he *do?*" asked the colonel.

It was Paul Swanson who answered. "He disappeared."

"He did what?"

"It was just for a second," Swanson went on. "I almost missed it, it was so fast. But he just up and disappeared. And then, a second later, he came right back again."

"Disappeared," mused the colonel. "Invisibility? *That* one I don't go for. You don't just suddenly change your entire body chemistry to glass."

"He did it," said Swanson simply.

"He learned it in the Orient," suggested Clark. "The mysterious power to cloud men's minds."

"Cloud men's minds, maybe," said the colonel. "Cloud an infra-red television camera, never. Particularly when you don't know it's there."

"Maybe he did," said Swanson.

"A telepath?" The colonel brightened. If that's what it is, at last—but why the disappearing act?" He turned to Swanson. "What was his reaction to it? How did he act after he'd done it? Guilty, pleased with himself, or what?"

"Scared to death," said Swanson. "I don't think he'd planned on doing it. He just got rattled, and did it."

"So what do we do now?" asked Clark.

"Sit and wait," said the colonel. "Identify him, and keep an eye on him. But there's no sense approaching him until we find out exactly what it is he's doing and what his attitude toward it all is." The colonel glanced at the TV screen again. The basic trainees were still crawling hurriedly through the drainage pipe, the line pausing intermittently to hurriedly don gas masks and then crawl on.

"He disappeared," said the colonel softly, and shook his head.

It wasn't until the next day that things slowed down enough for Jeremy to think about what had happened in the drainage pipe. That afternoon, he sat on the sunlit grass with the rest of the basic trainees in his flight, and listened to a man in pressed fatigues explain the principles of the carbine.

Then he had time to think. And to get scared all over again.

It had been an hallucination. It *must* have been an hallucination, there was no other way to explain it.

He worried and fretted and chewed his thumb-knuckle all afternoon, and by nightfall he had himself convinced. Never mind the clarity and reality of that scene, the feel of the texture of the bedspread beneath his hands, or how accurately he had seen himself reflected in the closet mirror. Home was seven hundred miles away.

He had *not* gone home. It had been an hallucination.

He convinced himself at last, and

for three days he stayed convinced. And then he got the letter from his mother.

The letter itself was simply one of the newsy, chatty notes he had come to expect from his mother in his seven weeks in the Air Force. But one sentence in it stood out as though it were written in fire.

The sentence concerned Jeremy's dog, Andrew. *"I thought at last we'd broken Andrew of the habit of sleeping on your bed,"* his mother wrote, *"but last night he did it again, leaving muddy marks all over the bedspread. He was gone, of course, by the time I got there."*

Two days later, bivouac being over and the flight back at the barracks, Jeremy went on sick call. To the man-with-clipboard who marched the sick call group to the infirmary, he said, "I'm having hallucinations." To the white-garbed medic who questioned him at the infirmary, he said, "I'm having hallucinations." To the sour-looking doctor who got around to him at ten o'clock, he said, "I'm having hallucinations."

The doctor looked a little more sour. "What sort of hallucinations?" he wanted to know. "Girls, or pink elephants?"

"Neither." And Jeremy told him what had happened, and showed him the letter from his mother.

The doctor was looking increasingly sour. "What else?" he demanded.

"That's all."

"You said hallucinations."

"Just the one," said Jeremy. "Just that one."

The doctor glowered at the letter from Jeremy's mother, and then glowered at Jeremy. "You wouldn't be malingering, would you?" he demanded.

"No, sir," said Jeremy. He was getting scared again—basic training was a good place to learn how to be scared—and he was devoting a lot of time to trying to cover it. If the doctor thought he were scared, he would think it was because Jeremy was guilty of something. Like malingering, which meant goofing off by faking sickness, and which could result in a court-martial.

"You wouldn't be," continued the doctor, glowering more than ever, "angling for a section eight, would you? You figure you'd rather be a nut than an airman, is that it?"

"No, sir," said Jeremy.

The doctor dropped the letter on his desk where Jeremy could reach it, and leaned back. "I don't know what you want from me," he said. "You aren't physically sick. You say you had this one hallucination five days ago, and now here you are on sick call. What do you want *me* to do about it?"

"I keep worrying," Jeremy told him. "I keep thinking as though it really happened. I can't think about anything else."

The doctor sighed, looked sour, shook his head. "There's nothing I can do," he said. "Forget it. If it was an hallucination, so what? It's all

over, and it didn't come back. So forget about it."

"That's why I'm here, sir," said Jeremy. "I *can't* forget about it."

"You want to see a psychiatrist, is that it?" The doctor's tone showed clearly that this proved his earlier suspicions, that Jeremy was a faker trying to get a section eight, hoping to get an insanity discharge.

Jeremy almost said no. He didn't want anybody to think he was a malingerer or a fake. He didn't want anybody to think that he would try to lie his way out of the Air Force.

But the memory of the last five days was too strong in him. He'd been sleeping poorly, he hadn't been able to concentrate on anything, his marching had deteriorated to worse than what it had been his very first day in basic training, he was goofing up on inspection, he was generally confused and miserable over this thing. So he nodded and said, "Yes, sir, I guess so."

The doctor sighed. "All right, airman," he said heavily. He made a brief note in Jeremy's medical record, and wrote something else on a small sheet of paper which he clipped to the record folder. "You come on sick call Thursday morning," he said. "Go on back to your flight now."

"Yes, sir," said Jeremy. He got to his feet. "Thank you, sir."

The doctor mumbled, and looked sour.

The chief surgeon was being difficult. He, too, was a bird colonel—just recently having received his eagles, from the obvious pleasure he took in making life difficult for another officer of equal rank—and he saw no reason why he should do what Colonel Brice wanted. "Medical records," he said pompously, "are classified material. Authorized personnel only. I'm afraid I'll have to know your reason for wanting to see this man's records, and also your request will most definitely have to come through the proper channels. You must know, Colonel Brice, the proper procedure for—"

"Ketchup," said the colonel, disgusted. Since his two boys had grown old enough to understand and imitate the vocabulary of their elders, this had become the colonel's one swear word, and it was usually disconcerting to other people the first time they heard him use it.

It was disconcerting to the chief surgeon. "I beg your pardon?"

"Where's your hot line?" demanded the colonel.

"Well, really, Colonel, it requires an emergency of—"

"Ketchup," said the colonel again. He came around the chief surgeon's desk and, over that astonished gentleman's protests, proceeded to open desk drawers.

The bright red phone was in the bottom drawer on the right-hand side. The colonel picked it up, waited a second, and then said, "Brice. For Corey." He waited a few seconds more, and then said, "Jack? I'm fine. I want some records and—Right you

are." Deadpan, he handed the receiver to the chief surgeon.

The chief surgeon, bug-eyed, put the phone to his ear and announced his name and rank. Then he listened, nodded vacantly, said, "Of course, sir. Certainly, sir," and put the receiver gently back onto its cradle. He closed the door, and in a chastened voice said, "I had no idea—"

"That's all right, Colonel. Now, if I could have the medical records—"

"Of course. Certainly. Immediately."

It took, as a matter of fact, just about ten minutes for the records to get into Colonel Brice's hands. Then the colonel, at his request, was given an empty office where he and Clark and Swanson could look them over at leisure.

They already knew quite a bit about their man: Jeremy Masters, Airman Basic, AF12451995; twenty years, five months and twelve days old; born in Crane City, Pennsylvania; lived there all his life until he went away to attend a small liberal arts college at Marshall, in the same state; two years of college, average grades; enlistment in the Air Force; score of 73 on the Armed Forces Qualification Test. Stanine scores ranging between six and eight, with a nine on clerical; negative police check; a class one physical profile on everything except eyes, where he had a two, being somewhat nearsighted; no known subversive activities, and made no sports teams in high school or college; studied trumpet four years, not very good at it.

And now they learned one thing more. What the disappearance act meant.

"He went home," said Clark softly, wonderingly. "He up and went home."

The colonel nodded. "I've been waiting for a telepath," he said. "And I guess I'm still waiting for one. But it looks as though I've finally got hold of a real live teleport."

"He refuses to believe it," said Swanson. He tapped the doctor's scrawled notation on Jeremy Masters' medical record. "He's talked himself into thinking it was an hallucination, you notice?"

"Just wait till we tell him different," said Clark.

"No," said the colonel.

The other two looked at him, questioning. "You aren't going to tell him?" asked Clark.

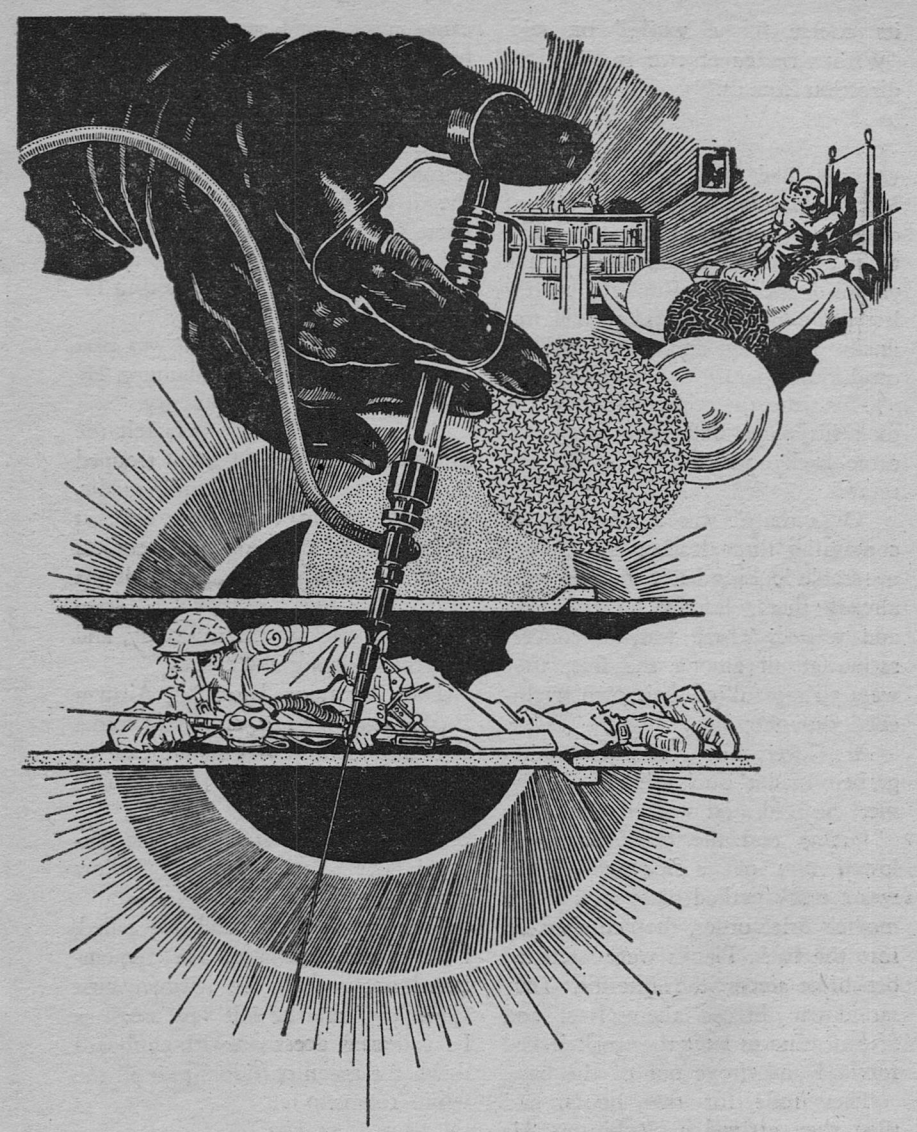
The colonel shook his head.

"Why not?"

"However he managed to do it," explained the colonel, "he's managed now to get rid of the knowledge. It won't do any good to just go to him and tell him he really did teleport after all. He won't believe it, to begin with. He'll think it's some sort of crazy psychological test. And even if he does believe it, so what? He obviously doesn't have any control over the ability. He's no good to us as a man who teleported once and can't remember how."

"So what do we do?" Clark asked.

The colonel closed the medical records folder. "We let nature take



its course for a while," he said. "With a nudge or two in the right direction from us."

Jeremy had seen the doctor on Monday. He had three more days of distracted incompetence to live through, with the TI calling him a yardbird and a goof-up and a few less printable things, and then it was finally Thursday, and he went back on sick call again.

This time, the white-garbed medic took his name and went away and came back and said, "You sit over there."

"Over there" was a small alcove containing three leather sofas. Four miserable looking basic trainees were already there. Jeremy joined them, and waited. There was no conversation at all among the five; they were all too full of their own frightened thoughts.

At eleven-thirty, another white-garbed medic came along. "Follow me," he said, and walked off.

Jeremy and the other four followed him out a side door. There was a truck parked there and, at the medic's brief order, they climbed up into the back. Planks were stretched benchlike across the interior. They sat down, braced themselves, and fifteen minutes later the truck jerked forward and drove out of the base.

They rode for two hours, and then they arrived at Robinson Air Force Base, on which there was a hospital. The truck bounced to a stop in front of the hospital, and the medic came around and said, "O.K., come on out."

Jeremy and the other four clambered down from the truck.

The medic said, "Any of you guys hungry, go on to the chow hall with the driver here. If you ain't hungry, come on with me. And if you go to the chow hall, you get right back here after you eat. I'll be waiting inside by the desk."

Jeremy wasn't hungry. It was past lunchtime, but he wasn't hungry. He was too nervous to be hungry.

Apparently, all the others felt the same way. The five of them trooped into the hospital behind the medic. Another medic took over at that point and led them down an endless series of halls to an alcove almost exactly like the one they'd left two hours ago back at the infirmary, and left them sitting there.

Half an hour later, an Airman First Class with a clipboard came over and called out a name. One of the five stood up and said, "That's me, sir."

"Don't call me 'sir,'" said the Airman First Class absently. "Follow me."

Jeremy was the second one called, twenty minutes later. He remembered not to call the Airman First Class "sir," and he felt very small as he followed the man-with-clipboard down the green corridors past all the white rooms.

The psychiatrist looked like the doctor, except he had less hair. He sat on one side of the desk, and

Jeremy sat on the other, and he listened impassively as Jeremy described his hallucination. When Jeremy was finished, the psychiatrist said, "This wasn't real?"

"No, sir," said Jeremy. "I mean, how could it be? It must have been an hallucination."

"Then what's the problem?" the psychiatrist asked him. "If you *believed* it, if you really thought you'd gone home for a minute, then we'd have a problem on our hands. But if you already realize it was an hallucination, then I don't see the difficulty."

"I *know* it was an hallucination," said Jeremy. "But I can't forget it. It's as though I really believed it. I just can't get it out of my mind. It scares me."

The psychiatrist studied his fingernails. "I'll tell you frankly," he said, not looking up, "I have the feeling you're blowing this thing all out of proportion. I'm not saying you're doing it consciously, I don't know whether you are or not. But here's what I think. I think you're sorry you enlisted, and you wish you were home. I think you wish there were some way you could get out of the Air Force. So, to give you the benefit of the doubt, I think you've talked yourself into believing you had this hallucination, with some vague idea of getting a section eight."

"No, sir," started Jeremy, but the psychiatrist raised a hand for silence.

"I'll tell you the rest of what I think," he said. "I think there's the possibility you're making this whole thing up, that you're *consciously* trying to wangle a section eight. That's a possibility. But I also think it's more likely that you yourself don't exactly realize what you're doing. But consider the hallucination itself. Home. You wanted to go home. You still want to go home."

"No, sir," said Jeremy. He was still frightened, but he was beginning to get a little angry, too. Seven weeks of basic training had dulled his self-respect, but hadn't totally deactivated it. This bland witch doctor was calling him a liar and a sneak. "It isn't like that at all, sir," he said.

"It isn't? Well, then, you tell me what it *is* like."

"This thing—happened," said Jeremy. "I don't know what it was. It *felt* real, it felt as though I were really home. It only lasted a second, and then I was right back again. But it felt real, and then I got that letter from my mother, and I just can't get rid of the idea that maybe it really did happen. I know it's impossible—but it *happened.*"

The psychiatrist said, "Um-m-m." He studied his fingernails again. At length, he said, "You don't really want a section eight, boy. Or do you have the idea an asylum is better than the Air Force? It isn't. You're in your seventh week of basic training. You have four weeks to go. I realize basic training is rough, but it has to be, and things will calm down once you complete it. If you aren't careful, right now you can put a black mark on your record that will stay there for the rest of your life."

"Sir," said Jeremy desperately, "I

can't sleep, I can't eat, I can't concentrate on anything. I don't know what to do. I want somebody to help me."

"If I saw the problem—" started the psychiatrist. He shrugged and pursed his lips and studied his fingernails. At length, he said, "Do you know what sodium amytal is?"

"Yes, sir. A truth serum."

"Not exactly, but that's close enough. I'm thinking of giving you an injection of sodium amytal. There's either more or less to this than you're telling me. Now, if you want, you can stand up and walk out of here now and go on back to your outfit, and no questions asked. If you stay here, and under sodium amytal you tell me you're faking, you'll face court-martial action. Do you understand that?"

Jeremy nodded. "Yes, sir."

"Well? What's your decision?"

Jeremy's hands clenched in his lap. He wasn't faking, he knew he wasn't faking. He *had* seen the hallucination.

But what good would it do to convince this man he was telling the truth? The psychiatrist was right, an insane asylum was a lot worse than the Air Force.

No. It was the truth. This thing had happened, and if Jeremy didn't get some help soon, it would drive him crazy.

Then he wondered, *What kind of help do I want?*

I want someone to explain it away.

That was it, that was the core of it. No matter how much ke *knew* that it had been an hallucination, no matter how often he convinced himself of that, he still didn't believe it. Way down inside, he believed it had really happened, he had really gone home.

And that was what he wanted, somebody to shake that belief, somebody to prove to him that he was wrong, somebody to explain that hallucination away. Until that was done, he would just go on worrying about it and being frightened of it.

"I'll stay, sir," he said.

The psychiatrist said, "Um-m-m," again. He nodded, and got to his feet. "Come with me."

There was a high leather-covered cot in the next room, beside some complicated-looking apparatus. At the psychiatrist's orders, Jeremy rolled up his left sleeve and stretched out on the cot. The intravenous injection began, and the psychiatrist alternated between studying his watch and peering at Jeremy's face.

It was a strange sensation. First the prick of the needle, and then a spreading warmth and a drowsiness, and the end to worry. It was so pleasant, so pleasant to know that there was nothing to be afraid of, nothing to worry about, that nothing in all the world was really very important. He could even stop hiding the truth.

Time passed sluggishly, and when the psychiatrist spoke at last his voice was far away and muffled. "What is your name?"

It took no effort to talk. He was easy and relaxed, and he didn't care. "Jeremy Masters," he said.

"And how old are you?"

"Twenty."

"How tall?"

"Six foot."

"Did you have an hallucination a week ago yesterday?"

Why not tell him the truth? It didn't matter. "No."

There was a pause, and then the psychiatrist said, "What's your mother's first name?"

Jeremy smiled. "Alma."

"What's your father's first name?"

"Richard."

"Why did you lie about the hallucination?"

"I was afraid to tell the truth."

"I see. And what is the truth?"

Why not? "I went home."

The pause this time was longer, and when the psychiatrist spoke again his voice was somewhat sharper. "You really went home?"

"Yes."

"Why?"

"I was afraid."

"How did you do it?"

Jeremy frowned, trying to concentrate. But it was too much trouble, the answer was too far down. "I don't know," he said. "I don't remember."

"Could you do it again?"

No hesitation this time. "Yes."

"Let's see you."

Jeremy thought it over, and slowly shook his head. "I can't. Not now."

"Why not?"

"You're looking at me."

"I'll turn my back."

"No. It isn't dark."

"It has to be dark?"

"Yes. And nobody seeing me. And . . . and right now I have to be scared."

"What do you mean, right now?"

"Maybe . . . maybe I'll get better. I don't know."

"I see. And have you ever done this before?"

"No."

"Then how did you know you could do it?"

"I didn't. It scared me."

"But you really did go home?"

"Yes. I really did go home."

The psychiatrist sighed, and moved around the room a bit, and then he came back and asked Jeremy some questions about girls, and whether or not he liked the Air Force (he didn't), and whether or not there was any epilepsy in his family (there wasn't). Then the psychiatrist said, "All right. You take a nap now, and I'll talk to you later." He did something with the needle that was still in Jeremy's arm, and Jeremy went to sleep.

The psychiatrist's name was Holland, and his rank was Captain. And he was very very curious. "Quite frankly," he said, "I wonder what your interest in this man is."

"Quite frankly," said the colonel, "it's none of your business. I don't mean to be overly tough with you, but I'm afraid that's the way it has to be. I'll be the one asking all the questions, and you'll be the one giving all the answers."

Captain Holland's face froze. He

had plainly decided that he didn't like this overbearing colonel very much at all. Well, that was too bad. It would be nice to be liked, but it wouldn't get much accomplished. And the colonel meant to get things accomplished.

"You gave him sodium amytal, is that right?"

Captain Holland nodded, stiffly.

"What did he say beforehand?"

"That he had had an hallucination."

"And under the narcoanalysis?"

"He admitted that he believed the delusion. That he believed he had gone home. Wish-fulfillment, nothing more."

"It's a little early for an analysis," said the colonel. He got to his feet and paced the floor, ignoring the cold gaze of the captain. At length, he said, "What do you plan to do with him?"

"Send him back to his outfit," said the captain. "This is only a temporary thing. Given other things to think about, it'll wear off."

"No," said the colonel.

"What's that?"

"You'll send him to the hospital at Dover," said the colonel. "For observation and treatment."

"But . . . but that's absurd. He doesn't need observation and treatment, all he needs is a few days to forget all this."

"It could be," said the colonel, "that I don't want him to forget it."

"Sir," said the captain stiffly, "my first duty is to my patient. I must strongly protest any attempt to make this delusion seem overly important to him. We could blow it up now to the point where there would be—"

"Your first duty," cut in the colonel, "is to the Air Force, and through the Air Force to your country."

"I don't see how badgering a poor airman basic is going to be of any advantage at all to either the Air Force *or* the nation."

"You don't have to see that, Captain. All you have to do is take my word for it."

"I assure you, sir, that I fully intend to protest this action of yours—"

"Ketchup!" snorted the colonel. "Protest all you want."

"In all my years in the service—"

"You still haven't learned to obey orders. Now, listen to me. This is important. You are to tell that boy that he is being sent to another hospital for observation. You are not to mention me at all, and you are not to tell him your own personal feelings on the subject."

"Until I have a direct order from the surgeon general," said the captain hotly, "I have no intention of so mishandling a simple case like—"

"You *have* a direct order, Captain. From me."

The office door opened, and Ed Clark stuck his head in. "The plane's ready, Colonel," he said.

"Fine." The colonel started for the door, and paused to look back at the captain. "This is important, Captain," he said, "vitally important. You can be sure I'm not making myself difficult for the fun of it."

"Yes, sir," said the captain grimly.

"Thank you," said the colonel, "for your co-operation."

Jeremy woke up starving. The light seeping through the closed Venetian blinds over the room's one window was tinged with red, so it must be late afternoon.

He sat up and swung his legs over the side of the cot. He felt refreshed, but dizzy.

And then he remembered the questions, and his own answers, and his hands clutched the leather covering of the cot as he stared across the room.

He believed it. He couldn't kid himself any more, he couldn't try to convince himself any more that it was just an hallucination. He believed it, he knew it, and so did the psychiatrist.

He shouldn't have come here. He should have hidden it, held it down, learned to live with it. Because now the psychiatrist knew, and the psychiatrist could come to only one conclusion.

That Jeremy Masters was crazy.

Maybe I am, he thought. *Maybe I really am.*

The door opened, and the psychiatrist looked in. "Ah," he said, with false joviality, "you're awake. And I imagine you're hungry. You woke up just in time for dinner. Come along."

The psychiatrist was angry about something, Jeremy could *feel* it, but he was too worried about himself to pay any attention to the feeling. "I told you, didn't I?" he said.

"Yes, you did."

"Am I crazy?"

The psychiatrist looked away. "No," he said. He started to say something, then obviously changed his mind and said instead, "There's an ambivalence there. You believe that this hallucination was real, and yet you understand that such a belief is a symptom of mental imbalance. You haven't been completely captured by the illusion. I don't think it will take too long to straighten you out."

"Will I be staying in the hospital here?"

The psychiatrist made an angry gesture. "Only till tomorrow," he said. "Then you'll be going to another hospital."

"An asylum?"

"No. Another Air Force hospital. For . . . for observation, that's all."

"I see," said Jeremy hopelessly.

The false joviality was back. "Don't worry about it," the psychiatrist said. "You *want* to be cured, and that's half the battle."

The next half hour was a confusing one for Jeremy. The psychiatrist turned him over to a man-with-clipboard, who turned him over to a starched smiling nurse, who traded him a set of blue-gray hospital pajamas for his uniform fatigues, and who then turned him over to another patient, a lanky buck-toothed grinner named Bob, who took him away to the hospital chow hall for dinner.

And all through that half hour, and all through dinner, and all through the long bright evening in the eight-man ward where he was to sleep that night, he kept remembering what the psychiatrist had said.

"You WANT *to be cured, and that's half the battle."*

If he had traveled seven hundred miles in one split second—if he *had* traveled seven hundred miles in one split second—did he want to be cured?

The next day, a different starched nurse gave him back his uniform, and at ten hundred hours he followed yet another man-with-clipboard to a bus, which he boarded

with nine other people. The bus was ancient, still painted the Army olive drab, and it bounced and jounced across the base to the flight line where, two hours later, the ten of them were put on a goony bird and told to fasten their safety belts. Then, after another ten minutes, the plane took off.

After seven weeks of basic training, Jeremy was used to this kind of treatment. No one told him where he was going, or how long it would take to get there, or what would happen next, or much of anything else, but that was the Air Force way. One was moved from place to place, and one simply followed and hoped for the best.

The plane ride took an hour and a half. Jeremy had time to get used to the novelty of flying in an airplane and looking out the window at the patchwork quilt below, and spent a while looking at the other passengers. Seven of them were clearly patients like himself, dressed in rumpled fatigues and looking worried but fatalistic. The last two were also in fatigues, but the fatigues were neat and pressed, and encircled at the waist by cartridge belts from which dangled holstered automatics.

Guards. Without anyone mentioning the fact, without anyone talking to him at all, he had passed progressively through the stages from basic trainee to patient to prisoner.

His depression wasn't dispelled after the plane landed. The guards herded the seven onto another bus, and they were driven to a gray stucco building with bars on the windows of all five floors.

And the next two days were routine. The routine, that is, that Jeremy had come to expect from the Air Force. There was the checking out of pajamas and bedding, there was the assignment to a ward, there was the filling out of innumerable forms, there was the lecture by a Staff Sergeant on the degree of cleanliness to be maintained in Jeremy's "area"—that section of space-time which included his bed and bedside table in the eight-man ward—there was the bad chow hall food, and there was the hillbilly three beds away who owned a small radio which was at all times tuned in to Wheeling, West Virginia.

On the third day, there was another psychiatrist, a major named Grildquist. Major Grildquist was a fat bald man in a rumpled uniform. He smiled at all times, and his eyes were ice-blue and watchful.

The first interview with Major Grildquist was exactly like the interview with the psychiatrist at the other hospital. There were the questions and the answers, and then the sodium amytal and more questions and answers. And then he was sent back to the ward.

He lay miserable in the bed, listening unwillingly to Wheeling, West Virginia, and wondering what was going to become of him.

He should have kept it to himself. It was too late now, and now he knew it. He should have kept it to himself.

The four of them were sitting around the living room of Colonel Brice's suite in the BOQ, drinking beer and talking things over. Colonel Brice paced the floor, caged and impatient. Ed Clark sat on the arm of the sofa, happily eager. Paul Swanson sat slumped on the sofa, apparently bored and half-asleep. And Major Grildquist sat on the edge of his chair, his round face open and excited.

"Teleportation!" exclaimed the major. "That was the one I was willing to bet we'd never find, and, by golly, here's one right here!"

"I wanted a telepath," said the colonel grumpily. Inaction always made him grouchy, even when he understood the need for inaction, for waiting-and-seeing. "I *need* a telepath," he went on. "Somebody to dig down into the bottom of that fool boy's mind and find out what makes him tick. He doesn't understand the thing himself; he's devoting all his energies to denying it ever happened."

"A natural reaction," said the major complacently. "He'll get over it. Once he understands that it really did happen to him, and that it's an ability we can use—"

"That's just it," snapped the colonel. He stopped his pacing to glower at Major Grildquist. "Once he understands. But how are we going to get him to understand?"

"We could tell him," suggested Paul Swanson.

"No. He wouldn't believe it, and he wouldn't be any closer to finding out just how he managed to do it in the first place. We've got to *force* it out of him. We've got to find some way to force him into such a position that he'll *have* to use that talent of his again. We've got to force him to believe in himself, and then we've got to force him to understand himself."

"It isn't going to be all that easy," suggested the major.

"I don't care whether it's easy or not," the colonel told him. "I just want it done. And it's your job to do it."

The major nodded, unruffled. He'd known Jim Brice for twelve years. He understood that the colonel's abruptness wasn't so much the result of a nasty personality as it was the result of his single-minded desire to get the job done. The major realized that no offense was intended, and so no offense was taken.

"I'll do the job," he told the colonel. "Or at least I'll take a healthy stab at it."

"A healthy stab isn't enough. I want that boy's ability out on the surface, where I can get some use out of it."

"You talk as though you owned him," the major chided gently.

"I do," said the colonel. "I own his ability, at any rate. Or I will, once you dig it out for me."

"*Own* it?"

"I'll get the use of it," said the colonel. "I can't teleport myself, but I don't have to, not if I have someone else who can do it for me. I'll get the

use of his ability, and what's that if it isn't ownership?"

"If I didn't know you better," the major said, "I'd think you were power-mad."

"Not power-mad. Power-hungry. That I am. I have a job to do, and a tricky job, and I need all the power I can get, in order to do that job. And I need the power locked up in that boy's mind."

"Us slaves do O.K.," said Ed Clark, grinning.

"I own *his* ability," said the colonel, pointing at Ed. "I get to use it through him, and he doesn't feel as though I'm some sort of evil mastermind. Do you, Ed?"

"Sure I do," said Clark, the grin even broader than before. "But it's worth it, to get to wear civvies and eat in the BOQ."

"It's a pity," said the colonel, "that brains and psi-talent don't always go together."

"Simple Simon met a psi-man," said Clark.

Paul Swanson spoke up for the first time. "Simple Simon *was* a psi-man," he said. He looked at Clark. "Hi, Simon."

"Knock it off," said the colonel. He looked back at the major. "What do you intend to do with this boy?"

"Run him through the mill," said Grildquist. "Give him the hurry-up-and-wait routine, and wait for him to realize he's on the treadmill. He isn't going to cough up that ability you want until he realizes it's the only way he's going to get off the treadmill."

"How long?" demanded the colonel.

The major shrugged. "A finite time," he said. "If I try to rush him too fast, he's liable to react in the opposite direction, shove the whole thing so far down into the subconscious we'll *never* get it out."

"I want that boy," said the colonel grimly.

"Patience, Jim," said the major. "Patience. I'll give him to you on a silver platter."

After that first interview with the new psychiatrist, Major Grildquist, Jeremy was completely ignored for three days. He spent most of his time in the floor dayroom, playing Ping-pong or pinochle with other patients, reading old magazines, and writing reassuring letters to his parents. He didn't want them to know yet what had happened to him, so he told them he'd caught a flu bug of some kind, it was nothing serious, but he'd probably be in the hospital for a few days.

And he waited for the psychiatrists to cure him. He wanted to be cured, and the other psychiatrist had said that that was half the battle.

But nothing happened. He waited, and waited, and waited, and nothing happened.

Until the afternoon of the fourth day. Then he was transferred from the eight-man ward to a single room.

By this time, he knew the hospital scuttlebutt. A man in a ward was relatively healthy, and could expect

either to be discharged from the service on a medical, or be returned to duty in a short time.

But a man in a single room wasn't healthy at all. A man in a single room could expect either to stay there for a long while or get a section eight discharge and be transferred to a Veterans Administration hospital.

The room he was transferred to was small, squarish, pale gray and Spartan. An army cot, with blue Air Force blankets, a metal bureau, and a metal armless chair with upholstered seat, was all the furniture in the room. There was an ashtray atop the bureau, and he was allowed to smoke.

He did so. He paced the floor, and smoked, and worried, and tried to get this whole thing straightened out in his mind.

He was in a hospital, and he was clearly one step from an insane asylum. And yet he was the same person he'd been all his life, with the same attitudes and memories and beliefs. He hadn't suddenly started seeing little green men or believing that he was being persecuted, he hadn't gone raging around with a knife, or gone around setting buildings on fire. He hadn't retreated into an unreachable corner of his brain, and he hadn't developed a second personality, and he hadn't started believing he was the lost heir to the Tasmanian throne, having been stolen as an infant by gypsies.

He was one short step from an insane asylum, and he had given none of the indications of insanity that he had ever heard of or could possibly recognize. So, why was he one step from an insane asylum?

Because he had traveled seven hundred miles in much less than a second. He had done it twice, once going and once coming. He hadn't intended to do it, he didn't know how he had managed to do it, and he fervently wished he'd never done it. But it had happened, and he remembered it and believed his memory, and that's why he was moving slowly but steadily toward an insane asylum.

Teleportation. That was the word. There was, at least, a word for it, even though nobody believed in it, just as there was a word for luck even though nobody really believed in the powers of luck good or bad, and just as there had been a word for spaceship long before people believed that things like sputniks and moon shots were really possible.

Now, here was the crux of the matter. Was teleportation a thing like luck, something that nobody believed in with just cause. In other words, had he teleported himself home and back, or was he nuts?

He paced the floor and smoked, paced the floor and smoked, and tried to work it all out to a sensible conclusion. He already knew all the arguments in favor of his having teleported—the absolute reality of the second spent at home, the letter from his mother, his own conviction —and now he listed against them the

arguments in favor of delusion and madness.

First, and most obvious, where had this mysterious talent suddenly come from? If he'd teleported, why didn't he know *how* he'd done it, and why couldn't he do it again? For that matter, why hadn't he done it before? If it required fear, he'd been afraid before in his life. The time out hiking as a Boy Scout, for instance, when he'd almost fallen over a cliff. The night he was in the car with Steve Chalmers and a couple of other guys, and Steve was high as a kite, and drove so madly down that mountain road toward town. Lots of times. If he could do it at all, why hadn't he done it long ago, and why couldn't he do it again now?"

Second, if he had really gone home, why hadn't he stayed there? Admitted, at that particular moment, in that drainage pipe, he had wished more than anything in the world to be safe at home, but if he had really succeeded in fulfilling that desire, why had he come right back?

Third, if he was going to go around thinking he was unique, some sort of superman with strange powers possessed by no one but himself, then he *was* a candidate for the twitch factory, and no questions asked. If he had the power to teleport, that must almost inevitably mean that *other* people had the power to teleport. Why hadn't they? After thousands of years of recorded history, why hadn't somebody somewhere along the line proved that teleportation was not a thing like luck?

Those were the three arguments, and when he lined them up against his own shaky conviction, the reality of a memory lasting just about one second, and an ambiguous sentence in a letter from his mother, the arguments against seemed pretty strong and the arguments for seemed pretty weak.

He lit a new cigarette from the butt of the old, and paced the floor some more. Never mind trying to bolster the arguments for, that wouldn't get anywhere. He had to forget for a few minutes that he was worried and afraid and that he hadn't the vaguest idea what the future held in store for him, and he had to concentrate on this problem just as calmly and logically as he could. The time had come to look for holes in the arguments against.

Number one, why hadn't he done it before? The only possibility was that it had required a certain narrow set of conditions before the ability could express itself. What, then, were the conditions?

Well, it had been dark, pitch-black, it hadn't been possible for him to see the rims of his glasses while he was wearing them. And he had been in a confined space. And he had been in a stress situation, feeling frantic, feeling that all was hopeless, and desiring more strongly than ever before in his life to be somewhere else. Some *specific* where else.

The first psychiatrist had asked him if he could teleport again. In his narcosynthesized condition he had

answered no, and had given two reasons: He wasn't alone, and there was no pressing need to go anywhere else.

All right, then. It required at least some but probably all of the conditions he'd just outlined. And could he honestly say that he had ever before in his life been in a situation with all of those conditions simultaneously present?

No, he couldn't.

Then that was why he'd never done it before.

And had there been, since then, any other time when all of those conditions had been simultaneously present?

No, there had not been.

Then that was why he hadn't done it again.

On to number two. If he had really gone home, why had he come right back? He tried to remember back to that second at home, tried to remember what his feelings and thoughts had been in the flash before returning to the point of departure.

He had been frightened. He had been *really* frightened that time, and he'd had every right to be. Sure, if he'd *planned* to teleport himself home, and he had then done it, he might simply have strolled on downstairs and said, "Hi, folks, I'm home."

But he hadn't planned it. And having the world suddenly shift seven hundred miles beneath you, without expecting it, is pretty shocking. The mind rejects the whole idea. The mind says, "This isn't happening!" The mind says, "Go back! This isn't possible! This is madness and chaos and death!" And you jump right back again.

And *that* was why he hadn't stayed home. He'd been too shocked and terrified at being there. He had probably snapped back just in time to avoid either a heart attack or the loss of his mind.

And that left argument number three. If he could do it, why couldn't other people do it?

Well, let's narrow it down. Maybe *some* people can do it, just as some people can carry a tune and some people have 20-20 vision and some people can multiply four digit figures by three digit figures in their heads.

He could narrow it down, but that didn't help much. He could say that it was also, aside from being an occasional characteristic rather than an inevitable characteristic, one which developed with maturity. That was another possible reason for his never having done it before, but no matter how much he narrowed and hedged, it wasn't going to do much good unless he narrowed it all the way down to one, unless he drew a line with himself on one side and the whole human race on the other.

And then he remembered his Aunt Sara and his Uncle Fred, on his mother's side. Eight years ago, Uncle Fred was killed in an airplane accident out in California, on the western slope of one of the Rockies. The day after that, when the news came,

Aunt Sara, a kindly church-going old lady in her early sixties, insisted that she had had a premonition. Last night, she told anyone who would listen, at almost precisely the same time that poor Uncle Fred was dying against that mountainside, she swore she saw him standing in the kitchen, right next to the refrigerator. She had been in the living room, watching the television, in that mohair chair by the radiator, where she could look straight down the hall to the kitchen, and she swore she saw him standing there. And—the way she later told it—she'd said, "Why, Fred, what are you doing home so early?" And he was gone.

Of course, nobody had believed Aunt Sara. She kept on telling the story right up to the day of her death, a little over a year ago, and everybody just classed it as Aunt Sara's one lapse into mysticism, brought on by the death of Uncle Fred, and let it go at that.

Jeremy had told the story himself once, just once, and not with any belief in it. It was two years ago, when he'd been a freshman in college. He and a bunch of the other guys in the dorm were together having a bull session, and the conversation had gotten around to ghosts and voodoo and seances and mysticism in general. All of them, being college freshmen, had the world completely figured out, and to a man they put down all that mystical nonsense as a lot of mystical nonsense. They took turns telling stories they'd heard, about phony mediums and voodoo dolls and whatnot, and Jeremy added as his contribution the story of his Aunt Sara and his Uncle Fred. Aunt Sara was still alive then, and his telling of the story was rather sarcastic and not at all kind to the old lady.

Once he'd told the story, another freshman assured him pompously that what he had just described was "a very common phenomenon, especially in wartime." It seemed that the appearance of a loved one at just around the same moment when, it was later learned, that loved one was being killed in an enemy attack or a mine cave-in or an automobile accident, was one of the old standby situations of the believers in mysticism. It was even more common in mystical lore than the appearance of a long-dead relative. And it was, of course, all nonsense, easily explained by psychology.

Everything was easily explained by psychology, Jeremy realized now. Once you accepted the basic postulate that the mind could play tricks on a person, suddenly and without apparent reason, you could explain away just about anything that ever happened to anybody. You could prove to a man that the *Earth* was made of green cheese, if you first got him to accept the basic postulates of psychology.

Jeremy had believed the easy explanation of freshman psychology at the time. But now he'd been on the other end of that sort of visitation, and the easy explanations of psychology had a lot less appeal for him.

Because there was another explanation, one that didn't require labeling nice down-to-earth old ladies as sudden crackpots.

Say that the ability to teleport was present to a greater or lesser degree in all men, just as memory is present to a greater or lesser degree in all men. There are some men with photographic memories, who can remember every word of a seven hundred page chemistry text six months after reading it once. And there are some men who can never remember a telephone number or an appointment or a birthday or what they did with the other cuff link.

Say the ability to teleport was present in men in just as wide a range as the ability to remember. And say that that ability is so buried in the mind that it is almost unreachable. And the people who have the ability to the greatest degree—comparable to the people with total recall—even those people can't tap the ability until they get into a one hundred per cent frantic stress situation.

All right. Call these people with the greatest degree of teleporting ability *latents*. Say Uncle Fred was a latent teleport. He's sitting in the airplane, probably in a seat toward the rear of the plane, and suddenly the plane bucks and dips and dives straight for the mountain—he can look out the window and see that the right-hand wing has sheared off—and for the first time in his life he's in a situation desperate enough to reach all the way down to the teleporting ability, and he wishes frantically he were home in his own kitchen, raiding the refrigerator, and all of a sudden he's home. Which for shock value is about equivalent to kissing a girl who suddenly and instantaneously turns into a crocodile. So he teleports right back, while he still has his sanity. And the plane plunges into the mountain.

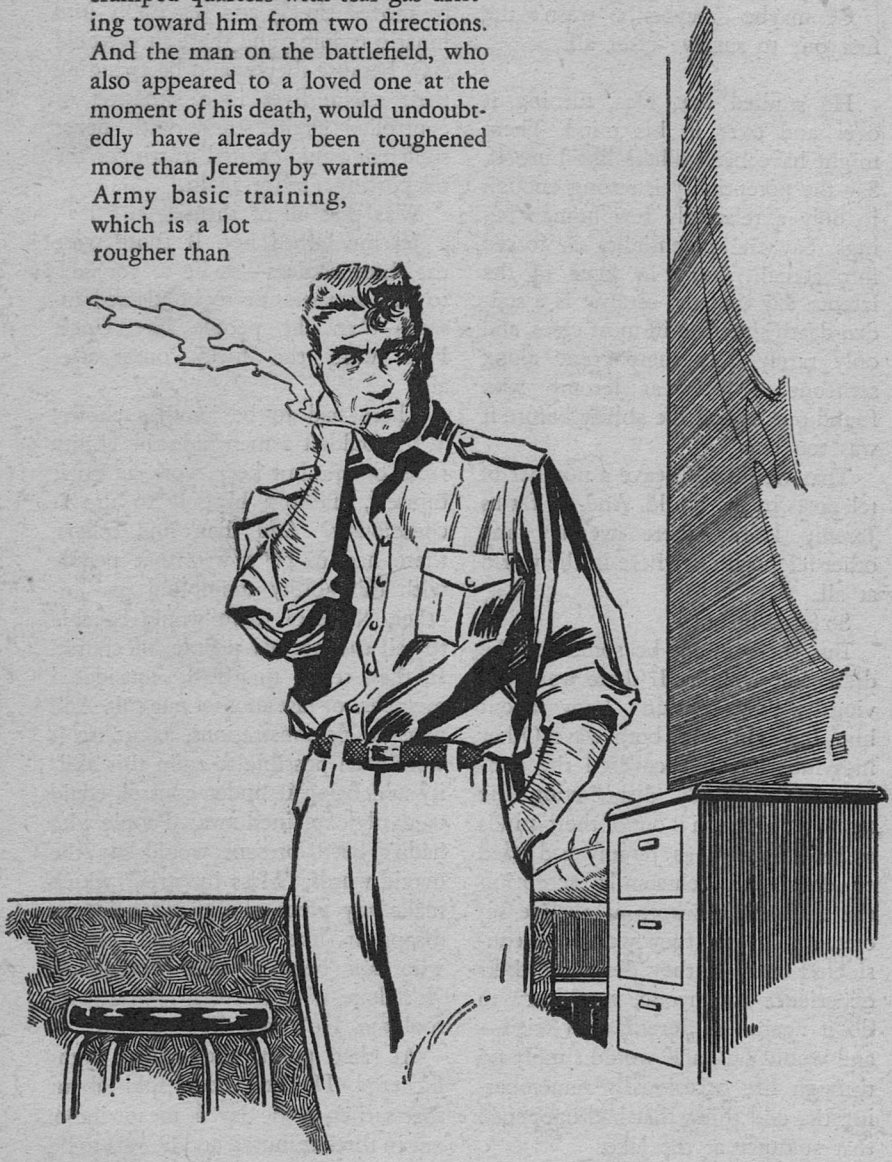
What killed Uncle Fred? The plane crash? No. *The basic ingrained inability of the human mind to immediately reject a postulate which has been proved false* is what killed Uncle Fred.

And maybe that's why nobody had ever come along before to tell the world he'd teleported. Because it required the imminent danger of death to bring the latent ability to the surface, and because the human being, at the instinctive level, would rather die than have his world turned topsy-turvy.

Which was all well and good, except for one thing. *He* had teleported, and he hadn't been facing imminent death. He had probably felt *almost* as much blind panic as Uncle Fred, but almosts don't win ball games.

Unless age had something to do with it. Uncle Fred, at sixty-four, might have lived long enough, lived through enough variety of experience, and come to the age where the inevitability of death was real to him long enough ago, so that his panic at seeing the airplane wing fall off was just about as deep as Jeremy's at twenty, having lived the normal fairly sheltered life of a middle-class

American boy, finding himself suddenly blind and helpless in sharply cramped quarters with tear gas drifting toward him from two directions. And the man on the battlefield, who also appeared to a loved one at the moment of his death, would undoubtedly have already been toughened more than Jeremy by wartime Army basic training, which is a lot rougher than



peacetime Air Force basic training any day in the week.

Or maybe—maybe he wasn't the first one to survive after all.

He studied that idea, turning it over and over in his mind. There might have been others like himself. Say the potentiality is strong enough in only a relatively few human beings. Say the potentiality is forced into actuality only in some of the latents. Say that the catalyst is a sudden-death situation in most cases, and only rarely does there come along someone as lucky as Jeremy, who found out he had the ability before it was too late.

That would still leave a number of teleports in the world. And, so far as Jeremy knew, there weren't any other teleports anywhere in the world at all.

So far as he knew.

But there might be some that he didn't know about. If there were, obviously, they wouldn't know about him. It might work both ways. Other individuals had discovered the ability. Some, totally disbelieving the truth, would push it out of their minds as hallucination, as Jeremy had tried to do. Some, reluctantly accepting the truth, would keep it a close secret, afraid that they would be considered crazy if they described their experience to anyone, would try to do it again—as Jeremy had tried—and would fail, and would simply go through life occasionally remembering the odd thing that had happened that summer at the lake.

And some would announce themselves, as Jeremy had done, and would be moved slowly and inevitably into lunatic asylums, and there they would stay, because they would be spending their entire lives in a situation of controlled slight stress, with never sufficient panic created to trigger the teleporting ability again.

Was that all of them?

Jeremy hoped not. If those were the three choices—to lie to yourself, to lie to others, or to be classed insane—then the people like Uncle Fred were the lucky ones after all.

There had to be another choice. Why couldn't a man hide the ability from others, but keep working on it himself, training himself to use it consciously? And then find others, there had to be a way that people with this ability could find one another. None of them would be able to tell the normal people, of course. If they tried, they'd be considered members of just another nut cult. And physical demonstrations, assuming it were even possible to train this ability and bring it under control, could be easily explained away. People who hadn't been present would say the magic words, "Mass hysteria," which make any piece of difficult evidence disappear like smoke, and people who *had* been present would say, "It's done with mirrors." "You can't fool me. He's twins!"

At that point, the ceiling light flickered. He had been told about that earlier in the day. It meant lights out in three minutes, and he was to be

in bed when the lights went out. And no smoking.

He crawled into bed, and soon the lights went out, and bars and moonlight formed a diagonal pattern on the wall to his right, shining through his one window. He stared at the pattern, and tried to think.

I don't like it," said the colonel. "It's taking too long. Nothing's happening."

"Give it time, Jim," said the major gently. "It hasn't even been a week yet."

The four of them were once again in the colonel's suite at the BOQ. While Major Grildquist and the colonel talked, Ed Clark followed the conversation with his usual smiling eager attention, and Paul Swanson slouched moodily on the sofa, watching a pair of small steel balls orbit about one another in mid-air across the room.

"I don't care how long it's been," snapped the colonel. "You haven't done a thing yet. Paul, stop that."

Swanson looked suddenly guilty, and the steel balls flashed across the room and burrowed into his shirt pocket.

"Well, now, Jim," said the major, "I *have* done something. In less than a week, I have put that boy on tenterhooks. Give him a week or two more, and we'll—"

"I don't *have* a week or two more," said the colonel.

"Push, push, push," said the major gently. "You don't really mean all that, Jim."

"The devil I don't." The colonel glanced over at Clark. "What's he doing now?"

"Still pacing the floor, I suppose," said the major. "Pity we have to treat him this way."

Clark cocked his head to one side and listened attentively. "Nope," he said. "He isn't doing anything. Just breathing."

"Blast," said the major. "Is he asleep?"

Clark listened a minute more, then shook his head. "Not from the sound of his breathing. He's awake, all right. I think he's sub-vocalizing. I wish I could pick that up."

"There," said the major. "You see? Sleepless nights. He was moved to a single room today, and he knows what that means."

"All right," said the colonel grudgingly. "You know your business, Ben."

"Of course I do."

"I just wish there were a way to speed it up."

"What do you suggest? I suppose I could go rushing into his room with a pistol and shoot at him. That might scare him enough to send him popping off home again. On the other hand, it might not. And then he wouldn't be around at all."

"Prima donnas," grumbled the colonel. He glowered at Clark and Swanson. "A bunch of prima donnas."

Clark grinned. A cigarette drifted up out of Swanson's shirt pocket,

came to rest between his lips, and a lighter came over from the table. His cigarette going and the lighter returned to the table, Swanson said, "I could jounce his bed a little if you want."

"No," said the colonel. "Ben's right. He knows what he's doing. But at least let me complain about it."

For two days, Jeremy was left to himself in the single room, allowed out of the room only at mealtimes, and to go to the head. On the third day, his thinking having progressed no farther than on the first day, he was introduced to group therapy.

Group therapy was ridiculous. A motley collection of fifteen or sixteen sad-looking individuals sat around a good-sized room in leather armchairs, and smoked, and told each other their problems. Then they told each other how to solve their problems. A psychiatrist in civilian clothing sat in a corner and nodded approvingly.

When Jeremy was asked what his personal twitch was, he answered shortly, "I teleported."

They then all took turns telling him why he had this particular delusion. A couple of his fellow-inmates, there because of sexual aberrations, found a sexual cause of this fantasy, equating it with the dream in which one imagines one is flying. A little guy with a pronounced persecution complex discovered that Jeremy had an unconscious persecution complex and wanted to run away. And so on.

Jeremy went to group therapy for three days, but he could never seem to get into the swing of things. He wasn't having *fun,* like the other fellows. So he was taken off group therapy, and left to stew alone in his room for two more days. Then he went back to narcoanalysis and Major Grildquist.

The sessions with Major Grildquist were, if nothing else, relaxing. The only time Jeremy could relax and ignore the doubts and the fear about his future was when he was under the influence of sodium amytal. Then it didn't matter any more. Nothing mattered, and he spoke easily and lazily, answering the major's questions and not bothering to worry.

The major had the same technique as the first psychiatrist. He would ask a bunch of questions about high school, and all of a sudden he would say something like, "How did you teleport?" Or, "Can you do it again?"

And his prompt baffled response would always be, "I don't know."

And then they would go back to questions about high school again.

After six days of this, Major Grildquest began to hint about a discharge. The facilities at this hospital were perhaps not adequate for the job ahead, he suggested. The facilities here were adequate only for those with temporary disorders, who could be cured and returned to duty in a relatively short time. It might be the best thing for Jeremy, all in all, to go to a hospital where they had more adequate facilities.

And then the major asked him, "Would you like a section eight, Jeremy?"

He was under sodium amytal, and the truth came promptly. "No, sir. No."

"Why not?"

"I don't want to be locked up."

"But couldn't you just teleport yourself out of any cell you were put in?"

"I . . .I don't know. I don't know how."

"How would you like to spend the rest of your life in a VA hospital, Jeremy?"

"Please. Please." Even through the mists of sodium amytal, he could feel the terror created by that suggestion. "No. Please, I want to be cured, I want to be all right. I wish it never happened, I wish, I wish, I wish it never happened."

"All right, Jeremy. Calm down. Take a nap, now, and we'll talk about it again later on. Just take it easy, boy."

But he couldn't take it easy. That night, he lay awake in his bed, staring at the ceiling. His whole life was ending here, was ending now. He was going to be just a number, a number and a body stored away in a lunatic asylum somewhere, for the rest of his life.

The next day, he announced himself cured. He told Major Grildquist that he had suddenly seen the truth. And then he proceeded to tell this truth, which turned out to be a long complicated explanation that included just about everything that anyone had said to him over the last two weeks, including one or two points brought up by his team mates on the group therepy game.

Major Grildquist listened to all this in silence, and then he fed Jeremy some more sodium amytal, and the first question he asked was, "Did you ever teleport?"

Jeremy said, "Yes."

And that was that.

The following afternoon, Major Grildquist told him that the papers on his discharge had started their long arduous voyage through half the clerks in the Air Force. Jeremy listened to this, and thought about it all that night, and the next day he had a desperate suggestion to offer.

"Sir," he said to the major hesitantly, "I'd like to try an experiment, if I could."

"An experiment? What sort of experiment?"

"Well, the thing is, no matter how much I try to convince myself that I really didn't teleport, I just can't succeed. Now, I've thought it out, and I think maybe there are certain conditions that have to be met, a certain kind of situation I have to find myself in, before I can make this teleport thing work."

The major nodded. "You want to simulate the conditions, is that it?"

"Yes, sir."

"And what do you hope to gain from that?"

"Well, if it doesn't work . . . if I can't teleport . . . I don't see why that shouldn't convince me that the

whole thing was a delusion in the first place. I won't try to fool you or anything, I know that wouldn't work."

"I see," said the major.

"And if it *does* work," finished Jeremy, "then I'm sane after all."

"I see," said the major again. "You'll try to go home, same as last time?"

"Yes, sir. But this time I'll try to get some place where my mother can see me. Then I'll have proof."

"I'll think about it," said the major, deadpan. "Now, about this seventh-grade teacher of yours—"

"If he wants to try it," said the colonel, "I say fine. That's what we've been working for, after all."

"I'm not sure," said the major. "We might not get the conditions right—a hundred things could go wrong—and he won't be able to do it. Then he'll be half-convinced he didn't do it the first time, and we'll have lost instead of gained."

The colonel paced the floor, glowering at the rug. "This is the turning point," he said. "We get him, or we lose him, right here. What happens if you turn him down?"

"I'm not sure," admitted the major. "Either he'll revolt, and strain himself to do the trick without my co-operation, or he'll just throw in the towel and give up completely. I wouldn't even try to guess which way he'd go."

"So it's a fifty-fifty chance either way," said the colonel. "Is that it?"

"Just about."

"And what do you advise?"

"I frankly don't know what to advise, Jim. This is the point, as you say. We brought him this far—now I'm lost. From now on, plans and predictions don't mean a thing."

The colonel nodded. He stopped his pacing to glower at Ed Clark. "What do you think?" he demanded.

"Let him try it," said Clark promptly. "You've been trying to push him into action. He wants to take action now, let him do it."

"Paul?"

Swanson shrugged. "He's liable to know what he's doing," he said, "whether he knows it or not. Let him try."

"Ben?"

The major looked helpless. "I just don't know," he said. "I've grown to like the boy. I hate the thought of pushing him that close to the brink."

"You'd like to just send him home and forget about it?"

"Of course I would. Wouldn't you?"

"No," said the colonel savagely. "I need him too badly. I need him, and you need him, and the whole country needs him. We can't forget him, because we've got to have him."

"Then I suppose," said the major reluctantly, "we'd better let him try this experiment of his."

Four glasses of beer sailed in from the kitchenette. "I thought we could use some," said Swanson.

Major Grildquist waited two days before telling Jeremy they would try the experiment. And when he did tell him, Jeremy was so grateful he

could have cried. "Thank you, sir," he said, his voice breaking. "Thank you. And I won't try to fool you, I swear I won't. And whatever happens, I'll abide by it. If it doesn't work, then I'll know for sure."

"That's, uh, fine," said the major. He bustled at his desk, not looking Jeremy in the eye. "We'd better make the arrangements," he said.

Two medics were brought in, and they all discussed the physical equipment needed for the experiment. Cramped quarters, for one thing. One of the medics suggested they attach a strait jacket to him and stuff him into a broom closet. Pitch blackness, too, and that could be arranged by using the broom closet in the unused basement of the west wing, where the hall lights could be switched off and absolutely no light whatsoever could work its way into the broom closet, not even at high noon.

That left the third, and probably most important, ingredient, a stress situation. "I will think," Jeremy told them, "about insane asylums."

The arrangements completed, Jeremy was returned to his room. The experiment would be tried the next day.

He didn't get much sleep that night. He tossed and turned, and he went over and over the details of his plan, and he became fully convinced that it would never work in a million years.

A stress situation? Frantic panic? People don't consciously think themselves into panic, the environment forces panic on them.

It would never work. It was his only chance, his one and only chance, and it would never never never work.

By morning, he was a nervous wreck, already feeling the first faint touches of unreasoning fear. He wanted to call the whole thing off, because it couldn't possibly work and it wouldn't prove a thing, and he would still believe that he had teleported, and they would ship him off to an insane asylum faster than ever. He wanted to tell them to forget it, he'd have to think of something else, but he couldn't. He didn't dare open his mouth. And it was hopeless. He was doomed.

He ate three mouthfuls of breakfast, felt as though he had swallowed three round lead balls, and gave up all thought of food. He paced his room most of the morning, chain-smoking, his fingers shaking when he tried to light his cigarettes, his feet stumbling on nothing at all as he prowled back and forth in the room.

They came for him at eleven, and the sound of the key in the lock was so sudden and at this moment so loud, that he almost screamed and he almost fainted. When they put the strait jacket on him, they had to move his arms for him, he couldn't seem to make them work right. Major Grildquist looked at him oddly, and touched the back of his fingers to Jeremy's cheek, as though he couldn't believe there was any warmth in a cheek that gray. "Are you all right?" the major asked him.

It isn't going to work. He wanted

to say that, he wanted to yell it at the top of his lungs, but he couldn't. It was as though he were paralyzed, as though he were a clockwork doll set into motion, and he was walking toward the table edge, and there was no way to stop his motion and keep from falling off that table edge. He trembled all over when he felt the jacket tighten on him from behind, and then he held himself rigid, to keep from trembling again.

"Are you all right?"

He managed to get it out that time. "Yes." The one word was all he could muster.

Then they left the room, and he concentrated on walking. Raise the right leg, bend it slightly at the knee, swing it forward like pushing it through waist-deep water, straighten the knee joint, set the heel down, rock forward, raise the left leg, and repeat. Conscious motion, like learning to walk all over again, and the knowledge that he was going to fail, and he would live the rest of his life in a room like the one he'd just left.

They went down to the basement and stood by the broom closet. "There you are," said the major. "Cramped quarters. And we'll cut the lights once you're in there. We'll give you five minutes."

Jeremy shook his head violently. "No," he said, his voice hoarse and sandy. Five minutes alone in that darkness would kill him. Fail and get it over with.

He pronounced the words carefully, with someone else's bone-dry tongue and palate. "One minute."

"Are you sure?" asked the major.

He nodded, spastically.

"All right, then."

The two medics helped him into the broom closet. "Good luck," said the major, his voice oddly inflected, and the door closed.

The broom closet was a tiny upright box so small that his shoulders practically touched both sides, and when the arms crossed in front of him inside the strait jacket touched the back wall, his shoulder blades were just barely brushing the door.

Light crept under the door, and then there was a click, and he was alone and in darkness. Black darkness, and silence, and the wild terror of failure.

He had had a plan. He would go home, as he had before, but this time he would go to the kitchen. His mother would be in the kitchen, getting lunch ready at this time of day, and she would see him. And then he would flash back here and he would tell them, "Call my mother, she just saw me, and that proves it, that proves I can do it and I'm not crazy."

And it couldn't possibly work.

He tried to concentrate on the kitchen—the familiar table and chairs and the curtains on the window over the sink—and he couldn't even visualize it. He couldn't even get a picture of the kitchen in his mind. He tried to think of his mother, he tried to wish himself home and with his mother, and he couldn't do it, he couldn't think, he couldn't concentrate on a thing. The thoughts

boiled through his mind, disjointed and screaming, and he couldn't think, he couldn't think, *he couldn't think!*

He tried to scream out his panic, but his throat was frozen shut and he could only mouth the words. *"Somebody help me!"*

He was standing in a living room. There was a green broadloom rug on the floor, a rust-colored sofa and two armchairs, drum tables and a coffee table. A man sat on the sofa, leaning forward over an open file folder on the coffee table. He was dressed in an Air Force uniform, with colonel's eagles on the shoulders. He was gray-haired and lean, with a craggy narrow-lipped face.

The man looked up and blinked in astonishment. "What the hell—?"

This wasn't home!

And he was back in pitch blackness, and this time his throat was open, and he screamed, and screamed, and screamed.

Light, and the door open, and hands grabbing him as he leaped jerking out, wide-eyed and still screaming. The hands held him and he was rushed along, his useless feet bump-bump-bumping against the steps as they hurried him up from the basement.

They put him in a bathtub, leaving the strait jacket on, and they attached a canvas cover over the whole top of the bathtub except where his head stuck out, and they ran very hot water into the tub.

After a while, they gave him a shot, and he stopped screaming and fell asleep.

He came *here!"* snapped the colonel. He pointed at the middle of the room. "Right there, he stood right there, and stared at me with the most panic-stricken eyes I have ever seen in my life."

"We shouldn't have done it," said the major. His voice was shaky, and he had switched to something stronger than beer. "We pushed him too hard. We shouldn't have done it."

"Ed!" The colonel whirled around. "What's he doing?"

"Nothing. They gave him a sedative, I guess. He's sound asleep."

"What about tomorrow?" demanded the colonel. He spun back to Major Grildquist. "How's he going to be tomorrow?"

"I don't know. Catatonic, maybe. Or maybe he'll snap out of it."

"If he does, if he snaps out of it—"

"I want to tell him, Jim," said the major. "I mean it, this is too much, we're driving that boy too far. I mean to tell him the truth."

"And waste the whole thing?" The colonel stood straddle-legged in front of the major, his hands on his hips. "Listen to me, Ben," he said. "Hear me good. You didn't have to look at that boy's face. I did. You don't have the final responsibility for what we're doing to him. I do."

"We don't have the *right*—"

"We don't have the right to lose him, Ben. We don't have the right to throw him away. We don't have any choice. I wish we did, but we don't."

"It's gone too far, Jim. I'm going

to tell him, tomorrow—if he's capable of understanding anything."

"And lose the whole thing? He's gone through a lot, Ben, I'll agree with you. And so have we. If you jump the gun on this thing, you're wasting all that trouble and all that torment. If you jump the gun, he's going to have gone through all this for nothing."

The major rubbed his forehead with the back of one pudgy hand. "You're right," he said at last. "I know you're right. But I look at that boy, and . . . never mind, you're right."

"It must be near the end now," said the colonel, more softly. "It shouldn't take too much longer."

The major shook his head. "What should I do?" he asked. "When I talk to him tomorrow. *If* I talk to him tomorrow, if he's in any condition to talk to anybody tomorrow."

"Tell him it didn't happen," said the colonel immediately. "Tell him it was another delusion. You know the lingo, do your best to convince him he's nutty as a fruit cake. And then let him stew on it a while."

Ed Clark cleared his throat hesitantly. "Does it have to go on any more, colonel?" he asked. "Couldn't we just go to him now and tell him the truth, and tell him we'll help him get the ability under control?"

"How are we going to help him?" the colonel demanded. "We don't know any more about it than he does. No, he's got to prove himself. And in

order to prove himself, he's got to get that power of his under control."

"I guess so," said Clark.

"There's one thing more," said the colonel. "And it makes me even more sure we've got to push this boy to the limit."

"What's that?" asked Major Grildquist.

"He came here. He told you he was going to try going home again, but he came here. I would love to know how he happened to come here, why he decided to come to me."

"You're just a daddy to us all," said Clark.

"Might be," said Paul Swanson from his corner, "you've found that telepath you've been yelling for.

It took Jeremy two days to get calmed down to the point where he could walk and talk with reasonable accuracy. Then he had another interview with Major Grildquist. He tried to tell him what had happened, but it got too jumbled and confused, so they went back to the old standby, sodium amytal, and then he told the story clearly and completely, giving a full description of the room and the colonel, down to the sound of the colonel's voice.

After the effects of the narcoanalysis had worn off, Major Grildquist discussed the situation with him. "I'll speak frankly with you, Jeremy. You so obviously *want* to be cured that I really thought there was a chance we'd eventually get you squared away. I've been delaying the discharge papers, hoping the idea of a section eight would help you snap out of this fixation. I went along with the experiment for the same reason."

"I saw him," said Jeremy dully. He was afraid to let himself get even a little bit excited, because he had trouble keeping himself under control.

Major Grildquist shook his head. "I was wrong," he said. "I want to apologize to you for that, Jeremy. The experiment had just the reverse effect from the one we were both hoping for, and I'll admit to you that I should have expected it. You *were* placed in a severe stress situation, one where you were being forced to prove yourself insane, and it was just too much for you. Consciously, you want to rid yourself of this delusion. Somewhere down in the subconscious, you want to hold onto it. Crammed into that lightless closet, you cracked wide open. The subconscious took over, gave you another teleportation hallucination—the second one that can't be proved one way or the other, significantly—and the end result is that you are now much more deeply rooted in your fixation than you were before we tried the experiment."

The major lit a cigarette with slightly-trembling fingers. "That was my fault," he said, "and I regret it. I wish I could go back and do it all over again, because this time I would stop and think about the implications of such an experiment, and I would never let you go through with it."

"I saw him," insisted Jeremy. "I can tell you just what he looked like, what the room looked like. You could find him, if you tried to."

"All the living rooms used by Air Force colonels all over the world? You'd be an old man before we finished checking, Jeremy, and then we'd just have to come tell you we hadn't found your man."

"I saw him," said Jeremy doggedly.

"Jeremy, look at it this way. The first time you teleported, you went home, isn't that right? Stress hit you, and you went home. But the second time, given at least as much stress, you *didn't* go home. Think about that. Why didn't you go home?"

"I don't know."

"You'd already done that. It was dangerous to try it again. Someone might be in the room where you claimed to have gone. You could give yourself just as convincing an hallucination this time, and have it all blown up by a statement from your mother, saying that she was dusting your room at the precise moment when you claimed to be there. You couldn't take the chance. You had to find some place else to go, some place where we could never check your story, where there would never be an opportunity for you to be proved wrong."

"No, sir," said Jeremy. "I saw him."

"You saw a living room very similar in appearance to the ward dayroom where you've spent a lot of time, and you saw a man in Air Force uniform. Jeremy, *think*, boy! Doesn't that sound more like dream material gathered from your real-world surroundings than like an actual teleportation?"

"You make sense, sir," said Jeremy. "But I still saw him. And I still heard his voice."

"All right, then," said the major. "Why that particular officer? You said you didn't know him. Two days ago, under narco, you admitted you'd never seen him before in your life, didn't know his name or where he was, and simply claimed you'd gone to him because he could help you. But you didn't know *how* he could help you? Don't you see what that means? There's only one way this hallucination could help you, and that is by fortifying your original belief."

"Yes, sir," said Jeremy woodenly.

The major sighed. "All right, Jeremy," he said. "We'll get the discharge papers moving now. You should be out of the Air Force in a week. And then you'll go to a VA hospital, where they'll be able to help you a lot more than I have."

"An asylum?"

"A special hospital, Jeremy. Don't worry, it won't be a 'Snake Pit' kind of place."

"Yes, sir," said Jeremy dully.

"I'll tell you the truth," said Major Grildquist to the colonel, "by the time I was finished talking, I'd half-convinced myself. I hope I didn't lay it on too thick."

"We'll soon find out," said the colonel. "I hope."

"What do we do now?" the major asked him.

"Now? Now, we start waiting. We've pushed him as far as we can. From here on, it's up to him. If he's ever going to get control of that ability of his, it'll be between now and the time he expects his discharge to come through. Ed, what's he doing?"

"He's pacing the floor."

"Good. That means he's thinking."

Jeremy was thinking. He was thinking harder than he ever had before, and all his thoughts circled and spiraled and whirlpooled around and finally bumped up against the same dead end.

The only proof he had was in his head. And if he were crazy, that wasn't very good proof at all.

That was the dead end. Either he was sane or he was crazy, and he no longer knew which he was.

If only he knew how he'd done it. If only he could just decide to go home and *poof* go home. If only he didn't have to be scared out of his wits before he could do it every time.

He paced back and forth in the small room until lights out, and then he lay atop the blankets on the bed, fully dressed, and started at the light-and-shadow pattern on the wall, and tried to figure out how he'd done it.

It was like reaching into a vat full of cosmolene and rocks. Somewhere down in there was a diamond, and all the rest were just pebbles. And he had to reach down in and find the diamond by touch alone.

And he couldn't even be sure the diamond was there.

He dug down in, reached down in, searched for the key. What had his mind done those two times? What had it done?

It wasn't just desire, that wasn't enough. There was a switch of some kind, a lever inside his brain, and he had to push that lever before he could do it.

Home. Think about home, about his own bed at home. That's where he wanted to go. Think about it, and push down deeper and deeper into his brain, and try to figure out what his brain had done those two times.

That?

The bed felt different.

His eyes were closed, and he kept them closed. His hands moved out from his sides, exploring the surface of the bed. And his hands didn't touch the roughness of Air Force blankets, they touched the smooth coolness of bedspread.

He held his breath, listening. Laughter, from downstairs, Laughter and applause and a voice. The television set.

A car drove by, he heard it.

His mother said something, down in the living room, her voice muffled by distance.

He was home.

Still not really sure, he opened his eyes, and the familiar shapes of his bedroom were around him, and it was real, it was real, and he was home.

And this time he knew how.

It was so easy. All you had to do was find it, and then it was so easy.

It was like multiplying numbers in your head. It was the spot where you

stored each digit of the answer until the multiplication was complete. A little cubbyhole down in the left-hand corner of the mind, and he'd never used it for anything but the temporary storage of numbers. But if he thought of a place—the hospital room—and did *that*—

And the pattern of light-and-shadow stripes was on the wall. He was back in the hospital.

He grinned.

"Sir," said Ed Clark, getting to his feet. "He just went away."

The other three turned to look at him. The major said, "What do you—" but the colonel shushed him with an impatient wave of his hand.

They waited, the colonel and Major Grildquist and Paul Swanson all watching Clark, and Clark listening, and after an interminable wait of almost three minutes, Clark grinned and relaxed and said, "He's back."

The colonel sighed, smiling. "He cracked it. See how long he was gone? This time, he cracked it. Paul, more beer."

"On its way," said Paul.

"The son of a gun," said the colonel, beaming from ear to ear and rubbing his hands together. "He cracked it."

Jeremy lay on the bed in the hospital room, getting used to the idea. He knew where it was now, he knew just how to make it work. So he wasn't crazy after all.

Tomorrow, by golly, he was going to show that major. "Watch this," he'd say, and *flick*. And maybe the major could spend some time convincing himself that they were *both* crazy.

Tomorrow? Why wait for tomorrow?

There was that colonel, too.

He could go right now. The colonel would help him, somehow, whoever he was. Maybe he was one of the other teleports who'd managed to avoid winding up in a looney bin.

Then why hadn't he come here?

Never mind. He could go ask him.

Except that he didn't know where the colonel was.

Then how had he found him the last time?

He poked around some more, with greater confidence now, but there was nothing else, only that little switch down in the number-cubbyhole, that was all.

Maybe that was all it needed.

"Colonel Whoever-you-are," he whispered. "Here I come."

And *flick*.

And he was lying on the floor in the middle of the living room. And there was the colonel looking down at him, grinning as though his face would break. And two other people in civvies, off to the left.

And Major Grildquist!

Jeremy scrambled to his feet. "Major—!"

"O..K, Jeremy," said the colonel. "O.K., take it easy."

Jeremy looked from face to face, and they were all smiling, all four of them, smiling as though they were proud of him.

And all at once he saw why. "You

knew all along," he said wonderingly. "You knew all along."

"We did, Jeremy," said the colonel. "But none of us knew how to drag that ability of yours up where you could use it. You had to do that for yourself."

"You're teleports, too," said Jeremy. "I *knew* there had to be others, I knew it."

The colonel shook his head. "You're the first teleport I've run across," he said. "You're a very valuable property, boy."

Jeremy was bewildered. "But—"

"Colonel Brice," said the major gently, "is what you might call a talent scout. He looks for odd talents—like yours, for instance. And then he puts them to work."

"Work?"

"We'll have orders cut tomorrow," said the colonel, "transferring you to my outfit. You can say goodbye to the hospital and crazy psychiatrists like Ben there."

"Your outfit, sir? Jeremy was struggling with his bewilderment. "What outfit is that, sir?"

"What do you think? Intelligence."

Jeremy grinned. "Sure," he said. "Sure."

"You'll like the outfit," the colonel told him. "They're all madmen like you and those two."

Jeremy looked at the two young men in civilian dress. The colonel said, "Give him a slight demonstration, boys."

Paul Swanson said, "Think you could use a beer, Jeremy?"

"Yes, sir!"

"Coming up."

Jeremy watched wide-eyed as the full glass of beer sailed in from the kitchenette at waist height, made a sweeping left turn, and halted directly in front of him. He reached out hesitantly, half-afraid the whole thing was an illusion, and there he was holding a glass of beer in his hand.

"Ed," said the colonel, "what's going on next door?"

Clark characteristically cocked his head to one side. "Male voice saying, 'Why not?' sir," he reported.

"What's going on?"

"Just a second." Clark listened, and then grinned, getting a bit red-faced. "Well, sir," he said. "There's a major in that suite."

"Yes?"

"And a WAF Lieutenant, sir."

"Oh. Demonstration ended."

"Yes, sir."

The colonel turned back to Jeremy. "You see? And I have thirty-seven more of them. You bring the strength up to an even forty."

"I never even heard of such a thing," said Jeremy.

"I'm not surprised. This is just about the first secret weapon any nation has ever had that has a chance of staying secret. The whole thing is locked up inside your head. No plans to steal, nothing. And nobody would believe the truth, anyway."

Jeremy shook his head. "I don't . . . I don't get it. How did you know about me? I mean, in the first

place, before I was even sure of it myself. How did *you* know?"

The colonal smiled. "I screened you," he said. "I ran you and a few hundred thousand other boys through a sieve, and you're one of the forty who didn't just slide on through."

"A sieve? What kind of sieve? When?"

"The tunnel in your case," the colonel told him. "The drainage pipe, where you made your first jump. That's one of my sieves. Look, I'm in about the best position you can imagine for screening a big chunk of the human race for psi. I could screen for anything I wanted. Did you ever know anybody with his heart on the right side instead of the left?"

Jeremy shook his head.

"Of course not," said the colonel. "There're few of them. But the enlistment or induction physical comes up with one every once in a while. Practically every male American citizen goes through that physical. If you were looking for people with their hearts on the right side, there's your screening center, all set up for you."

"I see," said Jeremy doubtfully.

"It's the same with me," the colonel told him. "I've got my screening center, and it's called basic training. It puts the stressed on, it louses up your equilibrium, it rattles you like nothing you've ever been through before. Then it runs you through my sieve, that drainage pipe, which is as completely bugged as a movie set. I'm like a prospector panning a stream. Most of what washes through my pan is silt, but every once in a while a little piece of gold shows up. Like Paul there, who couldn't find his gas mask with his hands, so the mask just came up to his face of his own accord."

"And me," said Jeremy.

The colonel nodded. "And you. And thirty-eight others, so far."

Clark laughed suddenly and the colonel turned to him. "Ed, stop listening! Leave the major alone."

"Yes, sir," said Clark. He sat down and looked attentive to the things going on in this room.

The colonel turned back. "You're going to be useful, Jeremy," he said. "We'll have to find out your range limitations, if any, and poke around after that other talent of yours—"

"Other talent, sir?"

"You came to me," the colonel reminded him. "You'd never heard of me, didn't know who or where I was, and yet you came straight to me. What did it? Telepathy? Whatever it is, we'll find it."

"I doubt it's telepathy, as such," said the major. "Some kind of increased sensitivity on the emotional level, I imagine."

"I imagine so," said the colonel sardonically. "What other kind of sensitivity do you know?"

"My psychological training coming out," said the major, grinning. "Reduce everything to jargon."

"Sir," said Jeremy hesitantly.

The colonel turned back to him. "What is it?"

"Sir, I've . . . well, it's been a

long time since . . . well, if I'd gone on through basic training, I'd have had a leave home by now, and . . . well, I was just wondering if I could get home for a few days and—"

"No," said the colonel, shaking his head. "I'm sorry, but no. We have too much to do, and too little time to do it in. We've lost weeks already."

Major Grildquist cleared his throat. "Jim, it might be a good idea—"

"I know, Ben, but we just don't have the time. Besides, Jeremy, I'm afraid you're classed as a military secret, at least for the time being. Not even your parents are to know about this ability of yours."

"Yes, sir," said Jeremy.

Paul Swanson chuckled. "Colonel," he said, "what are you going to do if Jeremy goes home anyway? Put him in the guardhouse?"

The colonel opened his mouth, and left it open. Then he shrugged and grinned and said, "All right, Jeremy. Go on home."

Jeremy's face lit up. "Thank you, sir!"

"But, Jeremy. Take the train, boy. You're a military secret now, remember that."

"Yes, sir," said Jeremy happily.

Major Grildquist heaved himself out of his chair. "I'll go arrange for the papers," he said, "and have your clothing sent to your room."

"Thank you, sir," said Jeremy.

"Be back here in five days," said the colonel. "Noon on Wednesday."

"Yes, sir." Jeremy grinned and disappeared.

The colonel sat down heavily in an armchair. "Paul," he snapped, "stop playing with that lamp. And Ed, leave that major alone."

The lamp clunked onto the table, and Ed Clark stopped looking attentive.

"Forty of them," muttered the colonel to himself. He shook his head, sighed, and carefully unwrapped a cigar. "Forty of them." ■

IN TIMES TO COME

Coming up next month is a lead story by Ted Thomas. For years, science-fiction authors have been trying to write the weather-control story. The main trouble is that the story is simply too darned big to tell. Ted Thomas has, I think, done it. It's about a snowstorm on one square mile of Southern California in mid-July . . . and that means, of course, it concerns the entire Solar System! And Jack Schoenherr's cover for it is beautifully suitable. It'll take two looks to see what the cover really shows, though . .

Also coming up is a science-fact *article* concerning the first Terrestrial colonists, who set out From Earth *hundreds of millions of years ago,* to found colonies on the planets of other stars.

The Editor.

the Reference Library

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P. Schuyler Miller

Meat

The omens and the portents are something I have never managed to tie down. It may be the pH of the city water, or the ionic balance in the air. It may be something I ate. Whatever the cause, from time to time the impulse to produce a sermon comes over me, and when that happens I can usually find a text in something recently published by James Blish.

This time the text will be found in that very adult author's first juvenile, "The Star Dwellers," published by G. P. Putnam's Sons of New York last year for $3.50; you get 192 pages and a jacket illustration that will confuse you until you find out what it depicts, then jog your admiration.

To enrage another sector of my readership, let me say that this is going to be a defense of progressive education. By this I mean good teaching by good teachers who are free-wheeling enough to fit what they are doing to the young people they are teaching. A lot of years ago I enjoyed some progressive education—before the name became first fashionable, then anethema—in a one-room country school. Eight grades; twenty kids; one more very new teacher every year. The four kids in the first grade didn't get a full school day of first-grade teaching, and neither did the one in the eighth grade, or the three in the sixth—but we got more individual attention in the course of the day than most kids get in a class of forty. And that is the essence of progressive education. Fresh out of three-year normal school, those teachers wedged arithmetic into the kids who needed arithmetic, geography to the ones who had a hard time finding their way home, and never managed to teach me to write a legible hand.

One year we had an ultra-progressive. The resources of the school "library," a case of shabby books that you were allowed to read if all your work was done, were over-familiar to most of us, so she brought in some books of her own, or borrowed them

somewhere. On the not-too-rare occasions when she decided that everyone had done all that could be reasonably expected for one day, she would read a chapter or so of "Penrod" or "Toby Tyler" or other books that some of our parents wouldn't have admitted were respectable. But they were books we *liked*—not books we had to like.

Today's good teacher also uses the books that young people like. Junior and senior high school students now—if they read at all—read and discuss the same books their parents are reading, or some of them. They also read books of their own that deal with more mature questions of human relations than the "classics" that have been required by old-fashioned curricula since "Ivanhoe" and "Tale of Two Cities" and "Silas Marner" came into the public domain, so that textbook houses could publish school editions—expurgated—without paying royalties.

A good teacher could draw a number of meaty, realistic class discussions out of "The Star Dwellers." The discussions would deal—not with the way Jim Blish does or does not violate the rules of sentence structure, or get his effects, but with his *ideas.*

Purely on the surface, as a story, "The Star Dwellers" is a fairly routine piece of work. Its hero is Jack Loftus, a cadet in the Terran Space Department. Out beyond the Coal Sac a space fleet has discovered—and been discovered by—the energy-creatures they have nicknamed the Angels. These can destroy a ship, immobilize a nuclear reactor, or run it more efficiently than ever before. So an expedition, including Jack, goes out to contact the Angels and come to terms with them. He succeeds, but only by disobeying orders and playing by ear. In a final scene, men and Angels sign a treaty of mutual friendship.

But, boosting and needling the plot along, are the ideas. This progressive English teacher I'm referring to, if enough of the boys in class have read "The Star Dwellers," should be able to get some serious discussions going—some on a fairly theoretical plane, but mostly right down to earth with analogues in our own times and society.

On page 17, for instance, is the statement: where intelligence can arise, it *will* arise. This is one of the more philosophical items—one for Friday afternoon. If there are intelligent races scattered through space, what does this mean for our own conduct? Have we any inherent right to take over worlds just because they

are there? Have we a responsibility to respect greater intelligence than ours when we encounter it? Must we defer to it?

Is it possible that other people of other races, right here on Earth, are as intelligent as we? If so, what ought our attitude toward them be?

Go to pages 26 and 27. Here the author is explaining the educational system of a century or so in our future, when teenage cadets are allowed to serve interneships in the fields where they are most talented and interested. Contrast this with our educational system. Measure one against the other. Defend or attack the cadet system—or ours. Look for the holes in the author's argument—the assumptions that may not hold water. Could such a system work now? How is it like the Peace Corps, or the Community Ambassador plan that sends young people to live for a couple of months in a foreign family, or exchange scholarships?

Or take page 32. Here comes the issue of private versus government enterprise in the development of space. How do the ideas voiced by the characters in the book jibe with our present space policies? What are the reasons for the differences?

Page 67, almost in passing, raises a nice ethical problem. Here is the "way-station" planet of Aaa, inhabited by a moderately intelligent, pleasant, friendly race—without hands. Theory says that they will probably never evolve beyond their present level. Are we justified in shoving the pleasant, helpless people of Aaa aside —exterminating them, perhaps—to make room for others who can make better use of their resources? Were we justified in forcing the Indians to give way before White superiority? What about our present relations with "underdeveloped" peoples elsewhere on our own planet?

Less than a third of the way through a short book, a good teacher will have stirred up enough meaty discussions to last a class for days. A good teacher does, though usually with more pretentious books than a juvenile science fiction novel. The point is that even in this kind of book, a writer like James Blish not only can't help inject basically important questions of human relations, like the examples I have cited—he builds his story around them.

Most juvenile books contain elements of this kind. Editors, I imagine, insist on them. Most juvenile science fiction, however, teaches very simple lessons as thoroughly accepted by our society as the morals in Aesop's fables —which, I'm told, were a later addition that Aesop himself didn't consider necessary. In contrast, the meaty questions that Jim Blish raises are by no means trite or moot, and the answers he has given are by no means universally accepted in our own time.

I can think of several high school students whom I'd like to hear tearing into questions like these, and I've known some teachers who would help them get the last bit of juice out of the meat in "Star Dwellers." Come to think of it, those particular high

school students probably have sons and daughters in high school themselves now. Well, if they're chips off the old blocks, and if there are still some progressive teachers in the progressive schools, I'd still like to sit in on a discussion of this or almost any Blish book.

According to a belated bulletin from the 20th World Science Fiction Convention Committee, you may just have time to get in your nominations for the best science fiction and/or fantasy of 1961. Anyone may make nominations; the ballot must be postmarked by midnight, April 20.

As in past years, Hugo Awards—named for Hugo Gernsback, father of modern science fiction—will be made to the best science fiction or fantasy novel, short fiction, dramatic presentation, professional artist, professional magazine, and amateur magazine published during 1961. Novels may include serials, paperback books or hardbound books published for the first time in 1961. Short fiction covers both novelettes and short stories. Dramatic presentations include television, motion pictures, stage plays and radio plays presented for the first time during the year.

A final ballot, listing the candidates that have received the greatest number of nominations—usually from four to six get enough votes to be in the running—will be sent out June 5, but only to registered members of the Convention. To repeat: anyone may nominate; only Convention members may vote on the final Awards. This is only reasonable, since the $2.00 Convention membership fee pays for making and engraving the awards, as well as for the progress reports, program booklet, and other expenses of the annual convention.

The 20th World Science Fiction Convention—"Chicon III"—will be held at the Pick-Congress Hotel, Chicago, August 31-September 3, with Theodore Sturgeon as guest of honor. Your $2.00 membership fee should go to George W. Price, Treasurer, at P.O. Box 4864, Chicago 80, Illinois. Send your nominations to the same address before midnight, April 20.

See you in Chicago, Labor Day.

THE PRIMAL URGE, by Brian Aldiss. Ballantine Books, N.Y. 1961. 191 pp. 50¢

Like others before him, Brian Aldiss is developing into a competent enough novelist so that he will soon be able to put science fiction behind him—if he can resist its attractions—and spend his time on "straight" fiction. Like others who have sworn off, including H. G. Wells, we can hope that he slips back into his old, free-wheeling themes from time to time.

"The Primal Urge" is, however, gadgety enough to be called science fiction, whereas "The Male Response" of a few months ago hardly qualified. The gadget is a shiny metal plate, riveted into the middle of an individual's forehead and wired to his brain. Called an Emotional Register—or a Norman Light, or a Nun

Chaser, or an ER for short—it turns pink as an indication that the wearer is enjoying an emotional response to another person, ordinarily of the opposite sex. The redder the more intense, needless to say.

A British Government, not far in our future—familiar names appear in the papers, John Campbell is editing Analog—has decreed that all loyal Britons must come around to have the things installed, or go to jail. Conformists conform; non-conformists non-conform. There are holdouts for philosophical reasons, holdouts for political reasons, and holdouts for no visible reason. For that matter, the Government's reason for imposing the ER's is never very clear, except that they are supposed to release well known British inhibitions for the psychic good of all.

Perhaps one of the author's subtler points is that there is *no* reason. I am sure England, like the United States, has those little cards that state succinctly: "There's no reason; it's just policy."

We live through the first days of ER with Jimmy Solent, a minor cog in a foundation for the encouragement of reading. And, although on a science fictional level the book is ostensibly about what the Lights do to English society, it is in fact about what it does to various individuals in that badly jarred society. The point, or so it seems to me, is that whatever "the English" may be like, England is a nation of individuals, all of whom react as individuals. When things have quieted down, they have become individuals with pink headlamps, just as they had settled down to being individuals with the National Health Scheme, or individuals with the Blitz.

There is almost too much story—too much science fiction of the formal type—about the final chapters. There is mutiny in the Army; the inventor of the Registers is kidnapped; Jimmy is forced into heroism; and there is even a gag ending. Before that happens, though, we get a fondly humorous dissection of British society, British character, British traditions. Only a reader who knows England well will get most of this second-level satire. The possibilities opened to psychiatry, for example, are evident to anyone—but what happens to less universal institutions will undoubtedly go past over many readers' heads, including mine.

RENDEZVOUS ON A LOST WORLD, by A. Bertram Chandler.

THE DOOR THROUGH SPACE, by Marion Zimmer Bradley. Ace Books, New York. No. F-117. 1961. 124+132 pp. 40¢

Unabashed action/adventure on far worlds is a pure delight to superannuated juveniles like me—when it's well done. And that it is in this back-to-back pair.

Chandler's yarn is another of his tales of the Rim—the very edge of the inhabited Galaxy, out where the stars are few and all in one direction, with nothing between the Rim Worlds and Andromeda but blackness. It's a place where it should be

easy for ships and whole planets to be lost, and that is what has happened in this tense tale. Flung into an unknown knot back of nowhere by a galactic storm, the crew of the ancient *Lucky Lady* comes first to the remains of a lost human civilization of which only self-perpetuating robots remain, then to a feudal world of dirt, magic and villainy. Standout character is the not-quite-woman, Veronica. The action is fast, the people real, the situations tense and tricky, the color lavish but nicely touched up with blacks and browns and greys.

On the flip side, the neglected Marion Bradley tells an even wilder, more bloody, more colorful, and more fascinating tale of blood-feuding, espionage, seeming magic, and frequent peril on the frontier world of Wolf. Race Cargill is called back into service to find his sister's native husband—with whom he is sworn to fight a blood duel, according to the code of the Dry-town bedouins. There are savagely hostile beasts and even more savage men on his trail; there are beautiful women; there is a brutal game of torture played with one of them; there are the cities of the non-human races, and glimpses of their ancient secrets. There are—but find out for yourself!

SPACIAL DELIVERY, by Gordon Dickson.
DELUSION WORLD, by Gordon Dickson. Ace Books, N.Y. No. F-119. 1961. 123+100 pp. 40¢

Two Dickson action yarns back-to-back should be enough for any red-blooded SF reader who doesn't insist on Social Significance in everything he reads. I'd like to be able to say that the result is even better than the Bradley/Chandler action duo which preceded it in Ace's list. It isn't—quite; at least, it's completely different.

In "Spacial Delivery," the longer of the two yarns, the co-parent of the Hokas has blown them up into the Dilbians, a race of nine-foot, somewhat bumbling bears with a set of very tricky social conventions. It seems that a particularly muscular young Dilbian, The Streamside Terror, has made off with a human sociologist, Greasy Face, because the human ambassador, Little Bite, has made him lose face in a matter concerning a would-be fiancee, Boy Is She Built. Our protesting hero is Half-Pint Posted, who gets his name because he has been quite literally parcel-posted on the back of the local mailman, Hill Bluffer, on the trail of the kidnapper and kidnappee. Hovering in the wings, stirring up trouble with a dirty stick, are a couple of nasty Hemnoid aliens.

If you can keep ahead of what's going on, you're good.

Upside down and vice versa to the Dilbians is the practically lost planet, Runroamin, inhabited by two of the screwiest sets of colonial survivors you're apt to find anywhere. Sent to find out how these Earthling lambs can survive in the midst of an empire utterly hostile to anything human, Feliz Gebrod finds himself almost literally torn between the two fac-

tions—who have made themselves so psychologically blind to each other, that each believes the other lot to be hallucinations or ghosts. Since a luscious little trick named Kai—who has been "disintegrated"—is representative of one faction, while her black-garbed counterparts are both puritanical and totalitarian, it's not hard to see where Gebrod's sympathies lie. His method of getting out of the mess he gets himself into is novel and interesting.

Need I tell you that Gordon Dickson, in these two stories, has basted adventure with humor? Need I tell you that he almost always does? Need I say that this is a very fine way of roasting a barking rabbit? I hope not—but I will say that you have to read "Delusion World" to find out why a rabbit barks.

TROYANA by Colonel S. P. Meek. Avalon Books, N.Y. 1961. 224 pp. $2.95

This is the sequel to "The Drums of Tapajos" and is vintage 1932 "lost race" science fiction about a part of South America which was then totally unknown. Now we know there is no lost underground city of Atlanteans, Trojans and early Hebrews on the Rio Xingu, let alone carefully bred dinosaur guardians to keep out interlopers, a grade of television superior to anything we have or are likely to have, and assorted other marvels.

In an interesting introduction Colonel—then Captain—Meek disclaims any special knowledge of the Xingu region. He has not tampered with his tale to up-date it. As free-wheeling adventure, it hasn't needed it.

In the earlier book, three American adventurers made their way to Troyana, became involved in a revolution against the ruling caste, and were allowed to leave with a reasonable amount of treasure. They took with them one of a pair of stand-in heroines, a damsel some centuries old, who was kidnapped from under their noses by the leader of the revolutionary forces. The book ended with one hero, Frank Nankivell, going back to rescue her—and with a cryptic message received from him months later.

"Troyana" takes up Nankivell's further adventures in and under the lost city, where he finds further monstrous guardians and the last Court of Atlantis, bottled up to await an eventual resurrection. There are bloody battles, more secrets, amazing weapons—the stories ran in *Amazing*, after all—and an eventual triumph of the Good Guys over the Bad.

MOON OF MUTINY by Lester del Rey. Holt, Rinehart & Winston, New York. 1961. 217 pp. $2.95

This is the fifth juvenile Lester del Rey has written for what used to be the Winston—now HR & W—science fiction series. It is the third in a series about the exploration and, I presume, eventual colonization of the Moon.

In this series, del Rey is doing a clever—though I suppose not original—thing: shifting his center of at-

tention. In the first two books the hero was young Jim Stanley, whom we met in "Step to the Stars" as a workman on the first space station, and followed in "Mission to the Moon" as he went on a rescue mission, following a space-happy kid, son of the station commander, who had gone to the Moon in a stolen ship.

Now the kid, Fred Halpern—as cocky and insubordinate as ever—has been busted out of the Goddard Space Academy for disobeying orders. His reason: he knew he was right—which is no reason in military circles. But Fred is the hero of this third book, and its theme is his very gradual maturing. His training wins him a pilot's job on a lunar exploration team; his obsession with the Moon and his experience there are in his favor, but his seeming grandstanding and his real arrogance pile up the odds against him. Even the fact that he has a special psionic talent for sensing orbits hardly justifies his open mutiny—yet had he not mutinied, a test ship and the future of lunar colonization might have been lost.

It's a well done series, but Fred ought to be caught out in a couple of real mistakes, not just tactical blunders.

THE STAINLESS STEEL RAT, by Harry Harrison. Pyramid Books, N.Y. No. F-672. 1961. 158 pp. 40¢

I don't know how much I need tell you about this swash-buckling yarn—the saga, as the cover says, of Slippery Jim DeGriz, slickest confidence man in the Galaxy, who is trapped by the police and sent to catch an even bigger crook. The first and best part, in which Slippery Jim is trapped, was here way back in 1957; the longer section, in which he tries to resign from the Special Corps and join forces with the feminine demon he is chasing, was here in April 1960.

Crime—detection—piracy—revolution—all on a free-swinging interstellar scale: that's what Slippery Jim DeGriz and the devilish Angelina have to offer.

Remember?

DESTINY'S ORBIT, by David Grinnell. Avalon books, New York. 1961. 224 pp. $2.95

Let me begin with a confession of bibliographical failure. I simply don't know—though some of you will undoubtedly set me straight too late for me to pass the word along—whether Martin Pearson, originator of "Ajax Calkins," is a pen name for David Grinnell, who uses that uninhibited character in this book. Grinnell thanks Pearson for permission to use Calkins, who flourished in *Future* for a time; he may be thanking himself.

Anyway, this is a feckless frolic that is hardly worth the price of six months of Analog. Even in wordage, the book doesn't add up to more than a novelette; this is definitely not one Avalon had to cut.

Ajax Calkins is a bored young multi-billionaire of 2080, looking for something to wake him up. His teaser ad gets a response from the represen-

tative of a group of asteroid miners, and a cease-and-desist order from a damsel representing Earth-Mars Space Administration. Ajax, needless to say, goes right ahead and becomes Ajax I, emperor of the Trojan asteroids. Not inside Jupiter's orbit, they don't fall under EMSA jurisdiction. Not outside, they presumably don't invade the territories of the hostile Saturnians. Of course, all these parties are involved before things are straightened out. But who cares?

200 YEARS TO CHRISTMAS, by J. T. McIntosh.
REBELS OF THE RED PLANET, by Charles L. Fontenay. Ace Books No. F-113. 1961. 81 + 143 pp. 40¢

Ace has given us better value than this at lower prices, and other paperback publishers are still doing so. It's rather a disappointment, too, because J. T. McIntosh's past performance—"One in Three Hundred", "The Fittest," and so on—has generally been above par.

"200 Years to Christmas" is another of the stories of The Ship—the microcosm, carrying its generations across Space to another Earth among the stars. The first Earth is 200 years in the past; the new home is 200 years in the future. Meanwhile the zigs and zags of oscillation have been fantastically accelerated, and in the five clock years of the story the people of *Arc-en-ciel* pass the peak of the Gay Phase—which has succeeded Know-More, the Dark Age, the Golden Age of Art, Freedom Phase, and the Militarist Age—and catapult down into the haggard depths of Revival, to recoil into a new epoch of Individualism as the story ends.

I am sure the author has deliberately made his story, which appeared in the British *New Worlds* last year, a novelette rather than a novel, so that the violence and short period of his pendulum-swings from anarchy to reaction are accentuated. Perhaps he is saying that in our time and our society these swings are coming faster and faster, and hurtling farther and farther from the norm, until there will be nothing but a kind of directionless, spastic jerking. "The people . . . were compressing five thousand years of change into four hundred years. They couldn't help it." Yet this is precisely the theme that he fails to make convincing, and it is a theme that contradicts the lessons of history and prehistory—that times of isolation have been the times of stagnation. Rigid conventions, yes; dogma, assuredly; formula, and taboo, and sterile compliance, and an end to individuality. I am afraid that in reality, on *Arc-en-ciel* Revival would have begun early and never ended until Christmas.

The Fontenay yarn, on the other hand, is a rather van Vogtian matter of plot and counterplot, wheels within wheels, super-scientists and supermen. with the Ancient Martians pulling strings in the wings. A rebellious cadre has been trying to breed or shape men who can live on Mars without the domes and air helmets and other paraphernalia of the colonists. The all-powerful Company is doing its best to spike any move that

will end its economic stranglehold on the bone-bare planet. Still another group are trying to find foods that can be grown on Mars and eaten by men. The Martians, of course, know how to do it all along. And the hero is—but who and what he is is the story. You'll know, if you've ever read this kind of yarn before.

ISLAND IN THE SKY, by Manly Wade Wellman. Avalon Books, New York. 1961. 223 pp. $2.95

Twenty-two years ago, when this story appeared in *Thrilling Wonder Stories* for October, 1941, it was typical of the science fiction of the formative years and ahead of most of the "mainstream" literature produced by serious writers. For, crudely and clumsily enough, it was warning against the dangers of totalitarianism, which had the world at war and in a month or two would engulf the United States.

The "island in the sky" of the title is a flying island—what would now be called a "satelloid"—kept in a kind of controlled orbit by exertion of mysterious forces, produced by the strange "unknown" elements that exist deep under New York. It is the headquarters and stronghold of the Airmen, who rule the world ruthlessly with blood and circuses—professional soldiers who have banded together after a ruthless world war, to assure that *they* will reap what the politicians have sown. Corruption . . . the criminal-turned-hero whose strength of character carried up, up through the gladiatorial ranks to successful revolt . . . the Good Concubine . . . the Underground . . . trial by combat and by treachery . . . they are all here. Manly Wade Wellman, even then, wrote better than most of the practitioners of the formula, but who would listen to such stuff?

THIS WORLD IS TABOO, by Murray Leinster. Ace Books No. D-525. 1961. 127 pp. 35¢

Amazing called this "Pariah Planet" when it was published last July as a one-shot. It's another of the author's stories about Calhoun of the Interstellar Medical Service and his *tormal,* Murgatroyd. It isn't the best in the series, but it is good entertainment.

This time Calhoun gets himself involved in interstellar politics to a greater extent than usual. The people of Weald Three are in a state of isolationist hysteria over the alleged crimes of the "blueskins" of Dara—victims of a plague that turned their skins blue. Incident leads to incident, and a War Party has the people of Weald whipped up to the point of obliterating Dara in the name of galactic health and security. Then Calhoun and Murgatroyd get into the act.

NEW EDITIONS: PART 2

OFF THE BEATEN ORBIT, edited by Judith Merril. Pyramid Books, N.Y. No. F-683. 1961. 192 pp. 40¢

The original title of this 1955 anthology was "Galaxy of Ghouls." Needless to say, there is more fantasy in it than science fiction, but three of the best stories originated right here.

If you missed the earlier pb edition, don't miss this reprint, unless you're hopelessly blind to fantasy.

THE FACE IN THE ABYSS, by A. Merritt. Collier Books, New York. No. AS34X. 1961. 95¢

THE MOON POOL, by A. Merritt. Collier Books, New York, No. AS103X. 1961. 95¢

Merritt's two best known lost race novels; the first is my favorite. "The Moon Pool" is the later edition, with the German villain changed to a Russian. These are labeled "Collier Books Science Fiction" so there may be other classics coming up at downtown prices. I'd rather have the whole book intact than have it cut to 40 cent format.

DAYBREAK—2250 A.D., by Andre Norton. Ace Books, N.Y. No. D-534. 1962. 182 pp. 35¢

The original Harcourt, Brace edition was called "Star Man's Son." Scene is the future, when our time is all but forgotten. Like all Norton books, superior adventure SF—just about as good as you'll find these days.

THE WORLDS OF CLIFFORD SIMAK, Avon Books. New York. G-1096. 1962. 191 pp. 50¢

In the hardback edition, two years ago, you got twelve stories. Here are six of 'em—not to be missed.

DONOVAN'S BRAIN, by Curt Siodmak. Popular Library, N.Y. No. G-560. 1961. 160 pp. 35¢

This must be just about the most durable of the thrillers, and the author's only real classic. Screen, TV, innumerable reprints—and 'round it comes again.

A WAY HOME, by Theodore Sturgeon. Pyramid Books, N.Y. No. F-673. 1961. 192 pp. 40¢

A new printing of this collection of nine of Sturgeon's best. Read 'em before you hear him as Guest of Honor at the Chicon.

MYSTERIOUS ISLAND, by Jules Verne. Permabooks, N.Y. No. M-6002. 1961. 554 pp. 60¢

This was the first Verne book I ever read, and it is still one of my favorites—really a "Robinson Crusoe" type of adventure yarn rather than a gadgety science fiction story. Technological skills make the castaways comfortable, and Captain Nemo helps out, since this is a sequel to "20,000 Leagues Under the Seas." The cover shows the "Super Dynamation" critters which have been added to the Columbia movie version—good fun, in the vein of "Journey to the Center of the Earth." However, nobody has tampered with the text.

OUT OF THE DEEPS, by John Wyndham. Ballantine Books, N.Y. No. 545. 1961. 186 pp. 35¢

A new printing of the author's second novel, which Ballantine published in the early days—1953—when they were trying to make simultaneous paper and hardbound editions pay their way. English title was "The Kraken Wakes."

« *Continued from page 6* »
new kind is introduced. Galileo's telescope brought into view the anomalous situation of Jupiter's four moons rotating in elliptical orbits around a primary—not in cycles, epicycles, and other assorted Ptolemaic-Aristotelean figures. Newton used a prism to study the spectrum. And differential calculus to compute gravitational problems. Galvani used a dead frog's leg to discover current electricity. The microscope made microbic life forms discoverable.

Now, however, American Science has reached so high a state of Perfect Knowledge, that when an instrument gives an answer that doesn't agree with the Known Truths and the Fundamental Laws—the experiment is redesigned until the instruments read properly. And human observation is, of course, totally unacceptable. (Human observers, when told they're wrong, tend to argue back in a nasty fashion that instruments don't have.)

Anomalies? Ye Gods! They're all over the place—but American Science is interested in good, sound, reliable, logically defensible projects only—ones a government bureaucrat is willing to allocate funds for. Not crackpot schemes like finding out why the instruments don't read the way everybody-knows-they-should read. Why it is that, for a century or more, it's been known that the behavior of a shell inside a major artillery piece has never been willing to conform properly with the well-known laws of fundamental mechanics. (Internal ballistics has been strictly a rule-of-thumb-and-don't-ask-questions matter. If a 16-inch naval shell is accelerated from rest to about a quarter of a mile a second in the barrel of the gun, what is the rate of change of acceleration—and what's the resultant value of D da/dt? Ignore it—and the instruments are going to give you answers that don't come even close to what you calculate they should read!)

Colonel Stapp's data were lying around for anyone to read—and think about. Including my research-director friend who *knew* the laws of Mechanics were complete and perfect.

So—what's the matter with American Science?

It doesn't believe it has any future—only a present.

And what youngster wants to get started, now, in a field that has no future? In a field in which all the big problems and worthwhile jobs, have already been done, finished, and filed away.

Hell, no! Not when the fields of social science, business organization, and interpersonal relationships have so many great unsolved problems, *and openly admit it.*

When I was a freshman at M.I.T., Physics had wide-open unknown problems. There were huge areas of ignorance—vast unknowns crying for exploration. There were fifteen different theories of atomic structure, all of them partly right enough to give useful answers in some areas,

and utterly cockeyed in others. Physicists, then, had a considerable sense of humility, and were not quite so consciously God's Chosen Possessors of Ultimate Truth as they are today. Now, you see, they *know* there can't be any more fundamental discoveries in Mechanics, and the only area where there are any discoveries to be made are in the area of subnuclear particles. To explore there, of course, you have to be a Government Authorized Scientist, with a multi-billion dollar particle accelerator. And they've already got so many different cockeyed particles that something's grossly wrong with their method of analysis; Nature doesn't work things in any such complicated way!

What does American Science offer a youngster for a career? The Janitorial type work of sweeping up the crumbs left over when the Approved Government Scientists get through exploring the known in a well-known way.

One young man I know majored in Physics at Williams and M.I.T. (they have a co-operative course system) and spent his summers working at the Cosmotron Laboratory at Brookhaven National Labs. He graduated with top marks, a genuinely brilliant young man. And took his post-graduate work at Harvard in Business Administration. The summers working at Brookhaven had shown him what American Science offered him for a career . . . . and he preferred Business. And *not* because he wasn't competent; he had top-marks and strong recommendations in Physics.

American Science today denies that there is anything big, or new, or awesome to be discovered.

Soviet Science has a different attitude. They think the future belongs to them—and the future most certainly will belong to those who believe it is theirs, and believe it's there to achieve.

Even the science-fiction fans in America, the old-original group who thought there was a great future thirty years ago, seem to be bitten by that same lethargic attitude. Any time a new broad, basic concept is introduced in these pages—the Sidewalk Superintendent Department starts booing, complaining, and yearning for the good old days.

Hell of an attitude for science-fiction!

In the two years since the Dean Drive article was published, almost no work has been done on seeking to work out the consequences of *any* kind of true space drive. The Good Old Days remain rampant—the rocketships we discussed thirty years ago still dominate the stories.

Look, folks—given a true space drive, surface transportation is out. Roads cost too much to build and maintain. And with five—fifty—a hundred million three-dimensionally-maneuverable privately-owned vehicles, capable of half-hour flights half around the planet, transcontinental and transoceanic transporta-

tion becomes equivalent to inter-suburban trips. At that point, national boundaries become absolutely meaningless. So do tariff regulations, immigration laws, and the entire social order we know today. *Any true* space drive means that. Dean's or Joshua Q. Apfelflugel's—*any space drive means the end of national boundaries.*

Any true space drive means the end of atomic war threat, too. Why build an atomic bomb, when all you need do is redirect the orbit of a minor asteroid? One about a mile and a half in diameter struck in South Africa about 250,000,000 years ago, and the scar—the *astrobleme*—is still there, 140 miles across. The shock-wave probably killed every animal south of the Congo River.

We're going out into space in a *big* way—a massive, industrialization way. Because we have to.

But "we" above means "members of the human race."

Quite flatly, whether I like it or not, an honest appraisal of the situation as things stand today suggests strongly that "we" will be speaking Russian.

Russian Science believes the future is bigger, wider, and based on still-unquessed discoveries.

American Science has stolidly and solidly shown it believes it already owns all that's worth knowing—except for details. What big future plans does American Science offer? To what extent are American Scientists willing to consider really wider future horizons?

I believe Dr. Davis' discovery of the Fourth Law of Motion will be fully confirmed.

If it is, it will be one of the extremely rare fundamental laws of physics discovered by an American.

American Science never was any good at fundamental theory; Europe always supplied us with the basic ideas which we developed.

Now that Russia has demonstrated conclusively their ability to achieve technological breakthroughs—which was our exclusive province!—American Science is doubly in trouble. Russia has more than once given the world major fundamental concepts—and I'm not talking about the Communist efforts to claim every invention since the horse-collar. Mendeljeff's Periodic Table wasn't a phony Communist claim.

My central point in the original Dean article of June, 1960, was that the government—American Science—*would not look.* I repeat that charge—with the addendum, now, of evidence that Dean's device could have led to a major scientific breakthrough if it had been properly investigated. That Dr. Davis achieved his breakthrough from the Dean device plus a dozen other things because he was already seeking such a breakthrough is beside the point.

In 1954, when Dean started trying to interest government science, Dr. Davis had *not* started his search.

The United States, in 1955, had an opportunity to gain an absolute mil-

itary dominance of the entire Solar System; American Science muffed it. In fact, muffled it completely!

The actual attitude of our government toward the independent inventor is to be understood only in terms of what they *do,* not what they *say.* The comments of politicians and statesmen have, through all the ages of human history, had little correlation with their actual attitudes; their actions are more informative.

There is an official U.S. Government Agency set up for the specific purpose of acting as a go-between for inventors seeking to interest the various U.S. Government departments—Army, Navy, Air Force, or Bureau of Mines, whatever it may be. All inventors offering ideas are referred to the National Inventors' Council.

The National Inventors' Council publishes regularly pamphlets containing lists of inventions wanted by government agencies, and is charged with directing worthwhile inventions to the attention of the appropriate agencies.

Clearly, such an agency, in a technological culture, engaged in a technological cold-war with a tremendously powerful and ingenious opponent, is one of the most—if not *the* most—important possible agencies of the government.

The actual attitude of our legislators and executive branches of government is very clearly established, however. The annual budget of the National Inventors' Council is about $90,000.

I haven't checked the figures, but I suspect the U.S. Government spends more than that on India ink each year.

I repeat what I said two years ago: It's quite probable that half a dozen equally massive breakthroughs are lying around out in the back woods not being looked at by American Science.

We have, at least, one nice, fat, juicy case of American Science giving a true breakthrough the won't-look-at-it treatment orthodoxies of the past have given new ideas.

I am not talking now about something that happened centuries ago, in a different culture, to Galileo.

Nor to something that happened generations ago, over in Europe, to Mendel.

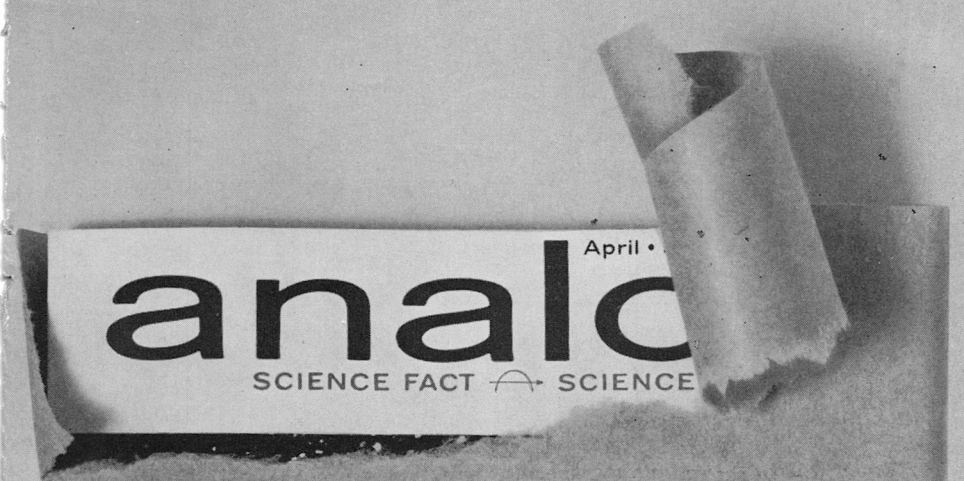
I'm talking about what American Science did in this country, in this past year, to a Washington resident named Dean.

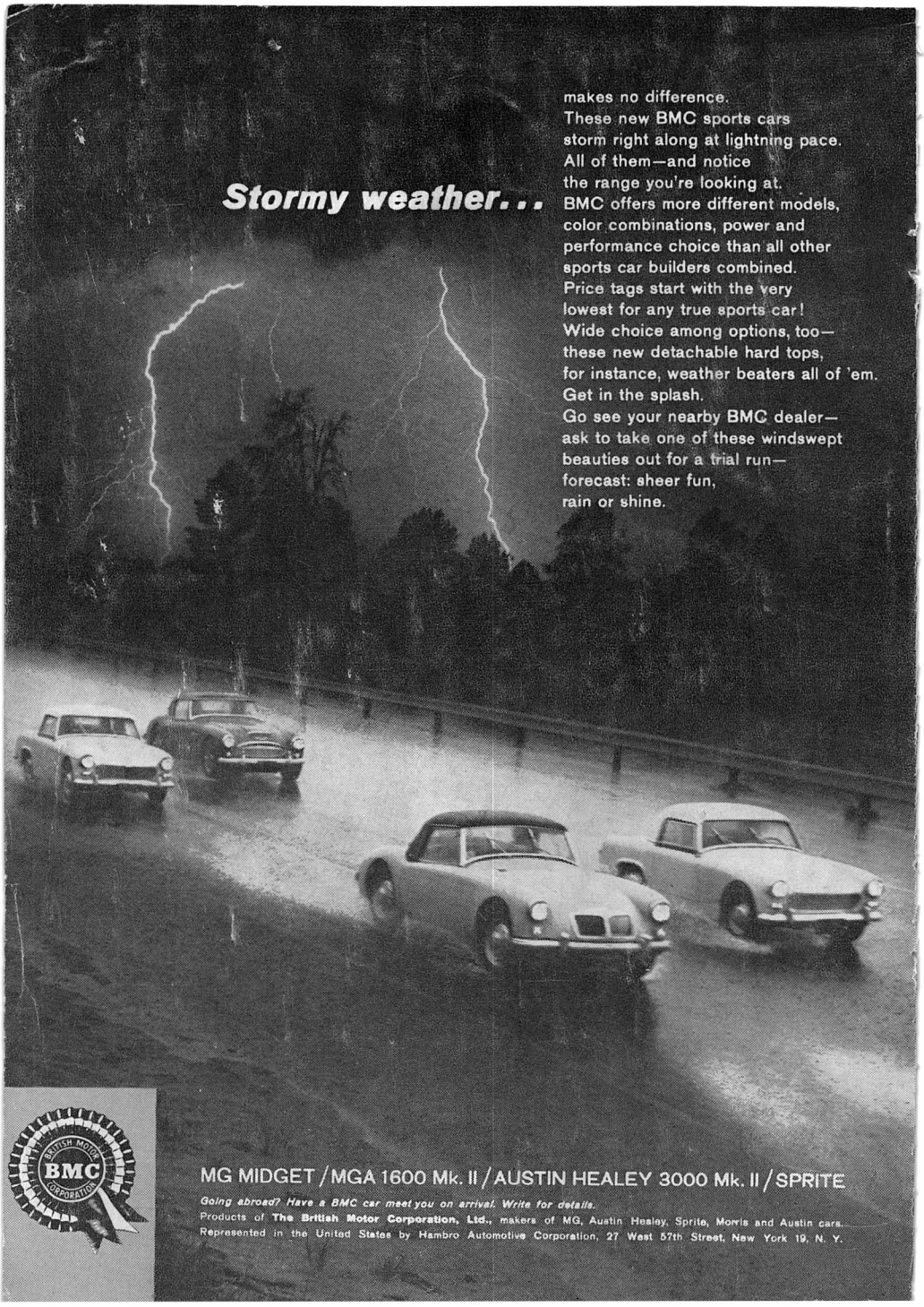
That is not a theory about what happened long ago, nor about something that might have happened.

That's what did happen, right here, right now—in a country that's complaining bitterly about the failure of young Americans to study Science.

Why the hell should they? If they're stupid, you don't want them, and if they're not stupid, they go where they've a better chance of being allowed to be creative.

The Editor.

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