

Walter M Miller
Dumb Waiter

He came riding a battered bicycle down the bullet-scarred highway that wound among the hills and he whistled a tortuous flight of the blues. Hot August sunlight glistened on his forehead and sparkled in droplets that collected in his week's growth of blond beard. He wore faded khaki trousers and a ragged shirt, but his clothing was no shabbier than that of the other occasional travelers on the road. His eyes were half closed against the glare of the road, and his head swayed listlessly to the rhythm of the melancholy song. Distant artillery was rumbling gloomily, and there were black flecks of smoke in the northern sky. The young cyclist watched with only casual interest.

The bombers came out of the east. The ram jet fighters thundered upward from the outskirts of the city. They charged, spitting steel teeth and coughing rockets at the bombers. The sky snarled and slashed at itself. The bombers came on in waves, occasionally loosing an earthward trail of black smoke. The bombers leveled and opened their bays. The bays yawned down at the city. The bombers aimed. Releases clicked. No bombs fell. The bombers closed their bays and turned away to go home. The fighters followed them for a time, then returned to land. The big guns fell silent. And the sky began cleaning away the dusky smoke.

The young cyclist rode on toward the city, still whistling the blues. An occasional pedestrian had stopped to watch the battle.

"You'd think they'd learn someday," growled a chubby man at the side of the road. "You'd think they'd know they didn't drop anything. Don't they realize they're out of bombs?"

"They're only machines, Edward," said a plump lady who stood beside him. "How can they know?"

"Well, they're supposed to think. They're supposed to be able to learn."

The voices faded as he left them behind. Some of the wanderers who had been walking toward the city now turned around and walked the other way. Urbanophiles looked at the city and became urbanophobes. Occasionally a wanderer who had gone all the way to the outskirts came trudging back. Occasionally a phobe stopped a phile and they talked. Usually the phile became a phobe and they both walked away together. As the young man moved on, the traffic became almost nonexistent. Several travelers warned him back, but he continued stubbornly. He had come a long way. He meant to return to the city. Permanently.

He met an old lady on top of a hill. She sat in an antique chair in the center of the highway, staring north. The chair was light and fragile, of hand-carved cherry wood. A knitting bag lay on the road beside her. She was muttering softly to herself: "Crazy machines! War's over. Crazy machines! Can't quit fightin'. Somebody oughta—"

He cleared his throat softly as he pushed his bicycle up beside her. She looked at him sharply with haggard eyes set in a seamy mask.

"Hi!" he called, grinning at her.

She studied him irritably for a moment. "Who're you, boy?" "Name's Mitch Laske. Grandmaw. Hop on behind. I'll give you a ride."

"Hm-m-m! I'm going t'other way. You will, too, if y'got any sense."

Mitch shook his head firmly. "I've been going the other way too long. I'm going back, to stay."

"To the city? Haw! You're crazier than them machines." His face fell thoughtful. He kicked the bike pedal and stared at the ground. "You're right, Grandmaw."

"Right?"

"Machines—they aren't crazy. It's just people."

"Go on!" she snorted. She popped her false teeth back in her mouth and chomped them in place. She hooked withered hands on her knees and pulled herself wearily erect. She hoisted the antique chair lightly to her shoulder and shuffled slowly away toward the south.

Mitch watched her and marveled at the tenacity of life. Then he resumed his northward journey along the trash-littered road where motor vehicles no longer moved. But the gusts of wind brought faint traffic noises from the direction of the city, and he smiled. The sound was like music, a deep-throated whisper of the city's song.

There was a man watching his approach from the next hill. He sat on an apple crate by the side of the road, and a shotgun lay casually across his knees. He was a big, red-faced man, wearing a sweat-soaked undershirt, and in the sun his eyes were narrowed to slits. He peered fixedly at the approaching cyclist, then came slowly to his feet and stood as if blocking the way.

"Hi, fellow," he grunted.

Mitch stopped and gave him a friendly nod while he mopped his face with a kerchief. But he eyed the shotgun suspiciously. "If this is a stickup—"

The big man laughed. "Naw, no heist. Just want to talk to you a minute. I'm Frank Ferris." He offered a burly paw. "Mitch Laskell."

They shook hands gingerly and studied each other. "Why you heading north, Laskell?"

"Going to the city."

"The planes are still fighting. You know that?"

"Yeah. I know they've run out of bombs, too."

"You know the city's still making the Geigers click?"

Mitch frowned irritably. "What is this? There can't be much radioactivity left. It's been three years since they scattered the dust. I'm not corn-fed, Ferris. The half-life of that dust is five months. It should be less than one per cent—"

The big man chuckled. "Okay, you win. But the city's not safe anyhow. The Central Computer's still at work."

"So what?"

"Ever think what would happen to a city if every ordinance was kept in force after the people cleared out?"

Mitch hesitated, then nodded. "I see. Thanks for the warning." He started away.

Frank Ferris caught the handlebars in a big hand. "Hold on!" he snapped. "I ain't finished talking."

The smaller man glanced at the shotgun and swallowed his anger.

"Maybe your audience isn't interested, Buster," he said with quiet contempt.

"You will be. Just simmer down and listen!"

"I don't hear anything."

Ferris glowered at him. "I'm recruitin' for the Sugarton crowd, Laskell. We need good men."

"Count me out. I'm a wreck."

"Cut the cute stuff, boy! This is serious. We've got two dozen men now. We need twice that many. When we get them we'll go into the city and dynamite the Computer installations. Then we can start cleaning it up."

"Dynamite? *Why?*" Mitch Laskell's face slowly gathered angry color.

"So people can live in it, of course. So we can search for food without having a dozen mechanical cops jump us when we break into a store."

"How much did Central cost?" Mitch asked stiffly. It was a rhetorical question.

Ferris shook his head irritably. "What does that matter now? Money's no good anyway. You can't sell Central for junk. Heh, heh! Wake up, boy!"

The cyclist swallowed hard. A jaw muscle tightened in his cheek, but his voice came calmly.

"You help build Central, Ferris? You help design her?" "Wh-why, no! What kind of a question is that?"

"You know anything about her? What makes her work? How she's rigged to control all the subunits? You know that?" "No, I—"

"You got any idea about how much sweat dripped on the drafting boards before they got her plans drawn? How many engineers slaved over her, and cursed her, and got drunk when their piece of the job was done?"

Ferris was sneering faintly. "You *know*, huh?"

"Yeah."

"Well that's all too bad, boy. But she's no good to anybody now. She's a hazard to life and limb. Why, you can't go inside the city without—"

"She's a machine, Ferris. An intricate machine. You don't destroy a tool just because you're finished with it for a while." They glared at each other in the hot sunlight.

"Listen, boy—people built Central. People got the right to wreck her, too."

"I don't care about rights," Mitch snapped. "I'm talking about what's sensible, sane. Everybody's got the right to be stupid."

Ferris stiffened. "Watch your tongue, smart boy." "I didn't ask for this conversation."

Ferris released the handlebars. "Get off the bicycle," he grunted ominously.

"Why? You want to settle it the hard way?"

"No. We're requisitioning your bicycle. You can walk from here on. The Sugarton crowd needs transportation. We need good men, but I guess you ain't one. Start walking."

Mitch hesitated briefly. Then he shrugged and dismounted on the side away from Ferris. The big man held the shotgun

cradled lazily across one forearm. He watched Mitch with a mocking grin.

Mitch grasped the handlebars tightly and suddenly rammed the front wheel between Ferris's legs. The fender made a tearing sound. The shotgun exploded skyward as the big man fell backward. He sat down screaming and doubling over. The gun clattered into the road. He groped for it with a frenzied hand. Mitch kicked him in the face and a tooth slashed at his toe through the boot leather. Ferris fell aside, his mouth spitting blood and white fragments.

Mitch retrieved the shotgun and helped himself to a dozen shells from the other's pockets, then remounted the bicycle and pedaled away. When he had gone half a mile, a rifle slug spanged off the pavement beside him. Looking back, he saw three tiny figures standing beside Ferris in the distance. The "Sugarton crowd" had come to take care of their own, no doubt. He pedaled hard to get out of range, but they wasted no more ammunition.

He realized uneasily that he might meet them again if they came to the city intending to sabotage Central. And Ferris wouldn't miss a chance to kill him, if the chance came. Mitch didn't believe he was really hurt, but he was badly humiliated. And for some time to come he would dream pleasant ways to murder Mitch Laskell.

Mitch no longer whistled as he rode along the deserted highway toward the sun-drenched skyline in the distance. To a man born and bred to the tune of mechanical thunder, amid vistas of concrete and steel, the skyline looked good—looked good even with several of the buildings twisted into ugly wreckage. It had been dusted in the radiological attack, but not badly bombed.

Its defenses had been more than adequately provided for—which was understandable, since was the capi-tal and the legislators appropriated freely.

It seemed unreasonable to him that Central was still working. Why hadn't some group engineers made their way into the main power vaults to kill the circuits temporarily? Then remembered that the vaults were self-defending and that there were probably very few technicians left who knew how to handle the job. Technicians had a way of inhabiting industrial regions, and wars had a way of destroying those regions. Dirt farmers usually had the best survival value.

Mitch had been working with aircraft computers before he became displaced, but a city Central Service Coordinator was a far cry from a robot pilot. Centrals weren't built all at once; they grew over a period of years. At first, small units were set up in power plants and waterworks to regulate voltages and flows and circuit conditions automatically. Small units replaced switchboards in telephone exchanges. Small computers measured traffic flow and regulated light and speed limits accordingly. Small computers handled bookkeeping where large amounts of money were exchanged. A computer checked books in and out at the library, also assessing traffic fines. Computers operated the city buses and eventually drove most of the routine traffic.

That was the way the city's Central Service grew. As more computers were assigned to various tasks, engineers were hired to coordinate them, to link them with special circuits and to set up central "data tanks," so that a traffic regulator in the north end would be aware of traffic conditions in the main thoroughfares to the south. Then, when the micro-learner relay was invented, the engineers built a central unit to be used in conjunction with the central data tanks. With the learning units in operation, Central was able to perform most of the city's routine tasks without attention from human supervisors.

The system had worked well. Apparently it was still working well three years after the inhabitants had fled before the chatter of the Geiger counters. In one sense Ferris had been right. A city whose machines carried on as if nothing had happened—that city might be a dangerous place for a lone wanderer.

But dynamite certainly wasn't the answer, Mitch thought. Most of man's machinery was already wrecked or lying idle. Humanity had waited a hundred thousand years before deciding to build technological civilization. If it wrecked this one completely, it might never build another.

Some men thought that a return to the soil was desirable. Some men tried to pin their guilt on the machines, to lay their own stupidity on the head of a mechanical scapegoat and absolve themselves with dynamite. But Mitch Laskell was a man who liked the feel of a wrench and soldering iron—liked it better than the feel of even the most well-balanced stone ax or wooden plow. And he liked the purr of a pint-sized nuclear

engine much better than the braying of a harnessed jackass.

He was willing to kill Frank Ferris or any other man who sought to wreck what little remained. But gloom settled over him as he thought, "If everybody decides to tear it down, what can I do to stop it?" For that matter, would he then be right in trying to stop it?

At sundown he came to the limits of the city, and he stopped just short of the outskirts. Three blocks away a robot cop rolled about in the center of the intersection, rolled on tricycle wheels while he directed the thin trickle of traffic with candy-striped arms and with "eyes" that changed color like a stoplight. His body was like an oil drum, painted fire-engine red. The head, however, had been cast in a human mold, with a remarkably Irish face and a perpetual predatory smile. A short radar antenna grew from the center of his head, and the radar was his link with Central.

Mitch sat watching him with a nostalgic smile, even though he knew such cops might give him considerable trouble once he entered the city. The "skaters" were incapable of winking at per-

violations of ordinance.

As the daylight faded, photronic cells notified Central, and the streetlights winked on promptly. A moment later, a car without a taillight whisked by the policeman's corner. A siren wailed in the policeman's belly. He skated away in hot pursuit, charging like a mechanical bull. The car screeched to a stop. "O'Reilly" wrote out a ticket and offered it to any empty back seat. When no one took it, the cop fed it into a slot in his belly, memorized the car's license number, and clattered back to his intersection, where the traffic had automatically begun obeying the ordinances governing nonpoliced intersections.

The cars were empty, computer-piloted. Their destinations were the same as when they had been driven regular daily routes for human passengers: salesmen calling on regular customers, police inspectors making their rounds, taxis prowling their assigned service areas.

Mitch Laskell stood shivering. The city sounded sleepy but alive. The city moved and grumbled. But as far as he could see down the wide boulevard, no human figure was visible. The city was depopulated: There was a Geiger on a nearby lamppost. It clucked idly through the loudspeaker. But it indicated no danger. The city should be radiologically safe.

But after staring for a long time at the weirdly active streets, Mitch muttered, "It'll wait for me tomorrow."

He turned onto a side road that led through a residential district just outside the city limits. Central's jurisdiction did not extend here, except for providing water and lights. He meant to spend the night in a deserted house, then enter the city at dawn.

Here and there a light burned in one of the houses, indicating that he was not alone in his deserted city. But the pavement was scattered with rusty shrapnel, with fragments fallen from the sky in battles that still continued. Even by streetlight he could see that some of the roofs were damaged. Even though the bombers came without bombs, there was still danger from falling debris and from fire. Most former city dwellers who were still alive preferred to remain in the country.

Once he passed a house from which music floated softly into the street, and he paused to listen. The music was scratchy—a worn record. When the piece was finished there was a moment of silence, and the player played it again—the last record on the stack, repeating itself. Otherwise the house was still.

Mitch frowned, sensing some kind of trouble. He wheeled the bicycle toward the curb, meaning to investigate.

"I live there," said a woman's voice from the shadows.

She had been standing under a tree that overhung the side-walk, and she came slowly out into the streetlight. She was a dark, slender girl with haunted eyes, and she was holding a baby in her arms.

"Why don't you turn off your record player?" he asked. "Or change to the other side?"

"My husband's in there," she told him. "He's listening to it. He's been listening to it for a long time. His name is George. Why don't you go say hello to him?"

Mitch felt vaguely disturbed. There was a peculiar note in the girl's quiet Spanish accent. Still, he wanted to talk to someone who had ventured into the city. He nodded and smiled at the girl.

"I'd like to."

"You just go on in. I'll stay out here. The baby needs fresh air."

He thanked her and strolled up on the porch. The record player stopped, tried to change, and played the same piece again. Mitch knocked once. Hearing no answer, he entered and moved along the hallway toward the light in the kitchen. But suddenly

he stopped.

The house smelled musty. And it smelled of something else. Many times he had smelled the syrup-and-stale-fish odor of death. He advanced another step toward the kitchen.

He saw a porcelain-topped table. He saw a hand lying across the table. The hand was bloated and lying amid brown stains that also covered the forearm and sleeve. The hand had dropped a butcher knife.

"Dead several days," he thought—and backed away.

He turned the record player off as he left the house. The girl was standing at the curb gazing down at his bicycle. She glanced at him amiably and spoke.

"I'm glad you turned that record off, George. A man just came by and wanted to know why you played it so often. You must have been asleep."

Mitch started. He moistened his lips and stared at her wonderingly. "I'm not—" He fell silent for a moment, then stuttered, "You haven't been in the house?"

"Yes, but you were asleep in the kitchen. Did the man come talk to you?"

"Look, I'm not—" He choked and said nothing. The dark-eyed baby was eyeing him suspiciously. He lifted the bicycle and swung a long leg across the saddle.

"George, where are you going?"

"Just for a little ride," he managed to gasp.

"On the man's bicycle?"

Something was twisting cruelly at his insides. He stared at the girl's wide brown eyes for a moment. And then he said it. "Sure, it's all right. He's asleep—at the kitchen table."

Her mouth flickered open, and for an instant sanity threatened to return. She rocked dizzily. Then, after a deep breath, she straightened.

"Don't be gone too long, George."

"I won't! Take good care of the baby."

He pedaled away on wings of fright. For a time he cursed himself, and then he fell to cursing the husband who had taken an easy road, leaving his wife to stumble alone. Mitch wondered if he should have stayed to help her. But there was nothing to be done for her, nothing at least that was in his power to do. Any gesture of help might become an irreparable blunder. At least she still had the child.

A few blocks away he found another house with an intact roof, and he prepared to spend the night. He wheeled the bicycle into the parlor and fumbled for the lights. They came on, revealing a dusty room and furniture with frayed upholstery. He made a brief tour of the house. It had been recently occupied, but there were still unopened cans in the kitchen, and still crumpled sheets on the bed. He ate a cold supper, shaved, and prepared to retire. Tomorrow would be a dangerous day.

Sleep came slowly. Sleep was full of charging ram jets in flak-scarred skies, full of tormenting masses of people that swarmed in exodus from death-sickened cities. Sleep was full of babies wailing, and women crying in choking sobs. Sleep became white arms and soft caresses.

The wailing and sobbing had stopped. It was later. Was he awake? Or still asleep? He was warm, basking in a golden glow, steeped in quiet pleasure. Something—something was there, something that breathed.

"What—!"

"*Sshhh!*" purred a quiet voice. "Don't say anything."

Some of the warmth fled before a sudden shiver. He opened his eyes. The room was full of blackness. He shook his head dizzily and stuttered.

"*Sshhh!*" she whispered again.

"What is this?" he gasped. "How did you get—?" "Be quiet, George. You'll wake the baby."

He sank back in, utter bewilderment, with winter frosts gathering along his spine.

Night was dreamlike. And dawn came, washing the shadows with grayness. He opened his eyes briefly and went back to sleep. When he opened them again, sunlight was flooding the room.

He sat up. *He was alone.* Of course! It had only been a dream.

He muttered irritably as he dressed. Then he wandered to the kitchen for breakfast.

Warm biscuits waiting in the oven! The table was set! There was a note on his plate. He read it and slowly flushed.

There's jam in the cupboard, and I hope you like the biscuits. I know he's dead. Now I think I can go on alone. Thanks for the shotgun and bicycle. Marta.

He bellowed a curse and charged into the parlor. The bike was gone. He darted to the bedroom. The shotgun was gone. He ran shouting to the porch, but the street was empty.

Sparrows fluttered about the eaves. The skyline of the business district lay lonesome in the morning sun. Squirrels were rustling in the branches of the trees. He looked at the weedy lawn where no children played, the doors askew on their hinges, at a bit of aircraft wreckage jutting from the roof of a fire-gutted home—the rotting porches—the emptiness.

He rubbed his cheek ruefully. It was no world for a young mother and her baby. The baby would fit nicely in the bicycle's basket. The shotgun would offer some protection against the human wolf packs that prowled everywhere these days.

"Little thief!" he growled halfheartedly.

But when the human animal would no longer steal to protect its offspring, then its prospects for survival would be bleak indeed. He shrugged gloomily and wandered back to the kitchen. He sat down and ate the expensive biscuits—and decided that George couldn't have cut his throat for culinary reasons. Marta was a good cook.

He entered the city on foot and unarmed, later in the morning.

He chose the alleyways, avoiding the thoroughfares where traffic purred and where the robot cops enforced the letter of the law. At each corner he paused to glance in both directions for possible mechanical observers before darting across the open street to the next alley. The Geiger counters on the lampposts were clicking faster as he progressed deeper into the city, and twice he paused to inspect the readings of their integrating dials. The radioactivity was not yet dangerous, but it was higher than he had anticipated. Perhaps it had been dusted again after the exodus.

He stopped to prowl through an empty house and an empty garage. He came out with a flashlight, a box of tools, and a crowbar. He had no certain plan, but tools would be needed if he meant to call a temporary halt to Central's activities. It was dangerous to enter any building, however; Central would call it burglary, unless the prowler could show legitimate reason for entering. He needed some kind of identification.

After an hour's search through several houses in the residential district, he found a billfold containing a union card and a pass to several restricted buildings in the downtown area. The billfold belonged to a Willie Jesser, an air-conditioning and refrigeration mechanic for the Howarth Cooler Company. He pocketed it after a moment's hesitation. It might not be enough to satisfy Central, but for the time being it would have to do.

By early afternoon he had reached the beginnings of the commercial area. Still he had seen no signs of human life. The thinly scattered traffic moved smoothly along the streets, carrying no passengers. Once he saw a group of robot climbers working high on a telephone pole. Some of the telephone cables carried the coordinating circuits for the city's network of computers. He

detoured several blocks to avoid them and wandered on glumly. He began to realize that he was wandering aimlessly.

The siren came suddenly from half a block away. Mitch stopped in the center of the street and glanced fearfully toward it. A robot cop was rolling toward him at twenty miles an hour! He broke into a run.

"You will halt, please!" croaked the cop's mechanical voice. "The pedestrian with the toolbelt will please halt!"

Mitch stopped at the curb. Flight was impossible. The skater could whisk along at forty miles an hour if he chose.

The cop's steel wheels screeched to a stop a yard away. The head nodded a polite but jerky greeting. Mitch stared at the creature's eyes, even though he knew the eyes were duds; the cop was seeing him by the heat waves from his bodily warmth, and touching him with a delicate array of radar.

"You are charged with jaywalking, sir. I must present you with a summons. Your identification, please."

Mitch nervously produced the billfold and extracted the cards. The cop accepted them in a pair of tweezerlike fingers and instantly memorized the information.

"This is insufficient identification. Have you nothing else?" "That's all I have with me. What's wrong with it?" "The pass and the union card expired in 1987."

Mitch swallowed hard and said nothing. He had been afraid of this. Now he might be picked up for vagrancy.

"I shall consult Central Coordinator for instructions," croaked the cop. "One moment, please."

A dynamotor purred softly in the policeman's cylindrical body. Then Mitch heard the faint twittering of computer code as

the cop's radio spoke to Central. There was a silence lasting several seconds. Then an answer twittered back. Still the cop said nothing. But he extracted a summons form from a pad, inserted it in a slot in his chassis, and made chomping sounds like a small typesetter. When he pulled the ticket out again, it was neatly printed with a summons for Willie Jesser to appear before Traffic Court on July 29, 1989. The charge was jaywalking.

Mitch accepted it with bewilderment. "I believe I have a right to ask for an explanation," he muttered.

The cop nodded crisply. "Central Service units are required to furnish explanations for their decisions when such explanations are demanded."

"Then why did Central regard my identification as sufficient?"

"Pause for translation of Central's message," said the cop. He stood for a moment, making a burring and clicking sounds. Then: "Referring to arrest of Willie Jesser by unit Six-Baker. Do not book for investigation. Previous investigations have revealed no identification papers dated later than May 1987 in the possession of any human pedestrian. Data based on one hundred sample cases. Tentative generalization by Central Service: It has become impossible for humans to produce satisfactory identification. Therefore, 'satisfactory identification' is temporarily redefined, pending instruction from authorized human legislative agency."

Mitch nodded thoughtfully. The decision indicated that Central was still capable of "learning" from gathering data and making generalizations about it. But the difficulty was still apparent. She was allowed to act on such generalizations only in certain very minor matters. Although she might very well realize the situation in the city, she could do nothing about it without authority from an authorized agency. That agency was a department of the city government, currently nonexistent.

The cop croaked a courteous, "Good day, sir!" and skated smoothly back to his intersection.

Mitch stared at his summons for a moment. The date was still four days away. If he weren't out of the city by then, he might find himself in the lockup, since he had no money to pay a fine.

Reassured now that his borrowed identity gave him a certain amount of safety, he began walking along the sidewalks instead

of using the alleys. Still, he knew that Central was observing him through a thousand eyes. Counters on every corner were set to record the passage of pedestrian traffic and to relay that information to Central, thus helping to avoid congestion. But Mitch *was* the pedestrian traffic. And the counters clocked his passage. Since the data were available to the logic units, Central might make some unpleasant deductions about his presence in the city.

Brazenness, he decided, was probably the safest course to steer. He stopped at the next intersection and called to another mechanical cop, requesting directions to City Hall.

But the cop paused before answering, paused to speak with Central, and Mitch suddenly regretted his question. The cop came skating slowly to the curb.

"Six blocks west and four blocks north, sir," croaked the cop. "Central requests the following information, which you may refuse to furnish if you so desire: As a resident of the city, how is it that you do not know the way to City Hall, Mr. Jesser?"

Mitch whitened and stuttered nervously, "Why, I've been gone three years. I ...I had forgotten."

The cop relayed the information, then nodded. "Central thanks you. Data have been recorded."

"Wait," Mitch muttered. "Is there a direct contact with Central in City Hall?"

"Affirmative."

"I want to speak to Central. May I use it?"

The computer code twittered briefly. "Negative. You are not listed among the city's authorized computer personnel. Central suggests you use the Public Information Unit, also in City Hall, ground floor rotunda."

Grumbling to himself, Mitch wandered away. The P.I.U. was better than nothing, but if he had access to the direct service contact, perhaps to some extent he could have altered Central's regular behavior pattern. The P.I.U. however would be well guarded.

A few minutes later he was standing in the center of the main lobby of the City Hall. The ground floor building had suffered some damage during an air raid, and one wing was charred by fire. But the rest of it was still alive with the rattle of machinery. A headless servo-secretary came rolling past him, carrying a travful of pink envelopes. Delinquent utility bills, he guessed.

Central would keep sending them out, but of course human authority would be needed to suspend service to the delinquent customers. The servo-secretary deposited the envelopes in the mailbox by the door, then rolled quickly back to its office.

Mitch looked around the gloomy rotunda. There was a desk at the far wall. Recessed in a panel behind the desk were a microphone, a loudspeaker, and the lens of a television camera. A sign hung over the desk, indicating that here was the place to complain about utility bills, garbage-disposal service, taxes, and inaccurate weather forecasts. A citizen could also request a copy of information contained in Central Data except information relating to defense or to police records.

Mitch crossed the rotunda and sat at the desk facing the panel. A light came on overhead. The loudspeaker crackled for a moment.

"Your name, please?" it asked.

"Willie Jesser."

"What do you wish from Information Service, please?" "A direct contact with Central Data."

"You have a screened contact with Central Data. Unauthorized personnel are not permitted unrestricted contact, for security reasons. Your contact must be monitored by this unit."

Mitch shrugged. It was as he had expected. Central Data was listening and speaking, but the automatics of the P.I.U. would be censoring the exchange.

"All right," he grumbled. "Tell me this: Is Central aware that the city has been abandoned? That its population is gone?" "Screening, screening, screening," said the unit. "Question relates to civil defense."

"Is Central aware that her services are now interfering with human interests?"

There was a brief pause. "Is this question in the nature of a complaint?"

"Yes," he grated acidly. "It's a complaint."

"About your utility services, Mr. Jesser?"

Mitch spat an angry curse. "About all services!" he bellowed. "Central has got to suspend operations until new ordinances are fed into Data."

"That will be impossible, sir."

"Why?"

"There is no authorization from Department of City Services."

He slapped the desk and groaned. "There is no such department now! There is no city government! The city is abandoned!"

The speaker was silent.

"Well?" he snapped.

"Screening," said the machine.

"Listen," he hissed. "Are you screening what I say, or are you just blocking Central's reply?"

There was a pause. "Your statements are being recorded in Central Data. Replies to certain questions must be blocked for security reasons."

"The war is over!"

"Screening."

"You're trying to maintain a civil status quo that went out of existence three years ago. Can you use your logic units to correct present conditions?"

"The degree of self-adjustment permitted to Central Service is limited by ordinance number—"

"Never mind!"

"Is there anything else?"

"Yes! What will you do when fifty men come marching in to dynamite the vaults and destroy Central Data?"

"Destroying city property is punishable by a fine of—" Mitch cursed softly and listened to the voice reading the applicable ordinance.

"Well, they're planning to do it anyway," he snapped. "Conspiracy to destroy city property punishable by—" Mitch stood up and walked away in disgust. But he had taken perhaps ten steps when a pair of robot guards came skating out from their wall niches to intercept him.

"One moment sir," they croaked in unison.

"Well?"

"Central wishes to question you in connection with the alleged conspiracy to destroy city property. You are free to refuse. However, if you refuse, and if such a conspiracy is shown to exist, you may be charged with complicity. Will you accompany us to Interrogation?"

A step closer to jail, he thought gloomily. But what was there to lose? He grunted assent and

accompanied the skaters out the

entrance, down an inclined ramp, and past a group of heavily barred windows. They entered the police court, where a booking computer clicked behind its desk. Several servo-secretaries and robot cops were waiting quietly for task assignments.

Mitch stopped suddenly. His escorts waited politely.

"Will you come with us, please?"

He stood staring around at the big room—at the various doorways, one leading to traffic court and at the iron gate to the cellblock.

"I hear a woman crying," he muttered.

The guards offered no comment.

"Is someone locked in a cell?"

"We are not permitted to answer."

"Suppose I wanted to go bail," he snapped. "I have a right to know."

"You may ask the booking desk whether a specific individual is being held. But generalization information cannot be released."

"Mitch strode to the booking computer. "Are you holding a woman in jail?"

"Screening."

It was only a vague suspicion, but he said, "A woman named Marta."

"Full name, please."

"I don't know it. Can't you tell me?" .

"Screening."

"Listen! I loaned my bicycle to a woman named Marta. If you have the bicycle, I want it!"

"License number, please."

"A 1987 license—number six zero five zero."

"Check with Lost and Found, please."

Mitch controlled himself slowly. "Look—you check. I'll wait."

The computer paused. "A bicycle with that license number has been impounded. Can you produce proof of ownership?" "*On a bicycle?* I knew the number. Isn't that enough?" "Describe it, please?"

Mitch described it wearily. He began to understand Ferris's desire to retire Central permanently and forcibly. At the moment he longed to convert several subcomputers to scrap metal.

"Then," said the speaker, "if vehicle is yours, you may have it by applying for a new license and paying the required fee." "Refer that to Central Data," Mitch groaned.

The booking computer paused to confer with the Coordinator. "Decision stands, sir."

"But there aren't any new licenses!" he growled. "A while ago Central said— Oh, never mind!"

"That decision applied to identification, sir. This applies to licensing of vehicles. Insufficient data have been gathered to permit generalization."

"Sure, sure. All right, what do I do to get the girl out of jail?"

There was another conference with the Coordinator, then: "She is being held for investigation. She may not be released for seventy-two hours."

Mitch dropped the toolbox that he had been carrying since morning. With a savage curse he rammed the crowbar through a vent in the device's front panel and slashed it about in the opening. There was a crash of shattering glass and a shower of sparks. Mitch yelped at the electric jolt and lurched away. Steel fingers clutched his wrists.

Five minutes later he was being led through the gate to the cellblocks, charged with maliciously destroying city property; and he cursed himself for a hot-tempered fool. They would hold him

until a grand jury convened, which would probably be never.

The girl's sobbing grew louder as he was led along the iron corridors toward a cell. He passed three cells and glanced inside. The cells were occupied by dead men's bones. *Why?* The rear wall was badly cracked, and bits of loose masonry were scattered on the floor. Had they died from concussion during an attack? Or been gassed to death?

They led him to the fifth cell and unlocked the door. Mitch stared inside and grinned. The rear wall had been partially wrecked by a bomb blast, and there was room to crawl through the opening to the street. The partition that separated the adjoining cell was also damaged, and he caught a glimpse of a white, frightened face peering through the hole. Marta.

He glanced at his captors. They were pushing him gently through the door. Evidently Central's talents did not extend to bricklaying, and she could not judge that the cell was less than escapeproof.

The door clanged shut behind him.

"Marta," he called.

Her face had disappeared from the opening. There was no answer.

"Marta."

"Let me alone," grumbled a muffled voice.

"I'm not angry about the bicycle."

He walked to the hole and peered through the partition into the next cell. She crouched in the corner, peering at him with frightened, tear-reddened eyes. He glanced at the opening in the rear wall.

"Why haven't you gone outside?" he asked.

She giggled hysterically. "Why don't you go look down?" He stepped to the opening and glanced twenty feet down to a

concrete sidewalk. He went back to stare at the girl. "Where's your baby?"

"They took him away," she whimpered.

Mitch frowned and thought about it for a moment. "To the city nursery, probably—where you're in jail."

"They won't take care of him! They'll let him die!" "Don't scream like that. He'll be all right."

"Robots don't give milk!"

"No, but there are such things as bottles, you know," he chuckled.

"Are there?" Her eyes were wide with horror. "And what will they put in the bottles?"

"Why—" He paused. Central certainly wasn't running any dairy farms.

"Wait'll they bring you a meal," she said. "You'll see." "Meal?"

"Empty tray," she hissed. "Empty tray, empty paper cup, paper fork, clean paper napkin. No food."

Mitch swallowed hard. Central's logic was sometimes hard to see. The servo-attendant probably went through the motions of ladling stew from an empty pot and drawing coffee from an empty urn. Of course, there weren't any truck farmers to keep the city supplied with produce.

"So that's why. .. the bones. .. in the other cells," he muttered.

"They'll starve us to death!"

"Don't scream so. We'll get out. All we need is something to climb down on."

"There isn't any bedding."

"There's our clothing. We can plait a rope. And if necessary we can risk a jump."

She shook her head dully and stared at her hands. "It's no use. They'd catch us again."

Mitch sat down to think. There was bound to be a police arsenal somewhere in the building.

probably in the basement. The robot cops were always unarmed. But of course there had been human organization for investigation purposes and to assume command in the event of violence. When one of the traffic units faced a threat, it could do nothing but try to handcuff the offender and call for human help. There were arms in the building somewhere, and a well-placed rifle shot could penetrate the thin sheet-steel bodies.

He deplored the thought of destroying any of the city's service machinery, but if it became necessary to wreck a few subunits, it would have to be done. He must somehow get access to the vaults where the central data tanks and the coordinators were located—get to them before Ferri's gang came to wreck them completely, so that they might be free to pick the city clean.

An hour later he heard the cellblock gate groan open, and he arose quickly. Interrogation, thought. They were coming to question him about the plot to wreck Central. He paused to make a hasty decision, then scrambled for the narrow opening and clambered through it into the adjoining cell while the skater came rolling down the corridor.

The girl's eyes widened. "Wh-what are you—"

"*Shhh!*" he hissed. "This might work."

The skater halted before his cell while he crouched against the wall beyond the opening.

"Willie Jesser, please," the robot croaked.

There was silence. He heard the door swing open. The robot rolled around inside his cell for a few seconds, repeating his name and brushing rubble aside to make way. If only he failed to look through the opening!

Suddenly a siren growled and the robot went tearing down the corridor again. Mitch stole a quick glance. The robot had left the door ajar. He dragged the girl to her feet and snapped, "Let's go."

They squeezed through the hole and raced out into the corridor. The cellblock gate was closed. The girl moaned weakly. There was no place to hide.

The door bolts were operated from remote boxes placed in the corridor so as to be beyond the reach of the inmates. Mitch dragged the girl quickly toward another cell, opened the control panel and threw the bolt. He closed the panel, leaving the bolt open. They slipped quickly inside the new cell, and he pulled the door quietly closed. The girl made a choking sound as she stumbled over the remains of a former inmate.

"Lie down in the corner," he hissed, "and keep still. They're coming back in force."

"What if they notice the bolt is open?"

"Then we're sunk. But they'll be busy down at our end of the hall. Now shut up."

They rolled under the steel cot and lay scarcely breathing. The robot was returning with other patrolmen. The faint twitter of computer code echoed through the cellblocks. Then the skaters rushed past and screeched to a stop before the escapee's cell. He heard them enter. He crawled to the door for a look, then pushed it open and stole outside.

He beckoned the girl to his side and whispered briefly. Then they darted down the corridor on tiptoe toward the investigators. They turned as he raced into view. He seized the bars and jerked the door shut. The bolt snapped in place as Marta tugged at the remote.

Three metal bodies crashed simultaneously against the door and rebounded. One of them spun around three times before recovering.

"Release the lock, please."

Mitch grinned through the bars. "Why don't you try the hole in the wall?"

The robot who had spun crazily away from the door now turned. He went charging across the

cell floor at full acceleration—and sailed out wildly into space.

An ear-splitting crash came from the street. Shattered metal skidded across pavement. A siren wailed and brakes shrieked. The others went to look—and began twittering.

Then they turned. "You will surrender, please. We have summoned armed guards to seize you if you resist." Mitch laughed and tugged at the whimpering girl. "Wh-where—?"

"To the gate. Come on."

They raced swiftly along the corridor. And the gate was opening to admit the "armed guards." But of course no human bluecoats charged through. The girl muttered in frightened bewilderment and he explained on the run.

"Enforced habit pattern. Central has to do it, even when no guards are available."

Two repair units were at work on the damaged booking computer as the escapees raced past. The repair units paused, twittered a notation to Central, then continued with their work.

Minutes later they found the arsenal, and the mechanical attendant had set out a pair of .45's for the "armed guards." Mitch caught up one of them and fired at the attendant's sheet-metal belly. The robot careened crazily against the wall, emitted a shower of blue sparks, and stood humming while the metal around the hole grew cherry red. There was a dull cough. The machine smoked and fell silent.

Mitch vaulted across the counter and caught a pair of submachine guns from the rack. But the girl backed away, shaking her head.

"I couldn't even use your shotgun," she panted.

He shrugged and laid it aside. "Carry as much ammunition as you can, then," he barked.

Alarm bells were clanging continuously as they raced out of the arsenal, and a loudspeaker was thundering a request for all human personnel to be alert and assist in their capture. Marta was staggering against him as they burst out of the building into the street. He pushed her back against the wall and fired a burst at two skaters who raced toward them down the sidewalk. One crashed into a fireplug; the other went over the curb and fell in the street.

"To the parking lot!" he called over his shoulder.

But the girl had slumped in a heap on the sidewalk. He grumbled a curse and hurried to her side. She was semiconscious, but her face was white and drawn. She shivered uncontrollably.

"What's wrong?" he snapped.

There was no answer. Fright had dazed her. Her lips moved, seemed to frame a soundless word: "George."

Muttering angrily, Mitch stuffed a fifty-round drum of ammunition in his belt, took another between his teeth, and lifted the girl over one shoulder. He turned in time to fire a one-handed burst at another skater. The burst went wide. But the skater stopped. Then the skater ran away.

He gasped and stared after it. The blare of the loudspeaker was furnishing the answer.

.. All human personnel. Central patrol service has reached the limit of permissible subunit expenditure. Responsibility for capture no longer applies without further orders to expense subunits. Please instruct. Commissioner of Police, please instruct. Waiting. Waiting."

Mitch grinned. Carrying the girl, he stumbled toward a car on the parking lot. He dumped her on the back seat and started in behind her, but a loudspeaker in the front protested.

"Unauthorized personnel. This is Mayor Sarquist's car. Unauthorized personnel. Please use extra."

Mitch looked around. There were no extras on the lot. And if there had been one, it would refuse to carry him unless he could identify himself as authorized to use it.

Mayor Sarquist's car began twittering a radio protest to Central. Mitch climbed inside and wrenched loose the cable that fed the antenna. The loudspeaker began barking complaints about sabotage. Mitch found a toolbox under the back seat and removed several of the pilot-computer panels. He tugged a wire loose, and the speaker ceased complaining. He ripped at another, and a bank of tubes went dead.

He drove away, using a set of dial controls for steering. The girl in the back seat began to recover her wits. She sat up and stared out the window at the thin traffic. The sun was sinking and the great city was immersing itself in gloom.

"You're worthless!" he growled at Marta. "The world takes a poke at you, and you jump into your mental coffin and nail the lid shut. How do you expect to take care of your baby?"

She continued to stare gloomily out the window. She said nothing. The car screeched around a corner, narrowly missing a mechanical cop. The cop skated after them for three blocks, sirring and wailing; then it abandoned the chase.

"You're one of the machine age's spoiled children," he fumed. "Technologists gave you everything you could possibly want. Push a button, and you get it. Instead of taking part in the machine age, you let it wait on you. You spoiled yourself. When the machine age cracks up, you crack up, too. Because you never made yourself its master; you just let yourself be mechanically pampered."

She seemed not to hear him. He swung around another corner and pulled to the curb. They were in front of a three-story brick building set in the center of a green-lawned block and surrounded by a high iron fence. The girl stared at it for a moment and raised her chin slowly from her fist.

"The city orphanage!" she cried suddenly and bounded outside. She raced across the sidewalk and beat at the iron gate with her fists.

Mitch climbed out calmly and opened it for her. She darted up toward the porch, but a servo-attendant came rolling out to intercept her. Its handcuff hand was open to grasp her wrist.

"*Drop low!*" he bellowed at her.

She crouched on the walkway, then rolled quickly aside on the lawn. A burst of machine-gun fire brightened the twilight. The robot spun crazily and stopped, hissing and sputtering. Wrecking a robot could be dangerous. If a bullet struck the tiny nuclear reactor just right, there would be an explosion.

They skirted wide around it and hurried into the building. Somewhere upstairs a baby was crying. A servo-nurse sat behind a desk in the hall, and she greeted them as if they were guests.

"Good evening, sir and madam. You wish to see one of the children?"

Marta started toward the stairs, but Mitch seized her arm. "No! Let *me* go up. It won't be pretty."

But she tore herself free with a snarl and bounded up the steps toward the cry of her child. Mitch shrugged to himself and waited. The robot nurse protested the illegal entry but did nothing about it.

"N0000—!"

A horrified shriek from the girl! He glanced up the staircase, knowing what was wrong but unable to help her. A moment later he heard her vomiting. He waited.

A few minutes later she came staggering down the stairway, sobbing and clutching her baby tightly against her. She stared at Mitch with tear-drenched eyes, gave him a wild shake of her head, and babbled hysterically.

"Those cribs! They're full of little bones. Little bones—all

over the floor. Little bones—"

"Shut up!" he snapped. "Be thankful yours is all right. Now let's get out of here."

After disposing of another robotic interferer they reached the car, and Mitch drove rapidly toward the outskirts. The girl's sobbing ceased, and she purred a little unsung lullaby to her child, cuddling it as if it had just returned from the dead. Remorse picked dully at Mitch's heart, but she had never having growled at her. Motherwise, she was still a good animal, despite her lack of success adjusting to the reality of a ruptured world.

"Marta—?"

"What?"

"You're not fit to take care of yourself."

He said it gently. She only stared at him as he piloted the car. "You ought to find a big husband who wants a baby, and let her take care of it for you."

"No."

"It's just a suggestion. None of my business. You want your baby to live, don't you?"

"George promised he'd take care of us. George always took care of us."

"George killed himself."

She uttered a little whimper. "Why did he do it? Why? I went to look for food. I came back and there he was. Why, *why?*"

"Possibly because he was just like you. What did he do—before the war?"

"Interior decorator. He was good, a real artist."

"Yeah."

"Why do you say it *that* way? He *was*."

"Was he qualified to live in a mechanical culture?" "I don't know what you mean."

"I mean—could he control his slice of mechanical civilization, or did it control him?"

"I don't see—"

"Was he a button-pusher and a switch-puller? Or did he care what made the buttons and switches work? Men misuse their tools because they don't understand the principles of the tools. A man who doesn't know how a watch works might try to fix it with a hammer. If the watch is communal property, he's got no right to fool with it. A nontechnologist has no right to take part in a technological civilization. He's a bull in a china shop. That's what happened to our civilization. Politicians were given powerful tools. They failed to understand the tools. They wrecked our culture with them."

"You'd have a scientist in the White House?"

"If all men were given a broad technical education, there could be nothing else there, could there?"

"Technocracy—"

"No. Simply a matter of education."

"People aren't smart enough."

"You mean they don't *care* enough. Any man above the level of a dullard has enough sense to grasp the principles of physics and basic engineering and mechanics. They just aren't motivated to grasp them. The brain is a tool, not a garbage can for oddments of information! Your baby then he should learn the principles of logic and semantics before he's ten. He should be taught *how to use* the tool, the brain. We've just begun to learn how to think. If the common man were trained in scientific reasoning methods, we'd solve our problems in a hurry."

"What has this got to do with us?"

"Everything. Your George folded up because he couldn't control his slice of civilization and

couldn't live without it. He couldn't fix the broken toy, but he suffered from its loss. And you're the same fix. I haven't decided yet whether you're crazy or just neurotic."

She gave him an icy stare. "Let me know when you figure it out."

They were leaving the city, driving out through the suburbs again into the night-shrouded residential areas. He drove by streetlight, for the car—accustomed to piloting itself by radar—had no headlights. Mitch thought gloomily that he had blundered. He had stalked into the city without plan and had accomplished nothing. He had alerted Central and had managed to get himself classified as a criminal in the central data tanks. Instead of simplifying his task, he had made things harder for himself.

Whenever they passed a cop at an intersection, the cop retreated to the curb and called Central to inform the Coordinator of their position. But no attempt was made to arrest the fugitives. Having reached her limit of subunit expenditures,

Central was relying on the nonexistent human police force. "Mayor Sarquist's house," the girl muttered suddenly. "Huh? Where?"

"Just ahead. The big cut-stone house on the right—with part of the roof caved in."

Mitch twisted a dial in the heart of the pilot-computer, and the car screeched to a stop at the curb. The girl lurched forward.

"You woke the baby," she complained. "Why stop here? We're still in the city limits."

"I don't know," he murmured, staring thoughtfully at the dark hulk of the two-story mansion set in a nest of oaks. "Just sort of a hunch."

There was a long silence while Mitch chewed his lip and frowned at the house.

"I hear a telephone ringing," she said.

"Central calling Mayor Sarquist. You can't tell. It might have been ringing for three years."

She was looking out the rear window. "Mitch—?" "Huh?"

"There's a cop at the intersection."

He seemed not to hear her. He opened the door. "Let's go inside. I want to look around. Bring the gun."

They strolled slowly up the walkway toward the damaged and deserted house. The wind whistled through the oaks, and the porch creaked loudly beneath their feet. The door was still locked. Mitch kicked the glass out of a window, and they slipped into an immense living room. He found the light.

"The cop'll hear that noise," she muttered, glancing at the broken glass.

The noisy clatter of the steel-wheeled skater answered her. The cop was coming to investigate. Mitch ignored the sound and began prowling through the house. The phone was still ringing, but he could not answer it without knowing Sarquist's personal identifying code.

The girl called suddenly from the library. "What's this thing, Mitch?"

"What thing?" he yelled.

"Typewriter keyboard, but no type. Just a bunch of wires and a screen."

His jaw fell agape. He trotted quickly toward the library.

"A direct channel to the data tanks!" he gasped, staring at the metal wall panel with its encoder and the keyboard. "What's it doing here?"

He thought about it briefly. "Must be...I remember: just before the exodus, they gave Sarquist emergency powers in the defense setup. He could requisition whatever was needed for civil defense—draft workers for first aid, traffic direction, and so on. He had the power to draft anybody or anything during an air raid."

Mitch approached the keyboard slowly. He closed the main power switch, and the tubes came

alive. He sat down and typed: *Central from Sarquist: You will completely clear the ordinance section of your data tanks and await revised ordinances. The entire city code is hereby repealed.*

He waited. Nothing happened. There was no acknowledgment. The typed letters had not even appeared on the screen. "Broken?" asked the girl.

"Maybe," Mitch grunted. "Maybe not. I think I know."

The mechanical cop had lowered his retractable sprockets, climbed the porch steps, and was hammering at the door. "Mayor Sarquist, please!" he was calling. "Mayor Sarquist, please!"

There was a mahogany desk, several easy chairs, a solid wall of books, and a large safe against another wall. The safe

"Sarquist should have some rather vital papers in there," he murmured.

"What do you want with papers?" the girl snapped. "Why don't we get out of the city while we can?"

He glanced at her coldly. "Like to go the rest of the way alone?"

She opened her mouth, closed it, and frowned. She was holding the tommy gun, and he saw a twitch slightly in her hand, as if reminding him that she didn't *have* to go alone.

He walked to the safe and idly spun the dial. "Locked," he muttered. "It'd take a good charge of T.N.T.... or—"

"Or what?"

"Central." He chuckled dryly. "Maylie she'll do it for us." "Are you crazy?"

"Sure. Go unlock the door. Let the policeman in." "No!" she barked.

Mitch snorted impatiently. "All right, then, I'll do it. Pitch me the gun."

"No!" She pointed it at him and backed away.

"Give me the gun!"

"No!"

She had laid the baby on the sofa, where it was now sleeping peacefully. Mitch sat down beside it.

"Trust your aim?"

She caught her breath. Mitch lifted the child gently into his lap.

"Give me the gun."

"You wouldn't!"

"I'll give the kid back to the cops."

She whitened and handed the weapon to him quickly. Mitch saw that the safety was on, laid the baby aside, and stood up. "Don't look at me like that!" she said nervously.

He walked slowly toward her.

"Don't you dare *touch me!*"

He picked up a ruler from Sarquist's desk, then dived for her. A moment later she was stretched out across his lap, clawing at his legs and shrieking while he applied the ruler resoundingly. Then he dumped her on the rug, caught up the gun, and went to admit the insistent cop.

Man and machine stared at each other across the threshold. The cop radioed a visual image to Mitch and got an immediate answer.

"Request you surrender immediately sir."

"Am I a pow charged with breaking and entering?" he asked acidly.

"Affirmative."

"You planning to arrest me?"

Again the cop consulted Central. "If you will leave the city at once, you will be granted safe passage."

Mitch lifted his brows. Here was a new twist. Central was doing some interpretation, some slight modification of ordinance. He grinned at the cop and shook his head.

"I locked Mayor Sarquist in the safe," he stated evenly. The robot consulted Central. There was a long twittering of computer code. Then it said, "This is false information."

"Suit yourself, tin boy. I don't care whether you believe it or not."

Again there was a twittering of code. Then: "Stand aside, please."

Mitch stepped out of the doorway. The subunit bounced over the threshold with the aid of its four-footed sprockets and clattered hurriedly toward the library. Mitch followed, grinning at himself. Despite Central's limitless "intelligence," she was as naive as a child.

He lounged in the doorway to watch the subunit fiddling with the dials of the safe. He motioned the girl down, and she crouched low in a corner. The tumblers clicked. There was a dull snarl. The door started to swing.

"Just a minute!" Mitch barked.

The subunit paused and turned. The machine gun exploded, and the brief hail of bullets tore through the robot's antenna. Mitch lowered the gun and grinned. The cop just stood there, unable to contact Central, unable to decide. Mitch crossed the room through the drifting plaster dust and rolled the robot aside. The girl whimpered her relief and came up out of the corner.

The cop was twittering continually as it tried without success to contact the Coordinator. Mitch stared at it for a moment, then barked at the girl, "Go find some tools. Search the garage, attic, basement. I want a screwdriver, pliers, soldering iron, solder, whatever you can find."

She departed silently.

Mitch cleaned out the safe and dumped the heaps of papers, money, and securities on the desk. He began sorting them out. Among the various stacks of irrelevant records he found a copy of the original specifications for the Central Coordinator vaults, dating from the time of installation. He found blueprints of the city's network of computer circuits, linking the subunits into one. His hands became excited as he shuffled through the stacks. Here were data. Here was substance for reasonable planning.

Heretofore he had gone off half-cocked and quite naturally had met with immediate failure. No one ever won a battle by being good, pure, or ethically right, despite Galahad's claims to the contrary. Victories were won by intelligent planning, and Mitch felt ashamed of his previous impulsiveness. To work out a

scheme for redirecting Central's efforts would require time. The girl brought a boxful of assorted small tools. She set them on the floor and sat down to glower at him.

"More cops outside now," she said. "Standing and waiting. The place is surrounded."

He ignored her. Sarquist's identifying code—it had to be here somewhere.

"I tell you, we should get out of here!" she whined. "Shut up."

Mitch occasionally plucked a paper from the stack and laid it aside while the girl watched.

"What are those?" she asked.

"Messages he typed into the unit at various times." "What good are *they*?"

He showed her one of the slips of yellowed paper. It said: *Unit 67-BJ is retired for repairs.* The number was scrawled in one corner: 5.00326.

"So?"

"That number. It was his identifying code at the time." "You mean it's different every day?"

"More likely, it's different every minute. The code is probably based on an equation whose independent variable is *time* and whose dependent variable is the code number."

"How silly!"

"Not at all. It's just sort of a combination lock whose combination is continuously changing. I've got to find the equation that describes the change. Then I can get to Central Coordinator."

She paced restlessly while he continued the search. Half an hour later he put his head in his hands and gazed despondently at the desk top. The key to the code was not there.

"What's the matter?" she asked.

"Sarquist. I figured he'd have to write it down somewhere. Evidently he memorized it. Or else his secretary did. I didn't figure a politician even had sense enough to substitute numbers in a simple equation."

The girl walked to the bookshelf and picked out a volume. She brought it to him silently. The title was *Higher Mathematics for Engineers and Physicists*.

"So I was wrong," he grunted. "Now what?"

He shuffled the slips of paper idly while he thought about it. "I've got eleven code numbers here, and the corresponding times when they were good. I might be able to find it empirically."

"I don't understand."

"Find an equation that gives the same eleven answers for the same eleven times, and use it to predict the code number for now."

"Will it work?"

He grinned. "There are an infinite number of equations that would give the same eleven answers for the same eleven substitutions. But it might work, if I assume that the code equation was of simple form."

She paced restlessly while he worked at making a graph with time as the abscissa and the code numbers for ordinates. But the points were scattered across the page, and there was no way of connecting them with any simple sort of curve. "It almost has to be some kind of repeating function," he muttered, "something that Central could check by means of an irregular cam. The normal way for setting a code into a machine is to turn a cam by clock motor, and the height of the cam's rider is the code number for that instant."

He tried it on polar coordinates, hoping to get the shape of such a cam, but the resulting shape was too irregular to be possible, and he had no way of knowing the period of the repeating function.

"That's the craziest clock I ever saw," the girl murmured. "What?" He looked up quickly.

"That electric wall clock. Five minutes ahead of the electric clock in the living room. But when we first came it was twenty minutes ahead."

"It's stopped, maybe."

"Look at the second hand."

The red sweep was running. Mitch stared at it for a moment, then rose slowly to his feet and walked to her side. He took the small clock down from its hook and turned it over in his hands. Then he traced the cord to the wall outlet. The plug was held in place by a bracket so that it could not be removed.

The sweep hand moved slowly, it seemed. Silently he removed the screws from the case and stared inside at the works.

Then he grunted surprise. "First clock I ever saw with elliptical gears!"

"What?"

"Look at these two gears in the train. Ellipses, mounted at the foci. That's the story. For a while the clock will run faster than the other one. Then it'll run slower." He handled it with growing excitement. "That's *it*, Marta—the key. Central must have another clock just like this one. The amount of lead or lag—in minutes—is probably the code!"

He moved quickly to the direct-contact unit. "Tell me the time on the other clock!"

She hurried into the living room and called back, "Ten-seventeen and forty seconds ...forty-five ...fifty—"

The other clock was leading by five and one-quarter minutes. He typed 5.250 on the keyboard. Nothing happened. "You sure that's right?" he called.

"It's now ten-eighteen—ten... fifteen ...twenty."

The clock was still slowing down. He tried 5.230, but again nothing happened. The unit refused to respond. He arose with an angry grunt and began prowling around the library. "There's something else," he muttered. "There must be a modifying factor. That clock's too obvious anyway. But what else could they be measuring together except time?"

"Is that another clock on his desk?"

"No, it's a barometer. It doesn't—"

He paused to grin. "Could be! The barometric pressure difference from the mean could easily be mechanically added or subtracted from the reading of that wacky clock. Visualize this, inside of Central: The two clock motors mounted on the same shaft, with the distance between the indicator needles as the code number. Except that the distance is modified by having a barometer rigged up to shift one of the clocks one way or the other on its axis when the pressure varies. It's simple enough."

She shook her head. Mitch took the barometer with him to the unit. The dial was calibrated in atmospheres, and the pressure was now 1.03. Surely, he thought, for simplicity's sake, there would be no other factor involved in the code. This way, Sarquist could have glanced at his wrist watch and the wall clock and the barometer and could have known the code number with only a little mental arithmetic. The wall time minus the wrist time plus the barometer's reading.

He called to the girl again, and the lag was now a little over four minutes. He typed again. There was a sharp click as the relays worked. The screen came alive, fluttered with momentary phosphorescence, then revealed the numbers in glowing type.

"We've got it!" he yelled to Marta.

She came to sit down on the rug. "I still don't see what we've got."

"Watch!" He began typing hurriedly, and the message flashed neatly upon the screen.

CENTRAL FROM SARQUIST. CLEAR YOUR TANKS OF ALL ORDINANCE DATA EXCEPT ORDINANCES PERTAINING TO RECORDING OF INFORMATION IN YOUR TANKS. PREPARE TO RECORD NEW DATA.

He pressed the answer button and the screen went blank, but the reply was slow to come.

"It won't work!" Marta snorted. "It knows you aren't Sarquist. The subunits in the street have seen us."

"What do you mean by 'know,' and what do you mean by 'see'? Central isn't human."

"It knows and it *sees*."

He nodded. "Provided you mean those words in a mechanical sense. Provided you don't imply that she *cares* what she knows and sees, except where she's required to 'care' by enforced behavior patterns—ordinances."

Then the reply began crawling across the screen. SARQUIST FROM CENTRAL

INCONSISTENT INSTRUCTIONS. ORDINANCE 36-J, PERTAINING TO THE RECORDING OF INFORMATION, STATES THAT ORDINANCE DATA MAY NOT BE TOTALLY VOIDED BY YOU EXCEPT DURING RED ALERT AIR WARNING.

"See?" the girl hissed.

DEFINE THE LIMITS OF MY AUTHORITY IN PRESENT CONDITIONS, he typed. MAY I TEMPORARILY SUSPEND SPECIFIC ORDINANCES?

YOU MAY SUSPEND SPECIFIC ORDINANCES FOR CAUSE, BUT THE CAUSE MUST BE RECORDED WITH THE ORDER OF SUSPENSION.

Mitch put on a gloating grin. READ ME THE SERIES NUMBERS OF ALL LAWS IN THE CRIMINAL AND TRAFFIC CODES.

The reaction was immediate. Numbers began flashing on the screen in rapid sequence. "Write these down!" he called to the girl.

A few moments later, the flashing numbers paused. WAIT, EMERGENCY INTERRUPTION, said the screen.

Mitch frowned. The girl glanced up from her notes. "What's—"

Then it came. A dull booming roar that rattled the windows and shook the house.

"Not another raid!" she whimpered.

"It doesn't sound like—"

Letters began splashing across the screen. EMERGENCY ADVICE TO SARQUIST. MAIN CIVILIAN DEFENSE CO-ORDINATOR HAS BEEN DESTROYED. MY ANTI-AIRCRAFT COORDINATOR HAS BEEN DESTROYED. ADVISE, PLEASE.

"What happened?"

"Frank Ferris!" he barked suddenly. "The Sugarton crowd—with their dynamite! They got into the city."

CENTRAL FROM SARQUIST, he typed. WHERE ARE THE DAMAGED COORDINATORS LOCATED?

UNDERGROUND VAULT AT MAP COORDINATES K-81.

"Outside the city," he breathed. "They haven't got to the main tanks yet. We've got a little time. PROCEED WITH ORDINANCE LISTING, he commanded.

Half an hour later they were finished. Then he began the long task of relisting each ordinance number and typing after it: REPEALED; CITY EVACUATED.

"I hear gunshots," Marta interrupted. She went to the window to peer up and down the dimly lighted streets.

Mitch worked grimly. It would take them a couple of hours to get into the heart of the city unless they knew how to capture a robot vehicle and make it serve them. But with enough men and enough guns, they would wreck subunits until Central withdrew. Then they could walk freely into the heart of the city and wreck the main coordinators, with a consequent cessation of all city services. Then they would be free to pillage, to make a mechanical graveyard of the city that awaited the return of man.

"They're coming down this street, I think," she called.

"Then turn out all the lights!" he snapped, "and keep quiet." "They'll see all the cops out in the street. They'll wonder why."

He worked frantically to get all the codes out of the machine before the Sugarton crowd came past. He was destroying its duties, its habit patterns, its normal functions. When he was finished he would stand by helplessly and let Ferris's gang wreak their havoc, unless he could replace the voided ordinances with new, more practical ones.

"Aren't you finished yet?" she called. "They're a couple of blocks away. The cops have q fighting, but the men are still shooting them."

"I'm finished now!" He began rattling the keyboard frantically.

SUPPLEMENTAL ORDINANCES: #1: THERE IS NO LIMIT OF SUBUN EXPENDITURE.

YOU WILL NOT PHYSICALLY INJURE ANY HUMAN BEING, EXCEPT IN DEFENS OF CENTRAL COORDINATOR UNITS.

ALL MECHANICAL TRAFFIC WILL BE CLEARED FROM THE STREET IMMEDIATELY.

YOU WILL DEFEND CENTRAL COORDINATORS AT ALL COSTS.

THE HUMAN LISTED IN YOUR MEMORY UNITS UNDER THE NAME `WILL JESSER" WILL BE ALLOWED ACCESS TO CENTRAL DATA WITHOUT CHALLENGE.

TO THE LIMIT OF YOUR ABILITY YOU WILL SET YOUR OWN TASKS PURSUANCE OF THE GOAL: TO KEEP THE CITY'S SERVICES INTACT AND IN GOOD REPAIR, READY FOR HUMAN USAGE.

YOU WILL APPREHEND HUMANS ENGAGED IN ARSON, GRAND THEFT, C PHYSICAL VIOLENCE AND EJECT THEM SUMMARILY FROM THE CITY.

YOU WILL OFFER YOUR SERVICES TO PROTECT THE PERSON OF WILL JESSER

"They're here!" shouted the girl. "They're coming up the walk!"

—AND WILL ASSIST HIM IN THE TASK OF RENOVATING THE CITY, TOGETHER WITH SUCH

PERSONS AS ARE WILLING TO HELP REBUILD.

The girl was shaking him. "They're here, I tell you!"

Mitch punched a button labeled "commit to data," and the screen went blank. He leaned ba and grinned at her. There was a sound of shouting in the street, and someone was beating at t door.

Then the skaters came rolling in a tide of sound two blocks away. The shouting died, and the were several bursts of gunfire. But the skaters came on, and the shouting grew frantic.

She muttered: "Now we're in for it."

But Mitch just grinned at her and lit a cigarette. Fifty men couldn't stand for long against couple of thousand subunits who now had no expenditure limit.

He typed one last instruction into the unit. WHEN THE PLUNDERERS ARE TAKEN PRISONER, OFFER THEM THIS CHOICE: STAY AND HELP REBUILD, OR KEEP AWAY FROM THE CITY.

From now on, there weren't going to be any nonparticipants.

Mitch closed down the unit and went out to watch the waning fight.

A bigger job was ahead.